OLIVE RIDLEY PROJECT

Protecting Sea Turtles and Their Habitats

NEWS FROM THE FIELD:
October - December 2022

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ABOUT OLIVE RIDLEY PROJECT

Olive Ridley Project (ORP) is on a mission to protect sea turtles and their habitats through:

- **Rescue and Rehabilitation**
- **Scientific Research**
- **Education and Outreach**

OUR RESEARCH

Our research areas include:

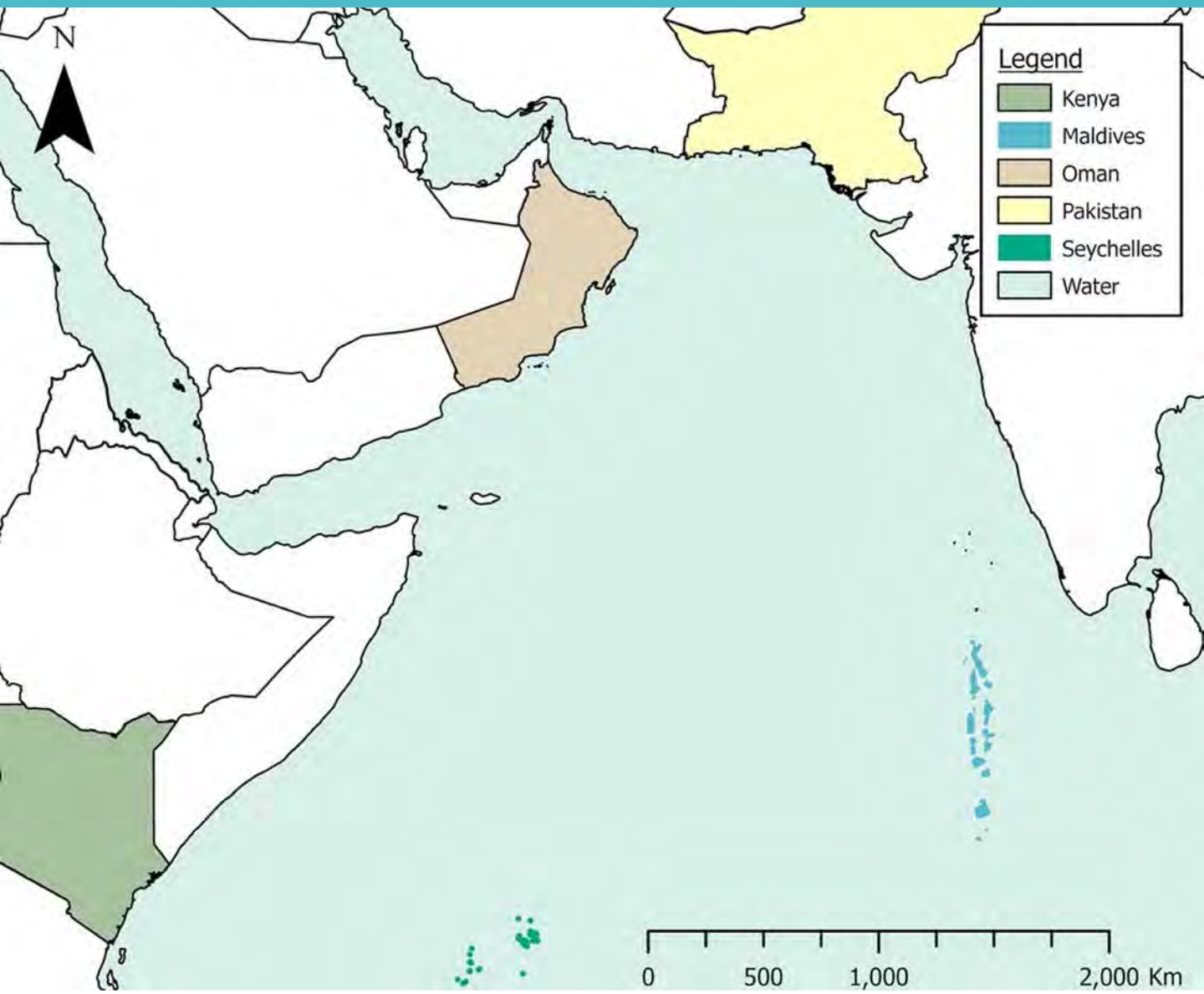
- Biogeography (population dynamics)
- Reproductive biology
- Population ecology
- Threats to sea turtles
- Sea turtle conservation
- Sea turtle veterinary science

OUR PARTNERS

The Olive Ridley Project (ORP) is a charity established in 2013, registered in England & Wales and in the Maldives. We have partnered with resorts, organisations and local NGOs to host our rescue and rehabilitation centres and research teams, and to maximise the effectiveness of our reach in local communities. We would like to extend our gratitude to our partners for their help, support and endorsement of our cause.

OLIVE RIDLEY PROJECT
Registered Charity in the UK #1165905

OUR BASES



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

The Maldives
Established: 2013
Bases: Baa, Laamu, Lhaviyani, North Malé, Noonu & Raa 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.

Oman
Established: 2015
Base: Musandam
Main Activities: Sea turtle population research; ghost gear recovery, research and mitigation; educational outreach.

Pakistan
Established: 2015
Base: Abdul Rehman Goth, Karachi
Main Activities: Ghost gear recovery, mitigation,and repurposing; educational outreach.

Seychelles
Established: 2021
Base: Félicité Island
Main Activities: Sea turtle population, habitat connectivity and threats research

Green turtle feeding on seagrass in Lhaviyani

EXECUTIVE SUMMARY

The final three months of 2022 were a strong finish to the year and saw some exciting opportunities and new developments for our team.

In the Maldives, the nesting season concluded with a record number of hatchlings from all the nests laid in the months before. We are happy to report that nests which had to be relocated due to flooding risk proved very successful and had comparable hatching success rates to our in situ nests.

Our multitude of research projects continued to progress in the last quarter. The satellite tracking program of rehabilitated olive ridleys, #ORPTrack, saw further analysis of the first two acquired tracks. This provided us with initial insights into swimming and potential feeding behaviours of our released patients. Thanks to our generous supporters we were able to order nine additional tags, scheduled to arrive in the Maldives in the new year.

Meanwhile, the results from our pilot socio-economic study were used to prepare an updated version of the survey targeted at the year 2022, which will provide us with a post-pandemic dataset. The survey is to be carried out in the next year.

In terms of ghost gear retrieval, only five nets were recorded in the last quarter. This is still in agreement with overall expected low numbers during this southwest monsoon season, especially since the Maldives saw a very late change of wind direction this year, which happened only on the last day of 2022.

Our team in Maldives bid goodbye to some of its members, in the last quarter - Resident Veterinarian Dr June and Sea Turtle Biologist Angeela. We thank them for their hard work and wish them both the best for their future.

We also welcomed new members to the team, including three new Sea Turtle Biologists: Julian Gervolino in Laamu Atoll, Neus Segura as the first ORP member in Shaviyani Atoll, and former Intern Afrah Abdul Sathaar as our representative in Baa Atoll. Additionally, Dr Mariana Fragoso joined our team at the Marine Turtle Rescue Centre as the new Resident Veterinarian.

Mariana arrived at the end of a comparatively quiet quarter, with only one new hawksbill patient admission. Three patients were successfully released and everyone was especially excited to see long-term patient Heidi travel to his forever home in the UK. We are grateful for all the help our many volunteers and two interns provided at the Rescue Centre in the last three months.

The last quarter also saw some large outreach initiatives by our team in Maldives. Laamafaru and Vaavoshi Sea Turtle Festival, were particularly successful and reached over 5000 students all together. Our team was amazed by the interest, creativity and passion displayed by the students and the support offered by their island communities.

EXECUTIVE SUMMARY *contd.*

Moving onto Kenya, our on-site team had a very exciting quarter, including Project Coordinator Leah participating in the WIOMSA symposium in South Africa, reporting on ORPs Photo-ID project in Kenya.

Additionally, ORP's Senior Project Scientist Dr Stephanie Köhnk visited the team in November to meet with our regional cooperation partners, and plan and prepare new research projects. This included drone surveys to identify sea turtle aggregation sites from above, as well as the deployment of experimental satellite receivers from the Arribada Initiative.

In Seychelles, the end of 2022 marked the beginning of the hawksbill turtle nesting season, which kept our Sea Turtle Biologist, Lara, on her toes. We also extended the reach of our Photo-ID programme and had the chance to host sea turtle science pioneer Dr Jeanne Mortimer on Felicité. We discussed the use and benefits of Photo-ID and planned future collaboration between ORP and Dr Mortimers working group.

In the last months of 2022, we continued our efforts together with the Environmental Society of Oman to work towards the establishment of a sea turtle rescue centre in the country. Despite somewhat challenging water conditions in Oman, we were able to collect a high number of Photo-IDs in the last quarter.

Our sea turtle Photo-ID research project was very successful in the last three months. We identified a total of 168 new individuals in the Maldives, including 36 green turtles and 132 hawksbills. A whooping 1,281 identified turtle encounters were recorded and uploaded to the Internet of Turtles. We would like to extend a special thank you to all our citizen scientist contributors.

In Kenya, we recorded 341 turtle sightings on 60 dives, including 99 new individuals, 69 green and 30 hawksbill turtles. In Oman, we recorded an amazing 153 turtle encounters, including 35 new individuals, 34 greens and one hawksbill turtle. 81 sea turtle encounters were registered in the Seychelles, including 46 new hawksbill turtles.

In Pakistan, our team recovered a total of 169 kg of ghost gear from the sea in the last three months. Additionally, we recorded our first six green turtle nests in Hawke's Bay, and we hope to supplement this nesting data with Photo-ID of the nesting females in the future. Unfortunately, our team continues to find deceased turtles regularly on the beaches and at sea, the source of which is currently unknown.

Our turtle adoptions seemed to be very a very popular Christmas gift in 2022 - an encouraging development as this is a very sustainable and eco-friendly gift to give. We are grateful for the continued support we are receiving through our adoption programmes.

127 new students enrolled in our online courses in the last quarter of 2022 and we have a total of 182 'graduates' to date.

We are now looking forward to an exciting 2023, with new outreach opportunities, conferences, and the advancement of old and new research projects in the making.

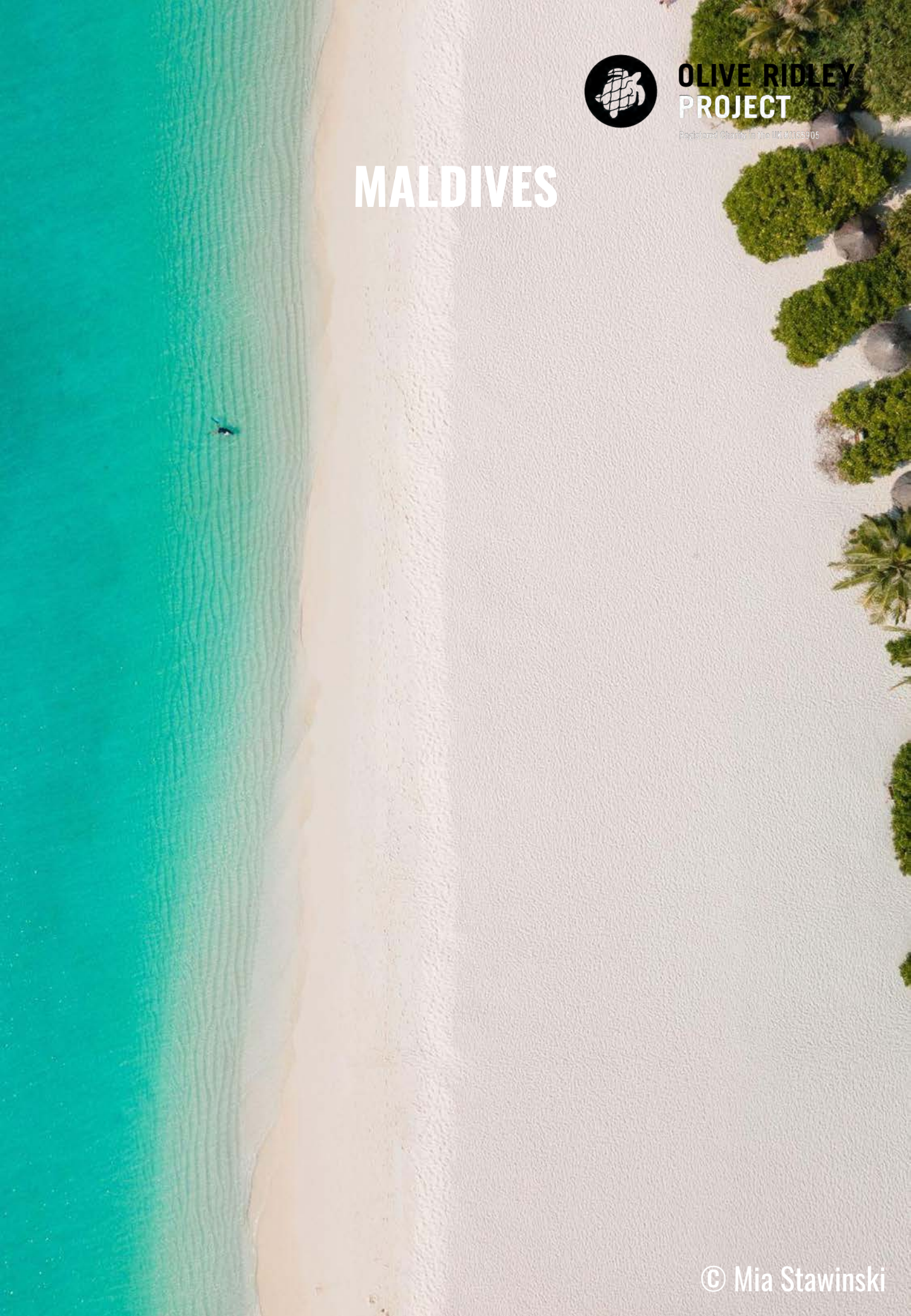
- Dr Stephanie Köhnk, Senior Scientist

Hawksbill turtle resting on the reef in KenyH

OLIVE RIDLEY PROJECT

Registered Charity in the UK #1165905

MALDIVES



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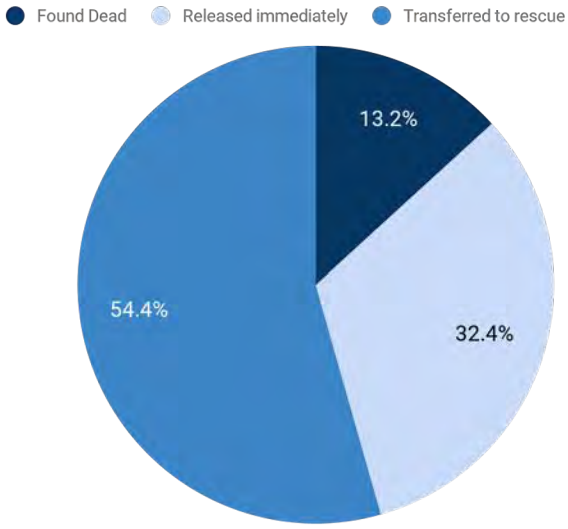
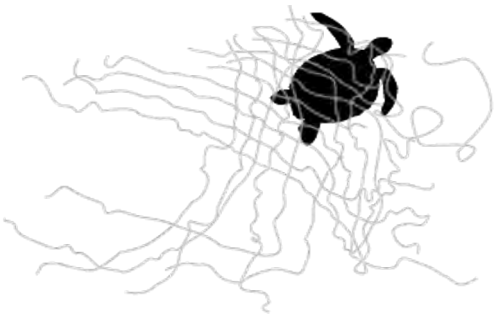
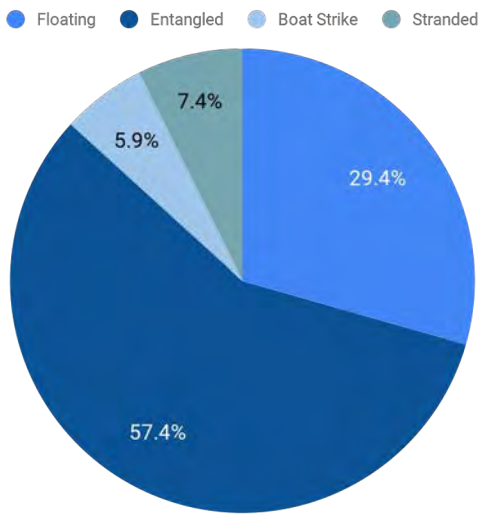
Olive ridley turtle entangled in a ghost net

STRANDED SEA TURTLES REPORTED: MALDIVES



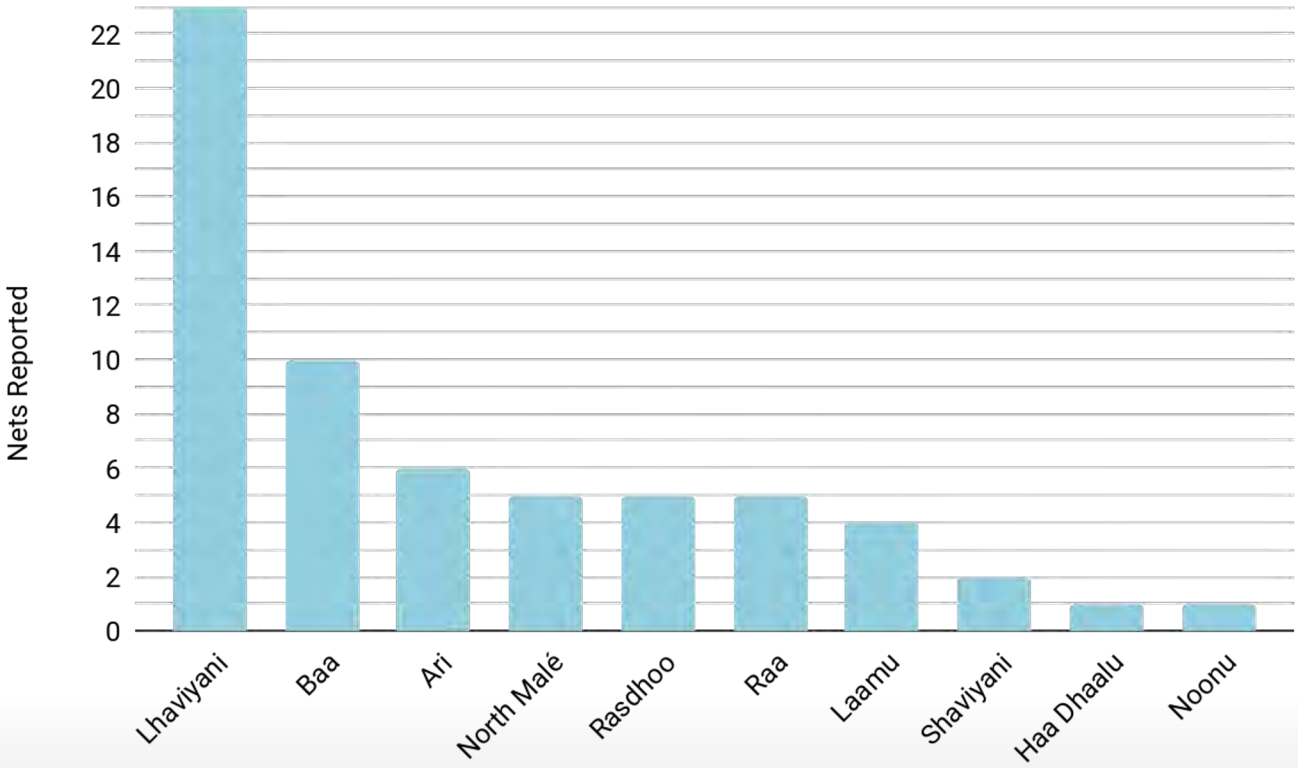




Species	This Quarter	This Year	Since Project Began
Olive Ridley	0	54	965
Green	0	5	37
Hawksbill	1	9	104
Other	0	0	4
Total	1	68	1110

Ghost net being removed in Raa Atoll

GHOST GEAR REPORTS



GHOST NETS REMOVED - MALDIVES

	This Quarter	This Year	Since Project Began
Ghost Net Conglomerates Removed	5	62	645

Claire and Lauren performing surgery on Naseeb

SEA TURTLE RESCUE & REHABILITATION

The veterinary team has had an action packed end to 2022. In December, Dr Claire came out to cover the Rescue Centre for two months while we awaited our new Resident Veterinary Surgeon, Dr Mariana.

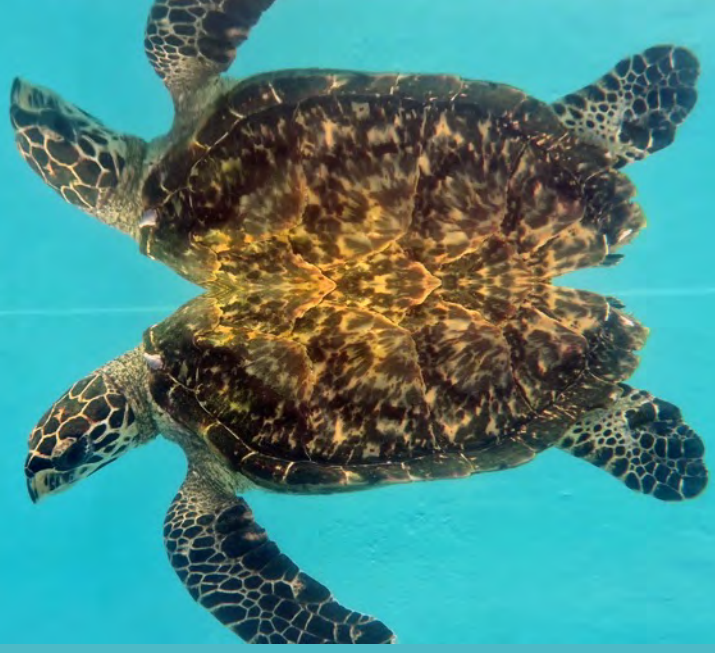
Our most exciting news is regarding Heidi, our long-term patient who was finally transferred to his forever home at the National Marine Aquarium in Plymouth, UK. Heidi boarded a direct flight to UK, accompanied by Marcus and Emma (photo below), his new carers at the aquarium. He made it there safely and has already settled into his huge tank with his new friends! Heidi's move is a big achievement for our team, as it took four years to plan,

organise and execute. While we will miss our favourite sea turtle patient, we are truly happy that he can now swim around in a bigger space and serve as an ambassador for all sea turtles who have suffered entanglement injuries from ghost gear.

Continuing our streak of happy news, Uno and Gus were successfully released from Coco Palm Dhuni Kolhu while Pepe was transferred to Marine Savers to finish her recovery in a sea cage. After a few weeks of dive training, Pepe too was released! Meanwhile, Lakia and Naseeb both underwent surgery to remove one of their front flippers, as they were unsalvageable due to the extent of their injuries. While Lakia recovered successfully, Naseeb had to go in for another surgery, and he sadly did not recover from the anaesthetic. His post-mortem showed a huge underlying systemic infection that would not have been treatable. We were devastated by his loss, but were relieved to know that he was no longer suffering.

Apart from Kandu, our new hawksbill patient, who arrived in mid-December, we have had a relatively quiet end of the year, as the change in winds leading to entanglement season did not take place at the expected time.

- Dr Claire Petros , Lead Veterinarian



Sea turtle patient Kandu in her tank

TURTLE PATIENTS

	This Quarter	This Year	Since Project Began
New Patients Admitted	1	32	196
Patients Treated	5	38	196
Turtles Released	3	15	107
Turtles Deceased	1	14	71
Patients Still in Care (ORP only)	5		

TURTLE ADOPTIONS

	This Quarter	This Year	Since Project Began
Patient Adoptions	316	527	1,594
Maldives Adoptions	129	263	725
Kenya Adoptions	27	43	145
Seychelles Adoptions	24	42	42
Oman Adoptions	7	7	7
Famous Turtle Adoptions	11	31	131

Turtle patient Gus, a green entanglement victim.

CURRENT TURTLE PATIENTS REASON FOR ADMITTANCE

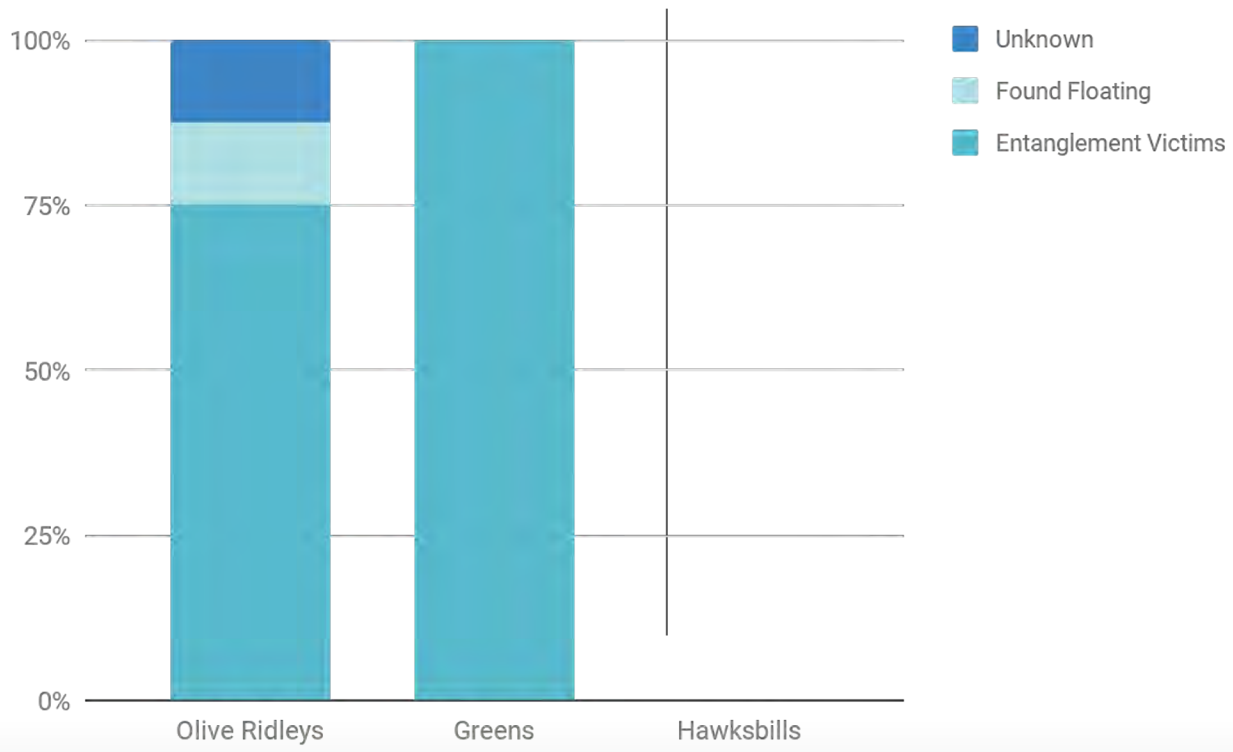


Figure 1. Reason for admittance by species

Olive ridley turtles make up 88% of all patients

Patients requiring flipper amputation (last quarter): 1

Average length of stay (all patients): 290 days

CURRENT TURTLE PATIENTS

Leonardo

Kakuni

Kandu

Fida

Lakia

Current Patients: Leonardo, Fida, Lakia and Kandu
New Patients at MTRC: Kandu
Released: Gus, Uno Pepe (from Marine Savers)
Deceased: Naseeb

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UNESCO Reserve Rangers at the Rescue Centre

INTERNSHIPS, VOLUNTEERS, VISITING VETS & GUESTS

Our internship program continues to attract wonderfully passionate Maldivians who are keen to learn about sea turtle husbandry and medical care at the Rescue Centre.

One such bright Intern, Afrah, finished his time at the Rescue Centre in October. Inspired by sea turtle conservation, he is now representing ORP at Amilla Maldives Resort and Residences as the sea turtle biologist. Swift, our new Rescue Centre Intern, has also shown great enthusiasm and care for our patients. He will soon be moving on to his second phase of the internship at Soneva Jani in the new year.

Our volunteers are a vital part of our Rescue Centre community. We have a fully booked year ahead of us and we are very grateful for this quarter's volunteers, as we couldn't achieve the work that we do without their help.

We love sharing our work with not only guests, but also other organisations. We were excited to host a group from the Environment Protection Agency and the UNESCO Biosphere Reserve Rangers in December (See photo above).

We also welcomed Neus, our Sea Turtle Biologist from Shaviyani Atoll, for a week of sea turtle husbandry and medical first aid training at the Rescue Centre.

The Rescue Centre team also celebrated the Vaavoshi Sea Turtle Festival which was held across the Maldives. Following the festival, the Rescue Centre was visited by Eydhafushi school, which marks the happy return of school trips to the Rescue Centre, and we expect these to continue through 2023!

-The Veterinary Team

ORP TRACK - A SATELLITE TAGGING PROGRAMME

The last quarter of 2022 was spent analysing the data from our first two satellite tagged sea turtles and preparing for the next year of sea turtle tracking. Our Spatial Ecology Researcher, Rushan, had the chance to take a closer look at the tracks of both Autumn and Pickle with different statistical models.

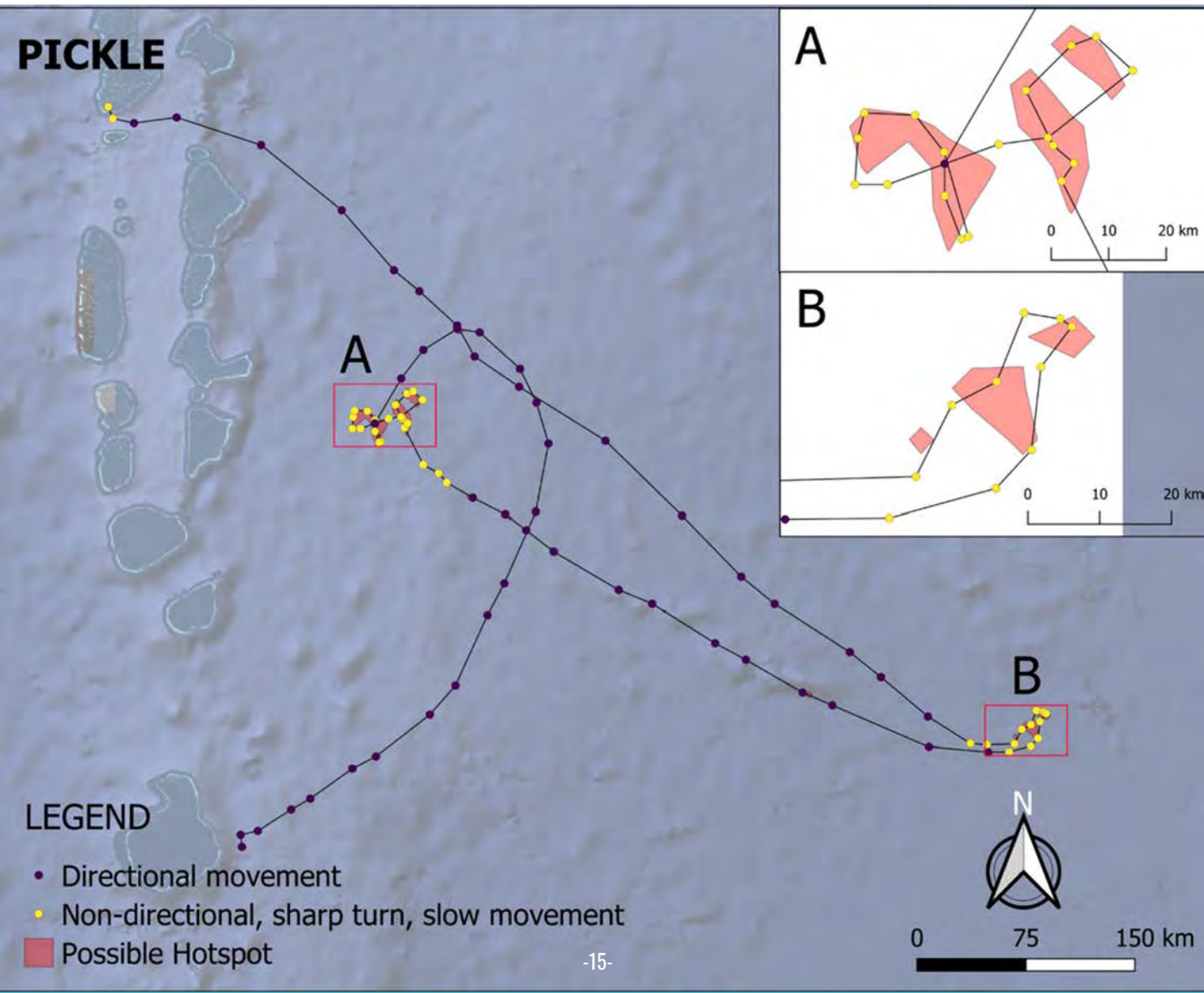
During analysis, we first identified hotspots for both sea turtles. These are areas where our tagged sea turtles appeared to be spending most of their time. The possible hotspots for Pickle - areas marked with a red background (below) are shown as an example. Then, we predicted behaviours that the sea turtles exhibited at different points of their satellite tracks, based on previously published parameters used in this type of analysis by other satellite tracking projects. The behaviour was broadly categorised into two types:

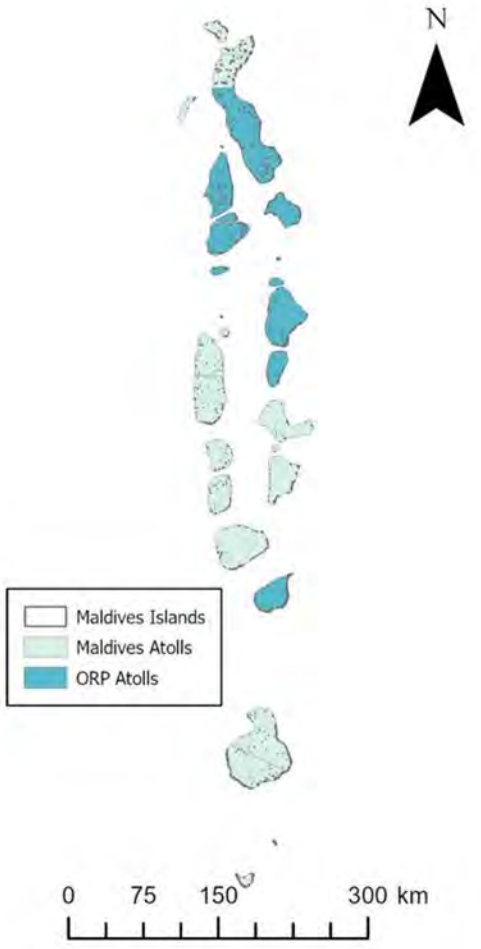
1. fast, directional
2. slow, sharp turn, non-directional movement

The combination of hotspot areas and non-directional movements can be associated with foraging waters. Pickle travelled in a single direction for a part of her journey and made several turns in between. Areas that Pickle spent longer times in were associated with behaviour that was slow and non-directional. Interestingly, those overlapped with detected hotspots! This analysis will be fine-tuned in the future to accurately predict certain behaviours and and determine if hotspots are accurate.

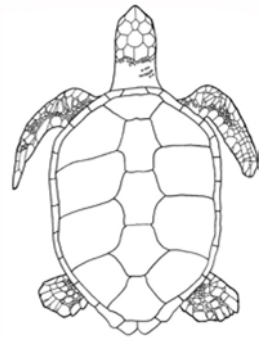
We are awaiting a fresh batch of satellite tags and are hoping to tag more sea turtles in the new year. A larger data set will help us make precise conclusions which can be then used to develop conservation recommendations.

We would like to thank all supporters of #ORPTrack for making this project possible and supporting us in our endeavour to identify evidence-based conservation measures to protect olive ridley turtles.



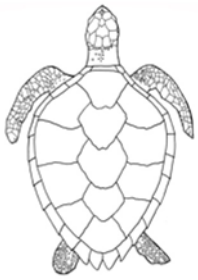


SEA TURTLE SIGHTINGS & NEW INDIVIDUALS: MALDIVES



GREENS

Total Sightings: 11,669
Total Individuals: 1,326



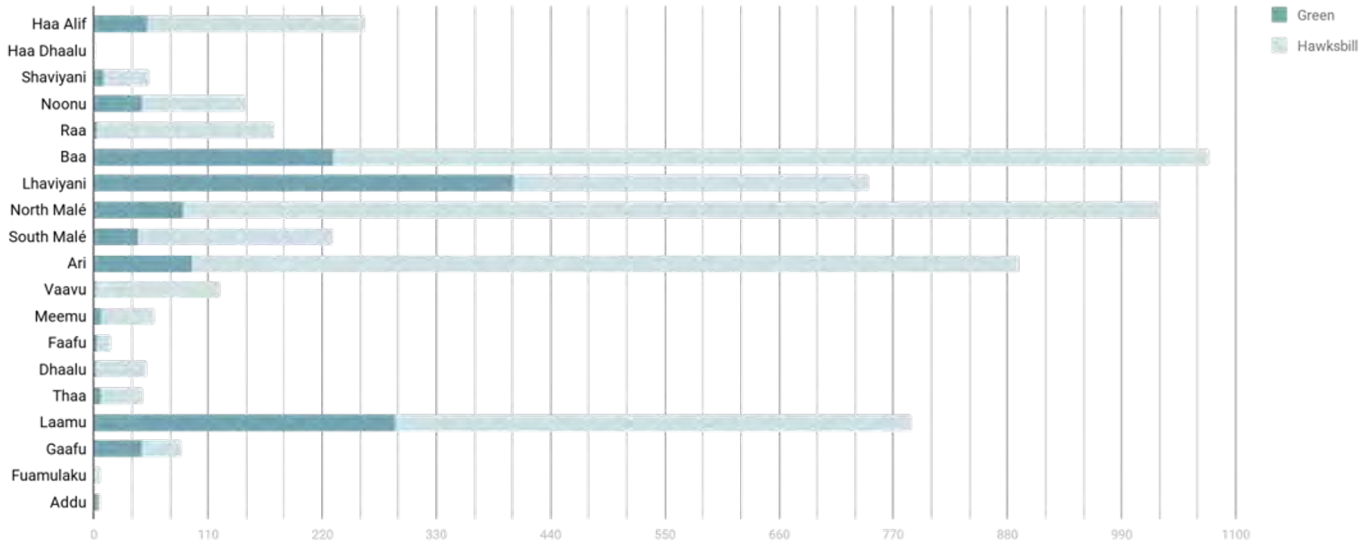
HAWKSBILLS

Total Sightings: 22,206
Total Individuals: 4,463

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	1,281	4,343	33,889
Total Number of New Individuals	168	574	5,789

Hawksbill turtle in North Malé Atoll

SEA TURTLES IN THE MALDIVES

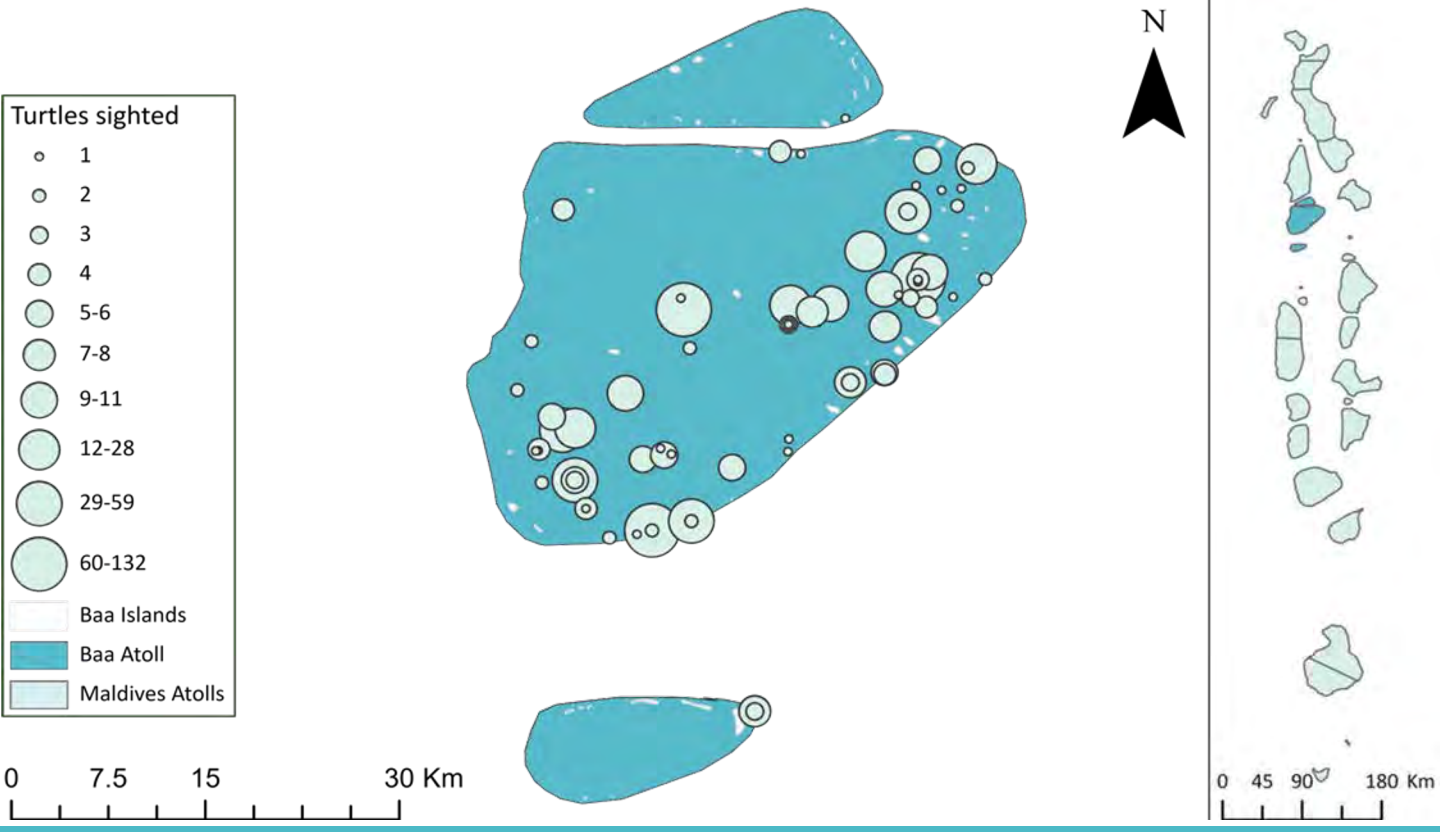


Our Photo-ID campaign took an exceptional leap forward in the last three months of 2022 with ORP staff, collaborators and citizen scientists recording an incredible 1,281 identified sea turtle encounters. We would like to thank you all for your continued support and greatly appreciate all submissions.

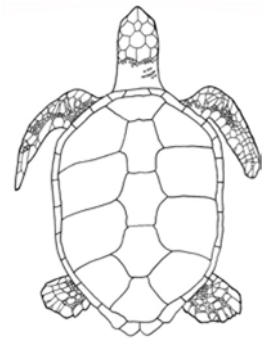
We still have the largest numbers of sea turtles identified in Baa (1,075) and North Malé Atoll (1,028). The majority of those are hawksbill turtles, with 844 and 942 individuals respectively. North Malé remains the atoll with the largest number of recorded hawksbills in the country to date. Ari Atoll is a close third in hawksbill numbers, with 798 identified individuals. Additionally, 94 green turtles are known from Ari Atoll, which it is the atoll having the third largest overall number of identified sea turtles.

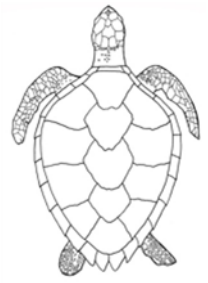
These atolls are closely followed by Lhaviyani and Laamu, which have the largest number of identified green turtles with 404 and 290 individuals respectively. Lhaviyani remains the only atoll with more green turtles than hawksbills (343) identified. In Laamu Atoll, 498 hawksbills had been identified at the end of 2022.

The difference in data coverage is resulting from a large number of resorts in the central atolls, as well as a relatively consistent effort by our team members in certain atolls.



BAA ATOLL, MALDIVES





GREENS

Total Sightings: 1,316
Total Individuals: 231

HAWKSBILLS

Total Sightings: 3,845
Total Individuals: 844

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	209	367	5,162
Total Number of New Individuals	20	77	1,075

Juvenile green sea turtle on Dhonfanu reef.

BAA ATOLL

We are very excited to have partnered with Amilla Maldives Resort and Residences at Baa Atoll. ORP Sea Turtle Biologist Afrah Abdul Sathaar's arrival at location in November 2022 marked the beginning of this wonderful collaboration.

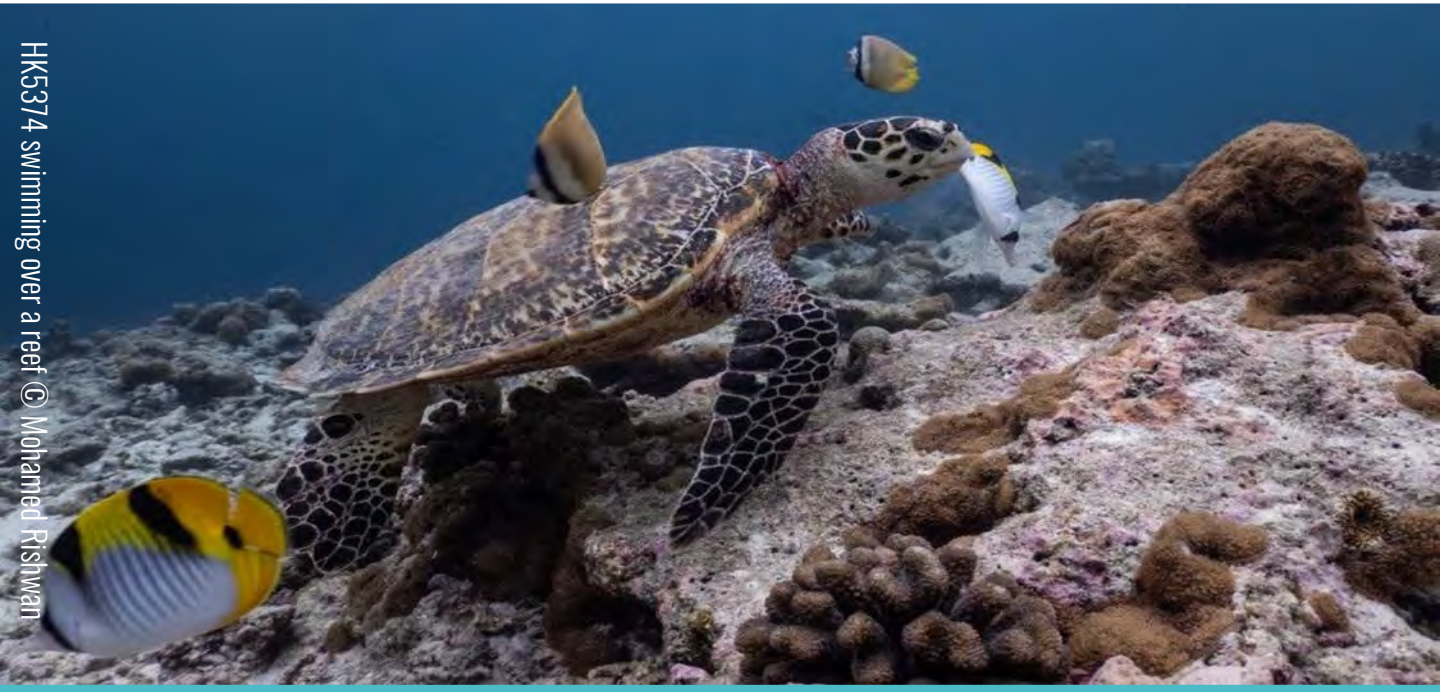
Meetings with the resort management were held with assistance from Zoe Cox, Resident Marine Biologist and Assistant Sustainability Manager, to define Afrah's duties as the sea turtle biologist. These include conducting guest awareness activities through weekly sea turtle presentations, undertaking guided snorkelling trips, and spearheading sea turtle identification and nesting research.

On 8th December Afrah joined a huge collaborative beach clean-up, organized by UNESCO Biosphere Reserve rangers on Olhugiri, an uninhabited island in the southern part of the atoll. During the clean-up, the remains of a poached green sea turtle were found. Since we were in the presence of UNESCO Biosphere Reserve rangers, the matter was handed over to them.

Meanwhile, a total of 52 surveys were conducted over 13 sites from November to December, with 44 Photo-IDs recorded from the waters around Amillia Maldives Resort and Residences. An additional 157 Photo-IDs were submitted from Rosalie Bailie, the Marine Biologist at Coco Palm Dhuni Kolhu.

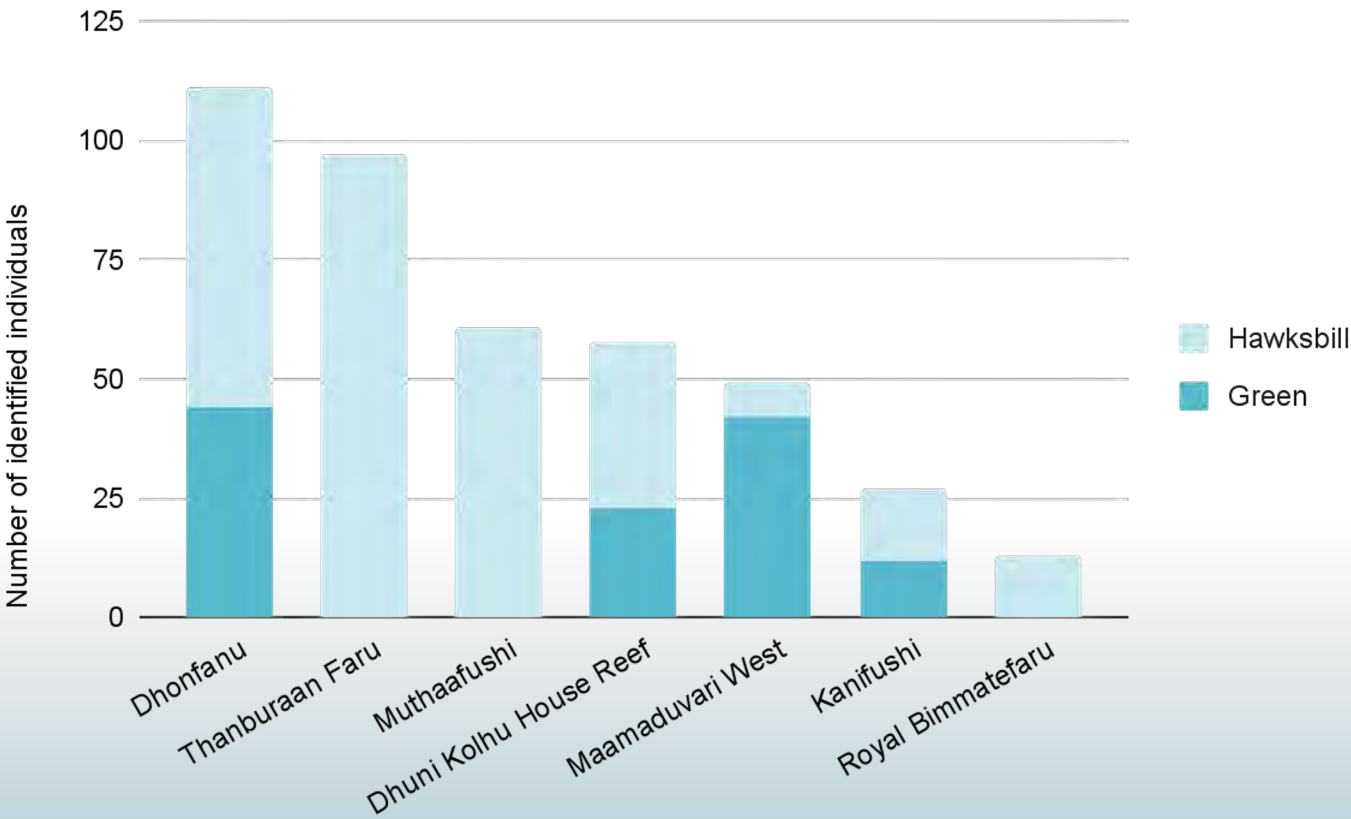
We also recorded a nesting attempted by a green sea turtle on 13th December. The female sea turtle came up to the resort beach, started to dig a body pit, but sadly was not satisfied and left. The security and gardening teams were immediately alerted to be on the lookout and advised on nesting protocols, but the female was not seen again. We are hoping to see her return at some point in the future.

- Afrah Abdul Sathaar, Sea Turtle Biologist, Baa Atoll



HK5374 swimming over a reef © Mohamed Rishwan

IDENTIFIED INDIVIDUALS PER SITE: BAA ATOLL



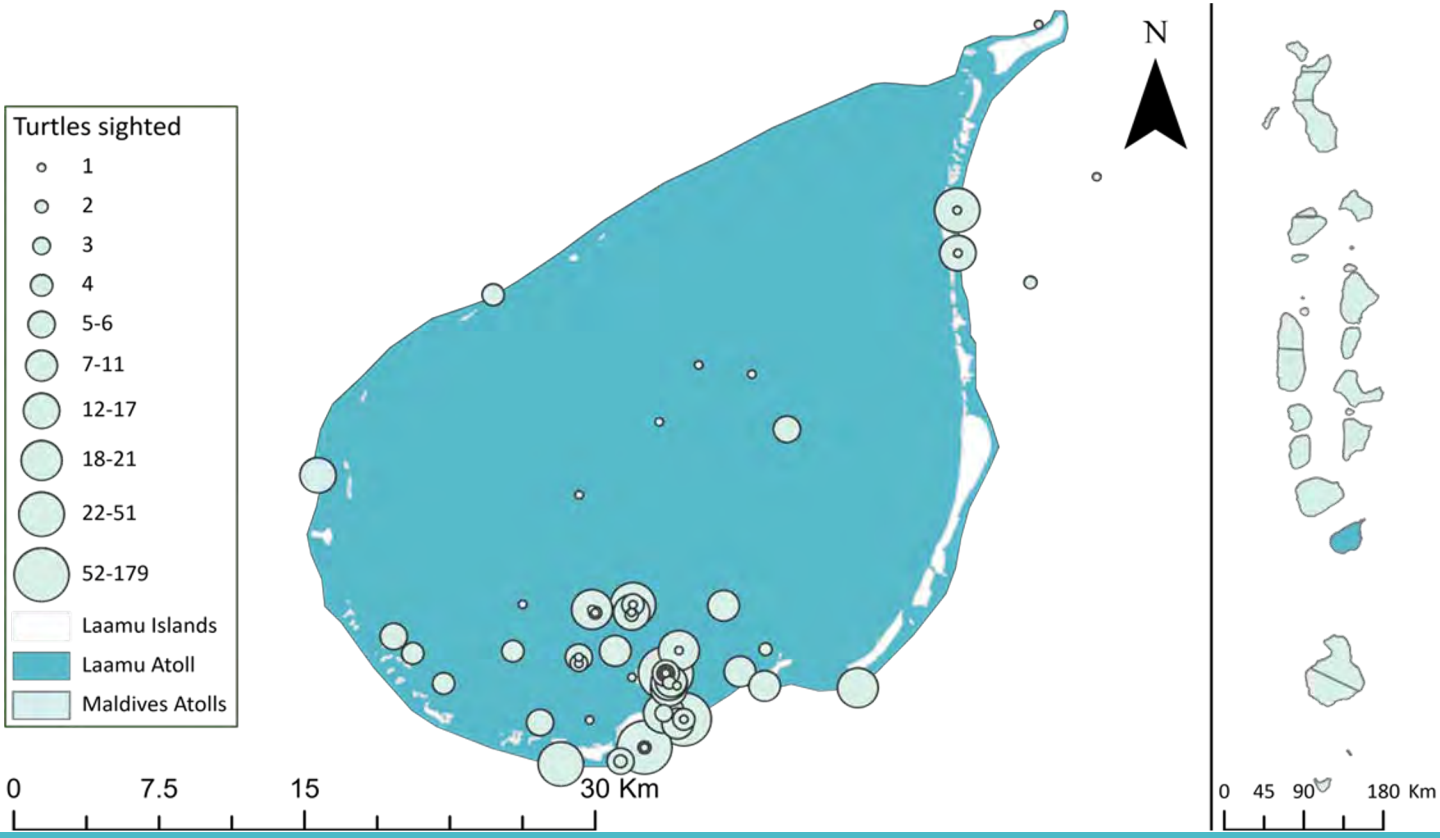
BAA

(Right) The house reef of Dhonfanu - one of the islands at Baa Atoll, is a site where we frequently encounter juvenile sea turtles. Two new green sea turtles were identified and several juveniles, estimated to be at a carapace length of 40-50cm, were also sighted. Unfortunately, their evasiveness did not allow us to identify them. This elusive behaviour suggests these are all new individuals. Dhonfanu house reef is a popular dive site, visited by guests from other resorts as well. We were happy to see that snorkelling and diving activities were being carried out with utmost care, so as to not disturb the resident turtles on the reef.

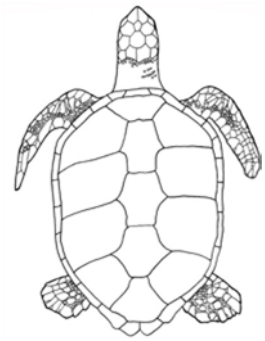
(Left) The clean up of Olhugiri Island was the highlight of the quarter as we were able to meet and interact with staff and guests from nearby resorts, as well council members. 400 kg of plastic was removed from the island and moved to Coco Palm Dhuni Kolhu, where the collected plastic was sent to Malé in partnership with Parley. Olhugiri also had signs of turtle nests as four sea turtle body pits were found.

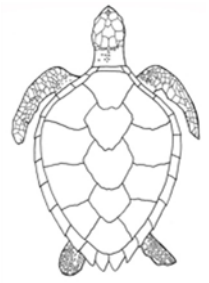
ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	44.2	44.2
Sites Surveyed	13	13
Nests Laid	4	36
Nests Hatched	10	28
Live Hatchlings Counted	1,279	2,584
Ghost Nets Removed	0	0



LAAMU ATOLL, MALDIVES





GREENS

Total Sightings: 3,544
Total Individuals: 290

HAWKSBILLS

Total Sightings: 2,791
Total Individuals: 498

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	563	1,219	6,336
Total Number of New Individuals	57	134	788

Female hawksbill swimming in Kurethi

LAAMU ATOLL

In Laamu Atoll, we finished off our final quarter of 2022 with a bang! In terms of in-water research, the last three months saw some of the highest numbers of Photo-ID submissions ever recorded in Laamu since the project started in 2018.

In December alone, over 270 green and hawksbill encounters were recorded, with the addition of many new faces, bringing the total number of identified turtles in Laamu close to 800 individuals. We were able to achieve this thanks to the collective effort and dedication of both the Maldives Underwater Initiative (MUI) team and the staff at Deep Blue Divers, Six Senses Laamu.

The beaches on the island were also busy with four nests laid this quarter–all by the same female. This brought our final nest count for this year to 20, which, although lower than the 26 from 2021, still highlights Olhuveli Island as an important nesting site in Laamu Atoll. In addition, two nests hatched during this time, both of which had relatively low hatching success rates (< 60%), presumably due to flooding from previous months and damage from vegetation roots.

We will be monitoring the current nests into the new year with the help of our committed nest watch volunteers.

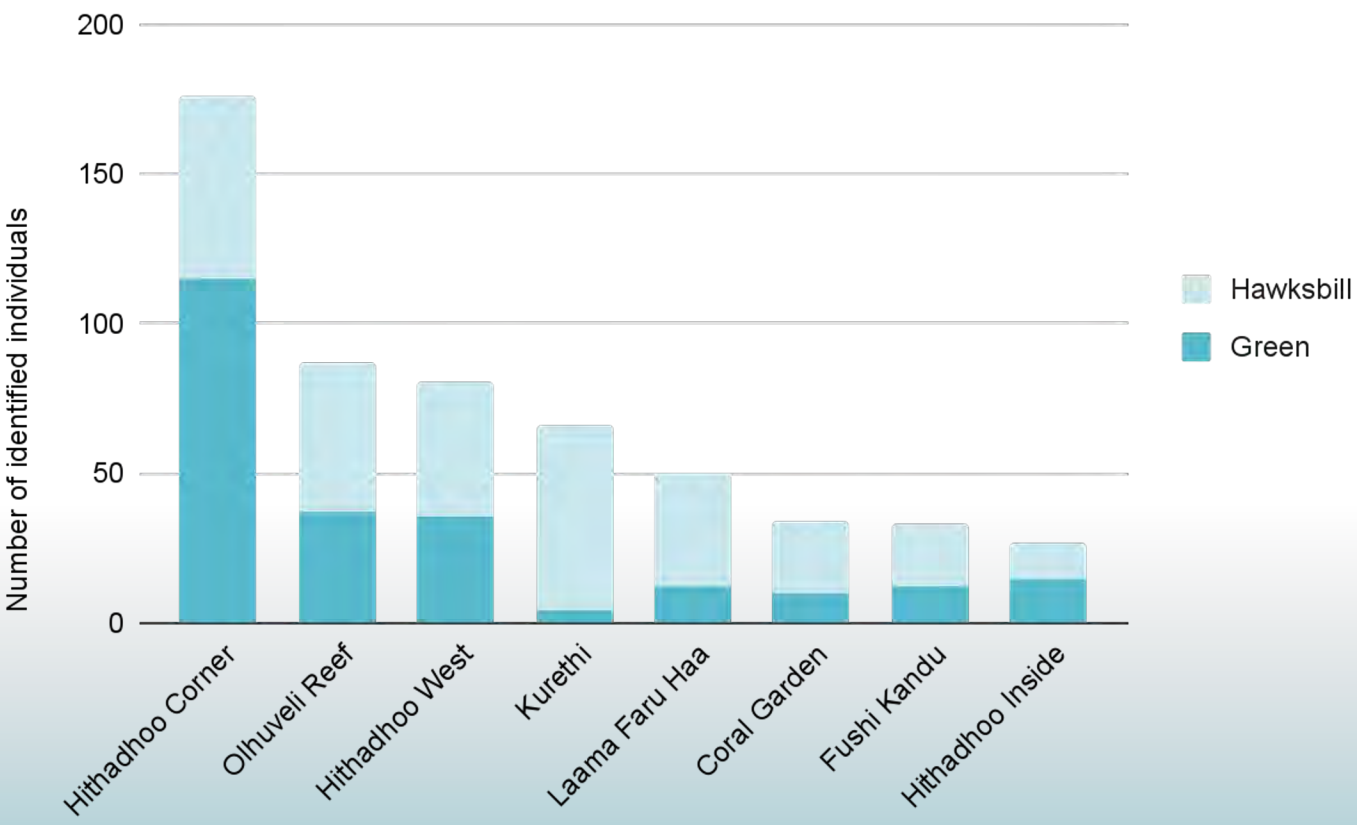
This quarter also marks a very exciting time for the MUI team at Six Senses Laamu with the opening of the Sea Hub of Environmental Learning in Laamu (SHELL). This state of the art marine centre is designed to facilitate environmental learning for both guests and local communities, while providing a space for our team to develop research on marine ecosystems in the Maldives.

Our intern Sarah has been excelling at her role here, and has been vital in supporting our research and driving up the number of Photo-ID submissions this quarter.

- Julian Gervolino, ORP Sea Turtle Biologist, Laamu Atoll

Toto (GR1514) from Fushi Kandu

IDENTIFIED INDIVIDUALS PER SITE: LAAMU ATOLL



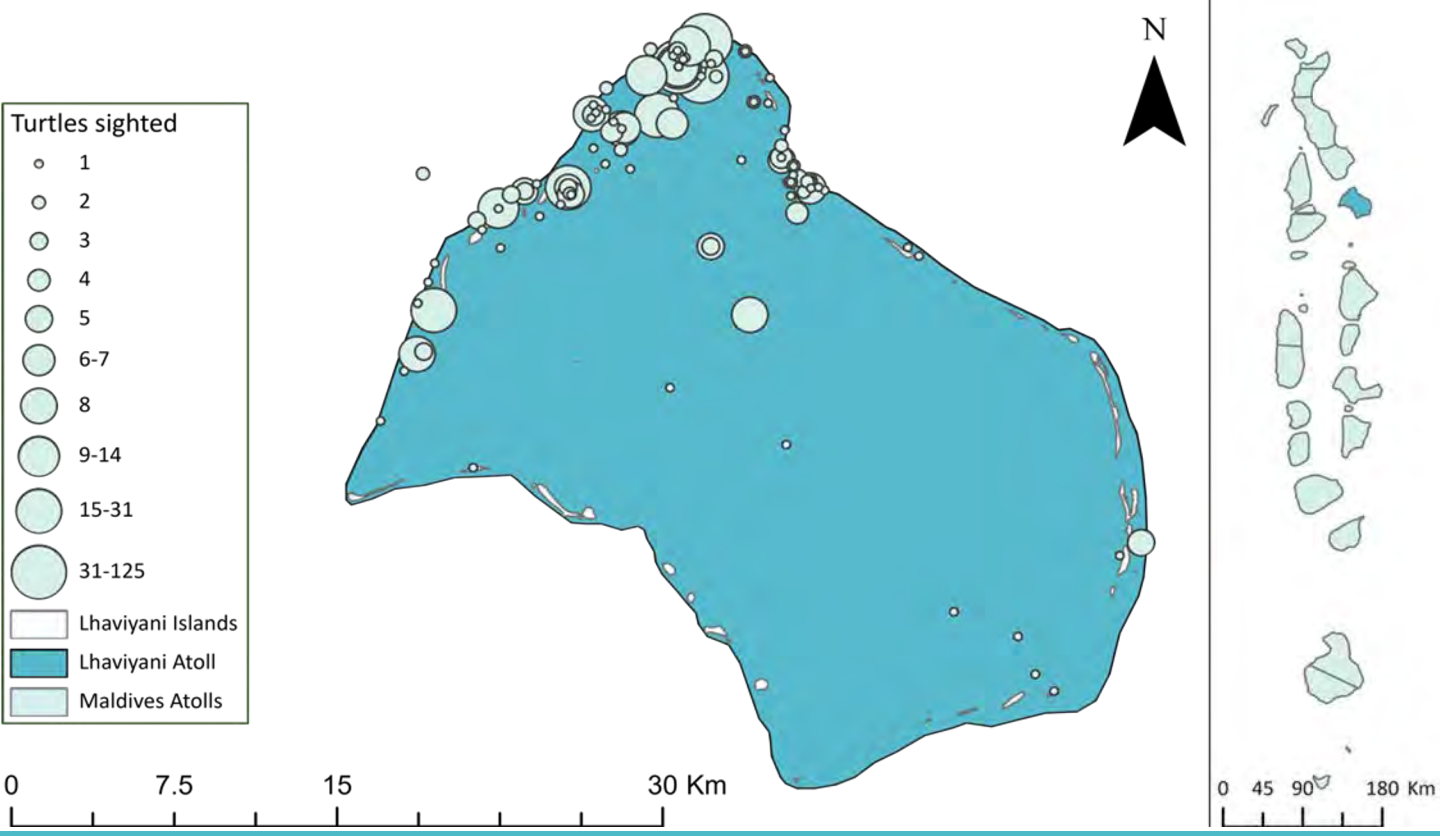
LAAMU

(Right) As 2022 came to a close, nesting on our island didn't stop! The last four nests of the year were all laid by the same female, a green turtle named Cookie (GR941) who was first seen nesting on the island in June 2018 and then again in March 2021. Green turtles can lay up to eight nests in a season and will typically make the long journey to nest only once every two to three years. Our team encountered Cookie while patrolling the beach at night and were able to identify her using Photo-ID. It's great to see a female returning to lay so regularly, and we hope to continue seeing Cookie for many more years to come!

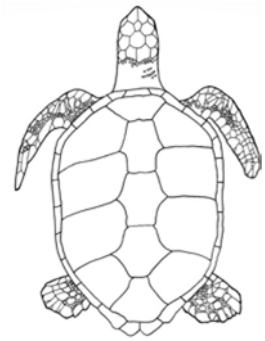
(Left) December was a month full of festivities, and not only for Christmas! This month, we took part in Laama Faru Festival in Laamu Atoll to celebrate the protection of our oceans. Together with MUI and our partners at The Manta Trust and Blue Marine Foundation, we helped run educational activities, talks, and a poster competition - finally finishing off the festival with an 'Under the Sea' parade showcasing some incredible costumes! Over the three day festival period, we visited eight schools across the atoll and engaged with about 2650 students, teachers, and parents!

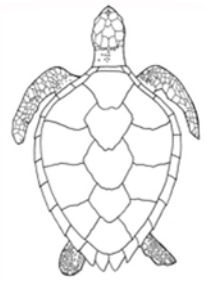
ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	74.8	117.5
Sites Surveyed	25	42
Nests Laid	4	20
Nests Hatched	2	16
Live Hatchlings Counted	100	664
Ghost Nets Removed	1	3



LHAVIYANI ATOLL, MALDIVES





GREENS

Total Sightings: 6,137
Total Individuals: 404

HAWKSBILLS

Total Sightings: 1,163
Total Individuals: 343

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	332	1,743	7,303
Total Number of New Individuals	34	124	747

Emily takes Photo-ID for HK3036

LHAVIYANI ATOLL

In the last three months of 2022, we recoded seven instances of nesting activity in Lhaviyani Atoll. Two nests were successfully laid on Kuredu Island, the first of which was laid on 5th October, and marked the final nest of a female who has laid a total of seven nests on Kuredu since July! Two potential nests were reported on Dhidhdhoo Island by Atoll Marine Center, but we could not confirm that these were true nests.

We also continued to teach guests on our base at Kuredu Resort Maldives about our Code of Conduct for how to behave around sea turtle, with our Sea Turtle Biologist, Emily, conducting briefings during the resort's island orientation tours for guests.

At the end of October, staff members from our partner Prodivers returned from a dive trip with a ghost net, thankfully with no entangled sea turtles. Another net was reported off the north shore of Kuredu island, which turned out to be a discarded FAD (Fish Aggregating Device). It was successfully removed and properly discarded.

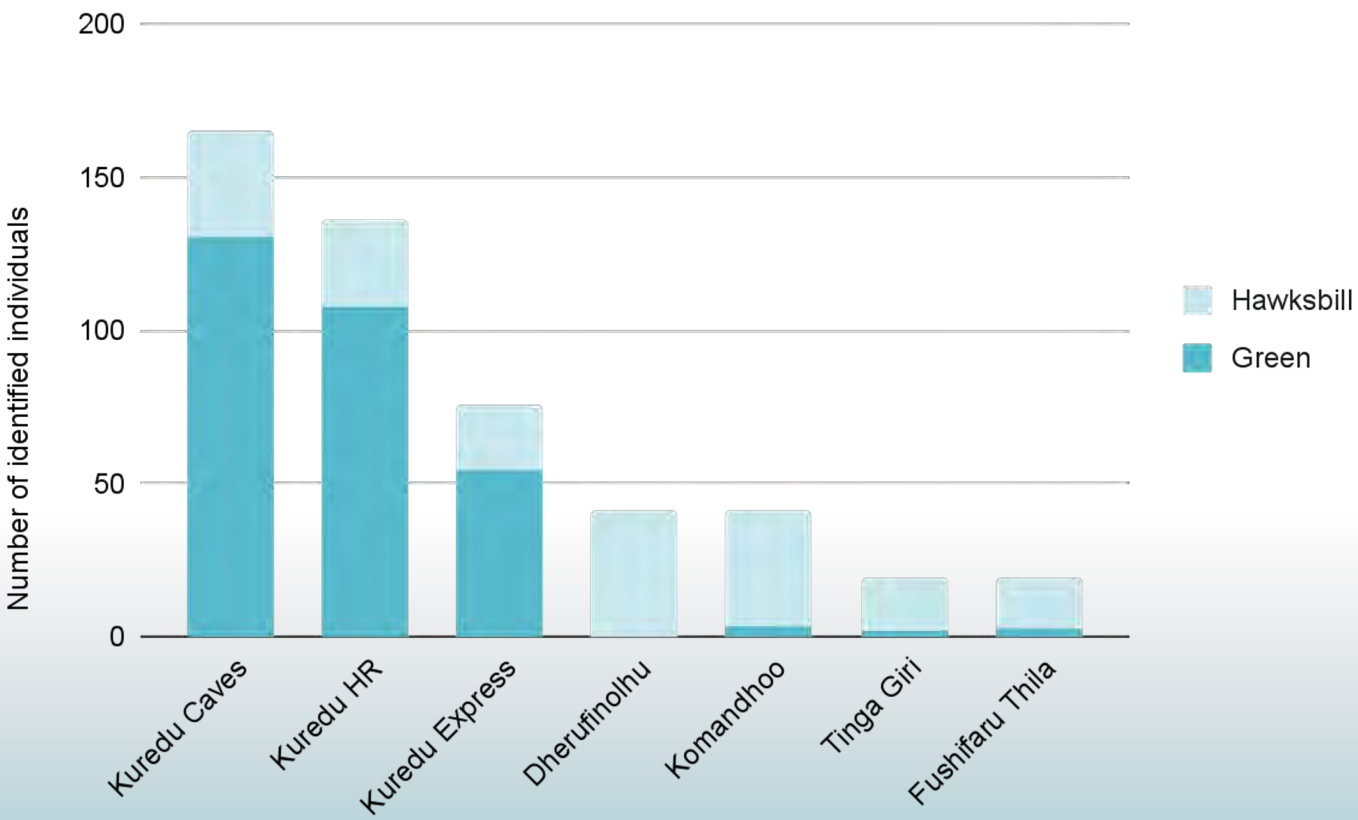
In the last three months, we surveyed 19 dive and snorkel sites across the atoll, including four new sites for the year. From 35.5 hours of in-water surveys as well as Photo-ID submitted from across Lhaviyani, 332 wild turtle sightings were added to the Internet of Turtles. Of these, 34 new individuals were new to our growing database. The majority of sightings continue to be of green sea turtles from around Kuredu Island and Kuredu Express Reef.

Between October and December, a whopping 38 wild turtles were named and adopted from Lhaviyani Atoll. We also had Kuredu Resort Maldives guests who had previously adopted a wild sea turtle, return this quarter and generously donate funds for an underwater housing for our sea turtle biologist's Photo-ID camera. It was purchased and is already in use on-site, helping us continue our Photo-ID operations smoothly.

-Emily Mundy, ORP Sea Turtle Biologist, Lhaviyani Atoll

HK4716, Tamanu, peeks out from a resting spot

IDENTIFIED INDIVIDUALS PER SITE: LHAVIYANI ATOLL



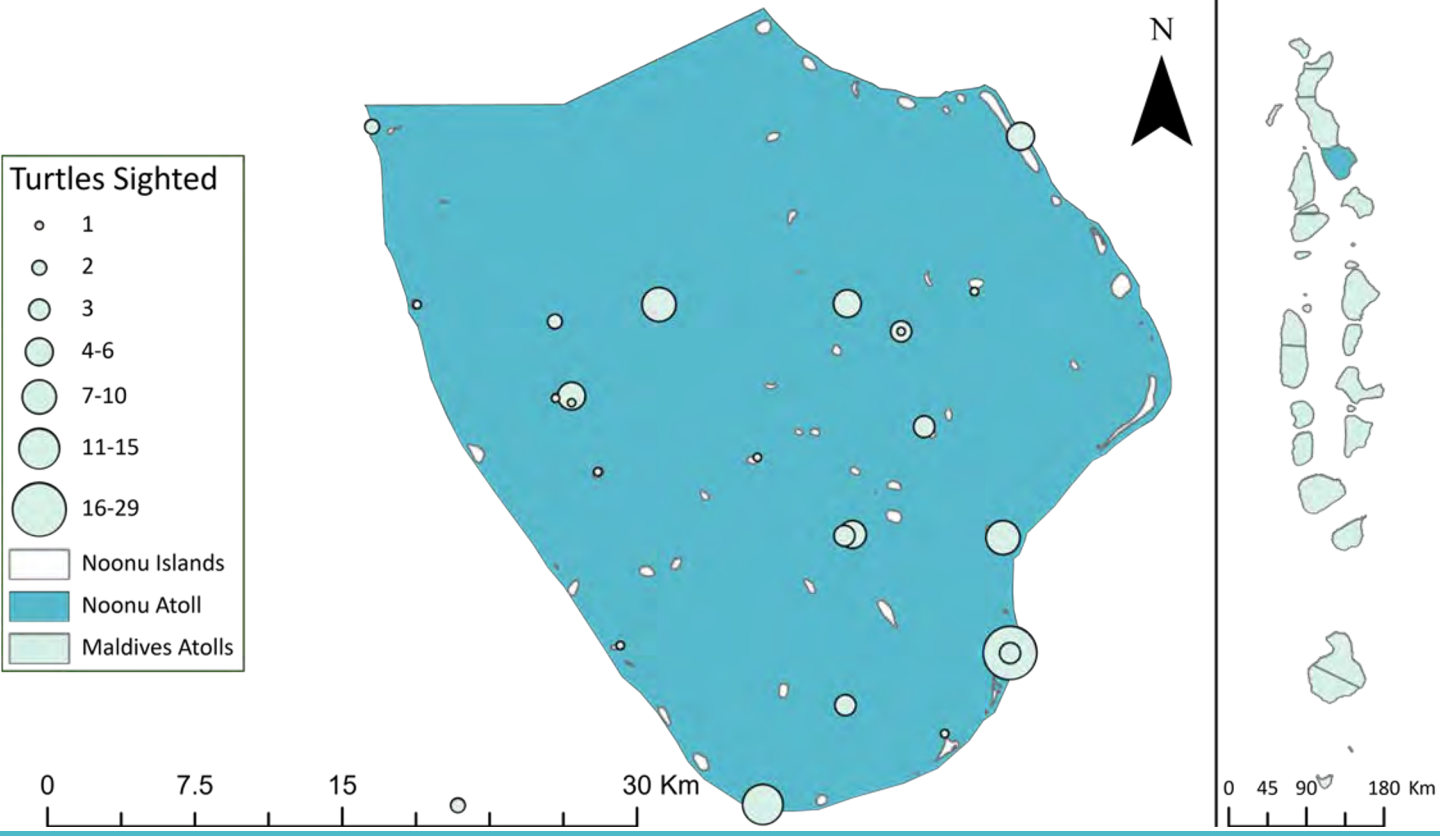
LHAVIYANI

(Right) Our Lead Scientist, Dr Stephanie Köhnk, conducted a site visit to our base Kuredu Resort Maldives at the start of this quarter. Together with our Sea Turtle Biologist, Emily, they conducted two dive and three snorkel surveys, including an educational Kuredu Turtle Search in Kuredu Lagoon with resort guests. They also surveyed the nesting beaches and set up a nest watch camera at a due nest and discussed past and future projects. Dr Stephanie gave an in-depth presentation on our work in Lhaviyani Atoll and the unique population of green sea turtles. It was attended and greatly enjoyed by a large audience of guests and staff of Kuredu Resort Maldives.

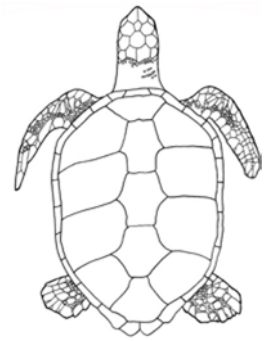
(Left) On the 29th October we collaborated with Lhaviyani Atoll Education Center on the local island of Hinnavaru, to hold the Vaavoshi Sea Turtle Festival. The festival was held over half a day and involved school children of all ages. The first event was a debate competition where student participation was exemplary. In preparation for the day, the students had designed posters, videos and a wall mural advocating for marine conservation. The final event was a parade, which was joined by many community members. We were very impressed with the enthusiasm and quality of the students' and teachers' work, and look forward to future collaborations with the school.

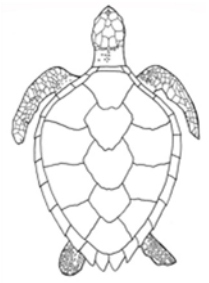
ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	55	275
Sites Surveyed	19	48
Nests Laid	2	11
Nests Hatched	7	10
Hatchlings Counted	473	740
Ghost Nets Removed	2	26



NOONU ATOLL, MALDIVES





GREENS

Total Sightings: 50
Total Individuals: 46

HAWKSBILLS

Total Sightings: 135
Total Individuals: 100

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	3	29	185
Total Number of New Individuals	1	19	146

Green turtle swimming © Maavin Faure

NOONU ATOLL

Our nesting numbers continued to soar towards the end of the year, bringing us up to a total of 92 nests on Medhufaru Island, Soneva Jani Resort, and 46 on neighbouring island, Budufshi. Though only three nests were laid on Medhufaru in December, Budufushi has seen relatively consistent numbers compared to other months.

Sadly 27% of nests on Budufushi this year have demonstrated clear signs of poaching (poking holes, sharpened sticks, large open egg chambers, broken branches and footsteps over nest cover ups). We will continue to monitor the island year-round and compile this information with other data from around the country, which will help us prepare an action plan for poaching prevention.

Spatially, there has been a lot of variation in where nesting females have chosen to lay their eggs over the last few months. The majority of nesting has been restricted to the south east side of Medhufaru Island, however, a new nesting mum has broken the trend more recently and laid twice on the northernmost part of the island, extremely close to one of the busy jetties. Luckily she remained undisturbed and our sea turtle biologist retrieved Photo-ID shots and measurements. For now, we are closely monitoring the nest to ensure the hatchlings don't get disoriented from light pollution in the area.

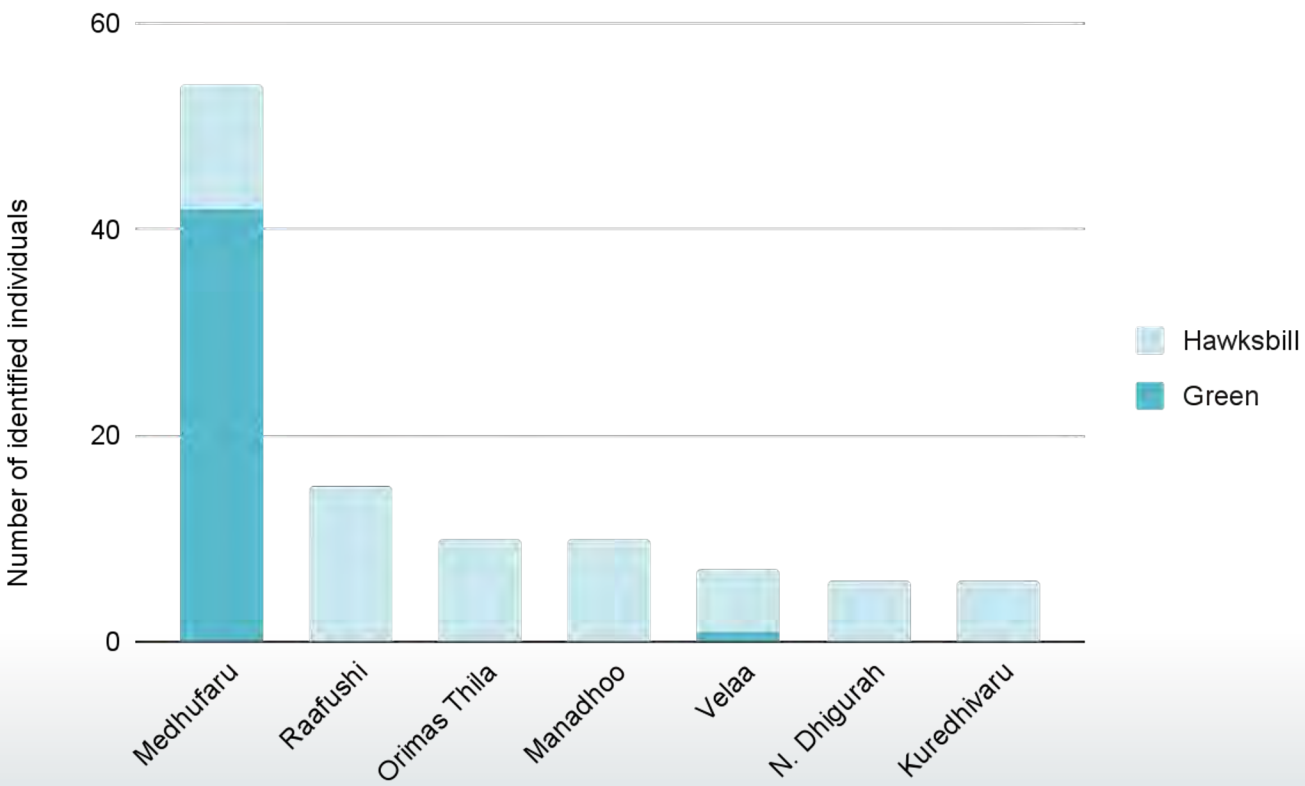
Not only have we had unpredictable nesting spots, we have also had some unusual hatching patterns. Incubation periods have been slightly longer towards the end of the season, with some hatchlings found resting at the surface 74 days after the eggs were laid. Hatching events can often be chaotic and take us by surprise, so when working with sea turtles, we are always prepared for the unexpected.

Noonu Atoll also witnessed its very first Vaavoshi Sea Turtle Festival, held at Lhohi Island and hosted by Lhohi School. It was a fantastic day involving some incredibly engaged students. The winners of the poster competition will be hosted at Soneva Jani, with a friend of their choice, for the day where they can visit the upcoming turtle rehabilitation centre, visit the kids club and venture down to the nesting beach to see what our biologists get up to on a daily basis.

-Rosie Brown, ORP Sea Turtle Biologist, Noonu Atoll

Juvenile green turtle © Maavin Faure

IDENTIFIED INDIVIDUALS PER SITE: NOONU ATOLL



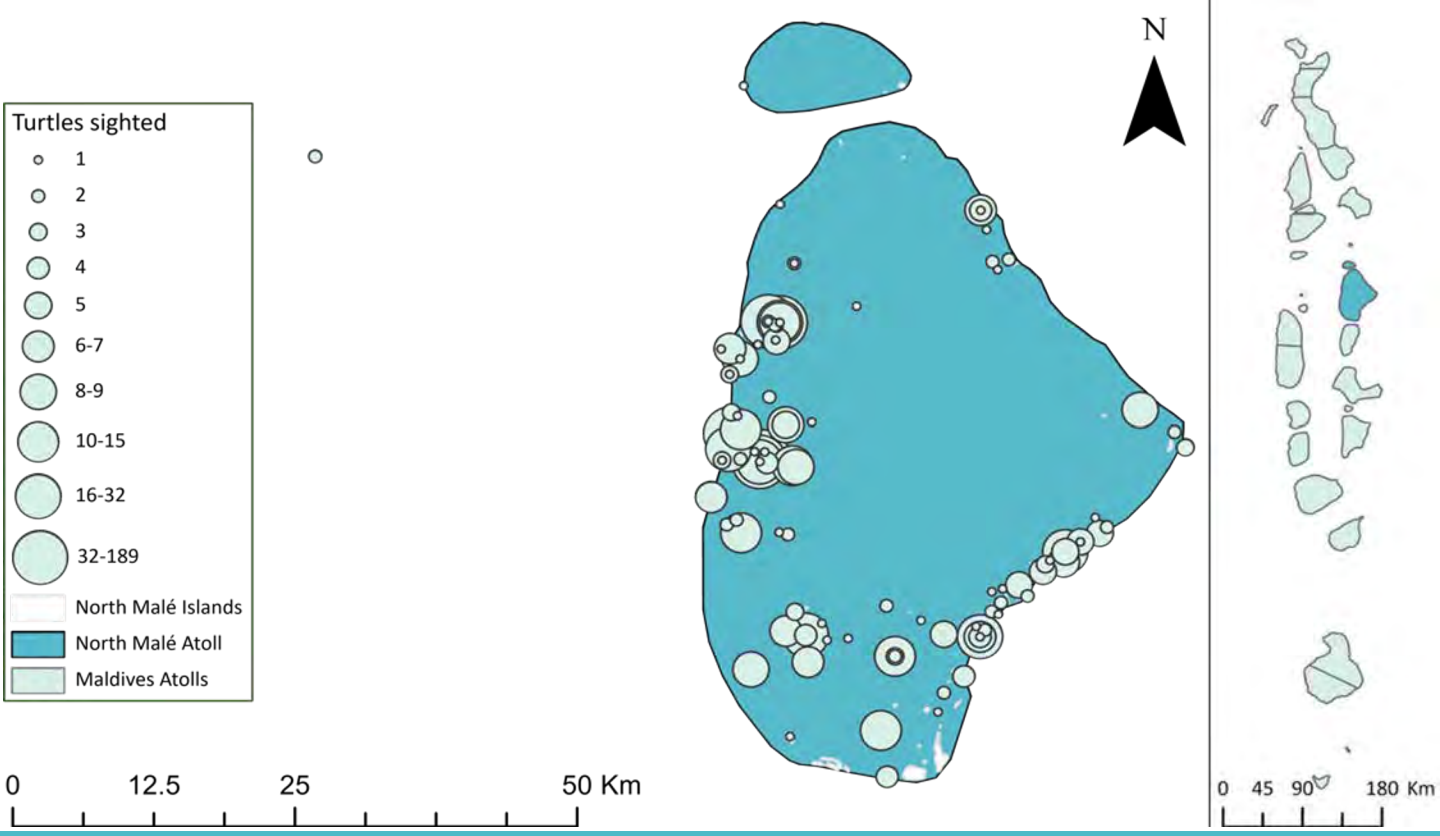
NOONU

(Left) Our sea turtle biologist was on a day time beach patrol when she came across a nesting female stuck under some branches on her way back to the sea. The branches were sadly not budging and the tide was coming in quickly. A team of more than six people from the volunteer nest watch team were gathered to help clear the area and get GR1483 back to the sea. After quite a few attempts, she was finally released. Sadly we don't have Photo-ID shots of all the nesting mothers that have frequented Soneva Jani, but we hope that this mum returns to lay another clutch and wasn't put off by the incident!

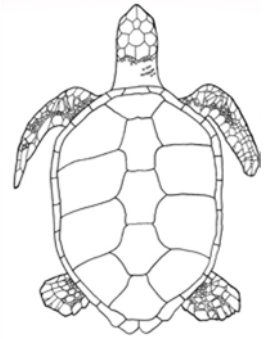
(Right) Not only can hatchlings end up on roads as a result of light pollution, they can also end up in other bodies of water, such as lakes. During a nest walk, Rosie, our Sea Turtle Biologist, noticed a depression in the sand from where a nest had hatched and some tracks radiating from it, but sadly not towards the ocean. Rosie checked the freshwater lake just behind the beach and noticed a few little heads popping up, swimming around frantically. There were 17 green turtle hatchlings lost in the lake! All were released immediately.

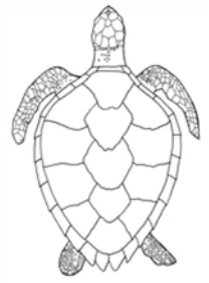
ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	36	
Sites Surveyed	2	6
Nests Laid	31	138
Nests Hatched	34	67
Hatchlings Counted	2944	6193
Ghost Nets Removed	0	8



NORTH MALÉ ATOLL, MALDIVES





GREENS

Total Sightings: 127
Total Individuals: 86

HAWKSBILLS

Total Sightings: 10,234
Total Individuals: 942

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	39	252	10,361
Total Number of New Individuals	2	37	1,028

HK3289 (Brownie) swimming

NORTH MALÉ ATOLL

In the final quarter of the year, we focused on surveying the turtle population in Makunudhoo Reef in North Malé. We were happy to see that there is a resident population at this site and many of the same individuals were frequently sighted. We were also excited to see the return of the hawksbill amputee HK5256 (Melanie) in October and November at Makunudhoo Reef. She was observed to be doing well with other turtles around her and was comfortable with snorkelers too.

At the end of October, we held the Vaavoshi Sea Turtle Festival in K. Huraa, where a total of 313 students from K. Huraa School from kindergarten to grade ten participated in a variety of activities such as sand castle competition, beach clean up, mural painting, poster design, debate competition and a parade. The support and involvement from the teachers and volunteers was exceptional and we thank all the participants for making it such an educational and fun event.

The whole debate team from the school will be hosted by One&Only Reethi Rah in early 2023, where the students will be able to experience snorkelling with turtles.

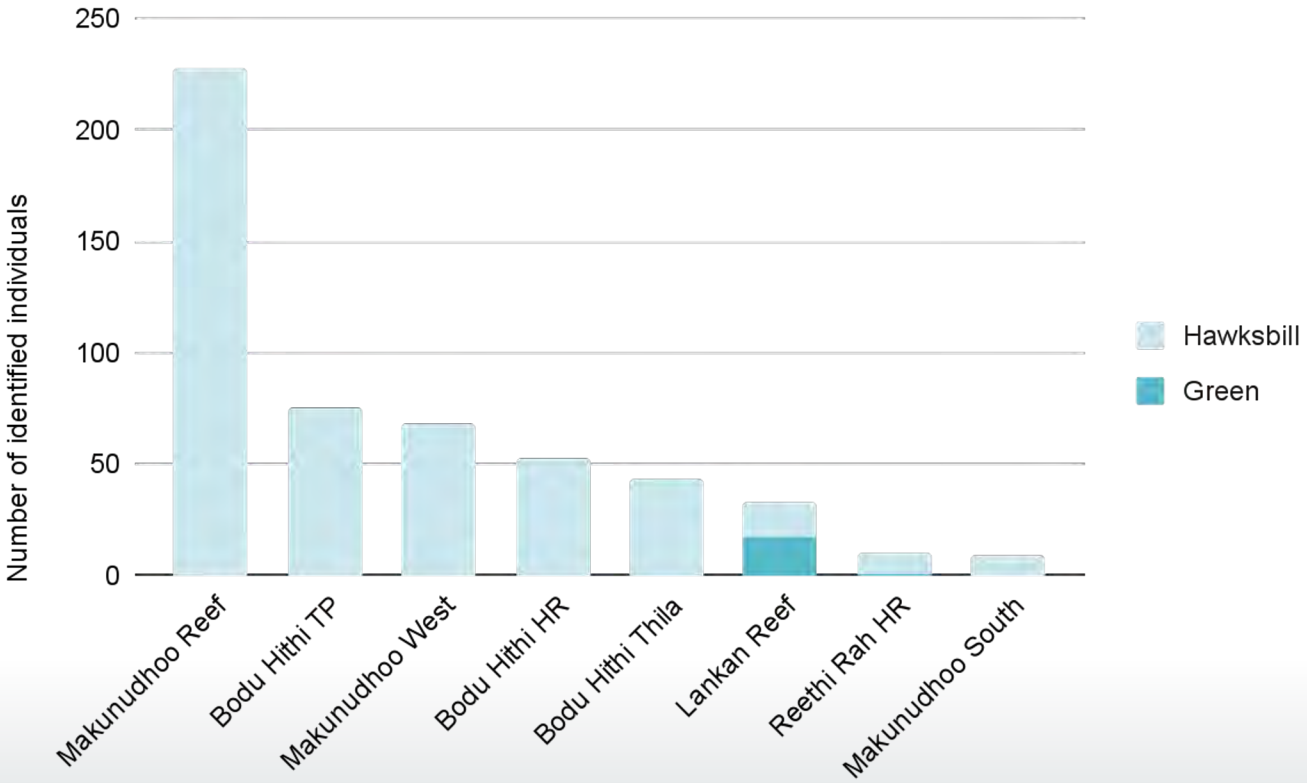
This quarter, we were able to record a total of 39 sea turtle sightings, out of which two were new individuals.

We are also pleased to report that the construction of the second turtle tank at our rehab centre has progressed well and we are looking forward to having the centre back in operation by early 2023.

-Mariyam Niuma, ORP Sea Turtle Biologist, North Malé Atoll

Juvenile hawksbill HK4933 taking a breath

IDENTIFIED INDIVIDUALS PER SITE: NORTH MALÉ ATOLL



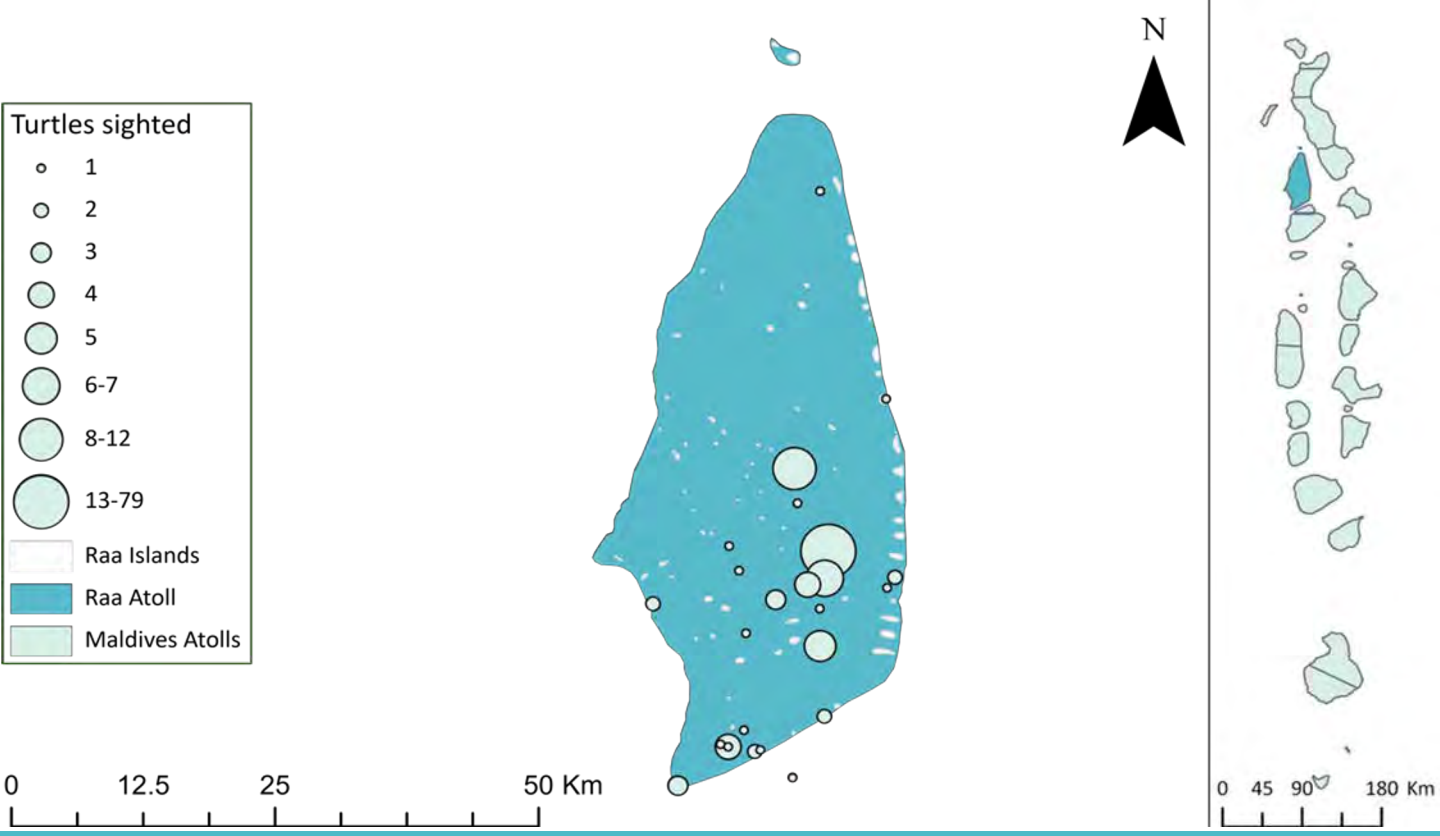
NORTH MALÉ

(Left) In early December, our sea turtle biologist received a call from the garden team at One&Only Reethi Rah about a washed up hawksbill hatchling on one of the beaches. After a quick inspection and consultation with our veterinary team, where it was determined that the hatchling was in fine health, it was safely released into the ocean.

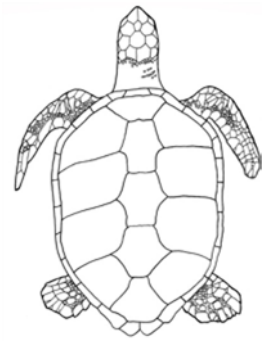
(Right) Students from grades eighth, ninth and tenth of K. Huraa School, painted a wall mural at the Vaavoshi Sea Turtle Festival. The mural depicted a sea turtle carrying the marine ecosystem on its back. We were delighted to see that the students had understood the importance of sea turtles, and were enthusiastic in conveying the message further so creatively.

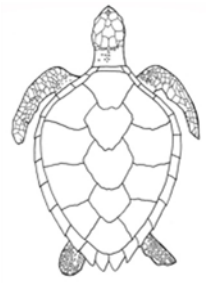
ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	36	208
Sites Surveyed	5	22
Nests Laid	0	0
Nests Hatched	0	0
Hatchlings Counted	0	0
Ghost Nets Removed	0	5



RAA ATOLL, MALDIVES





GREENS

Total Sightings: 5
Total Individuals: 3

HAWKSBILLS

Total Sightings: 551
Total Individuals: 170

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	33	183	556
Total Number of New Individuals	13	39	173

GR1503 laying her third nest on Bodufushi

RAA ATOLL

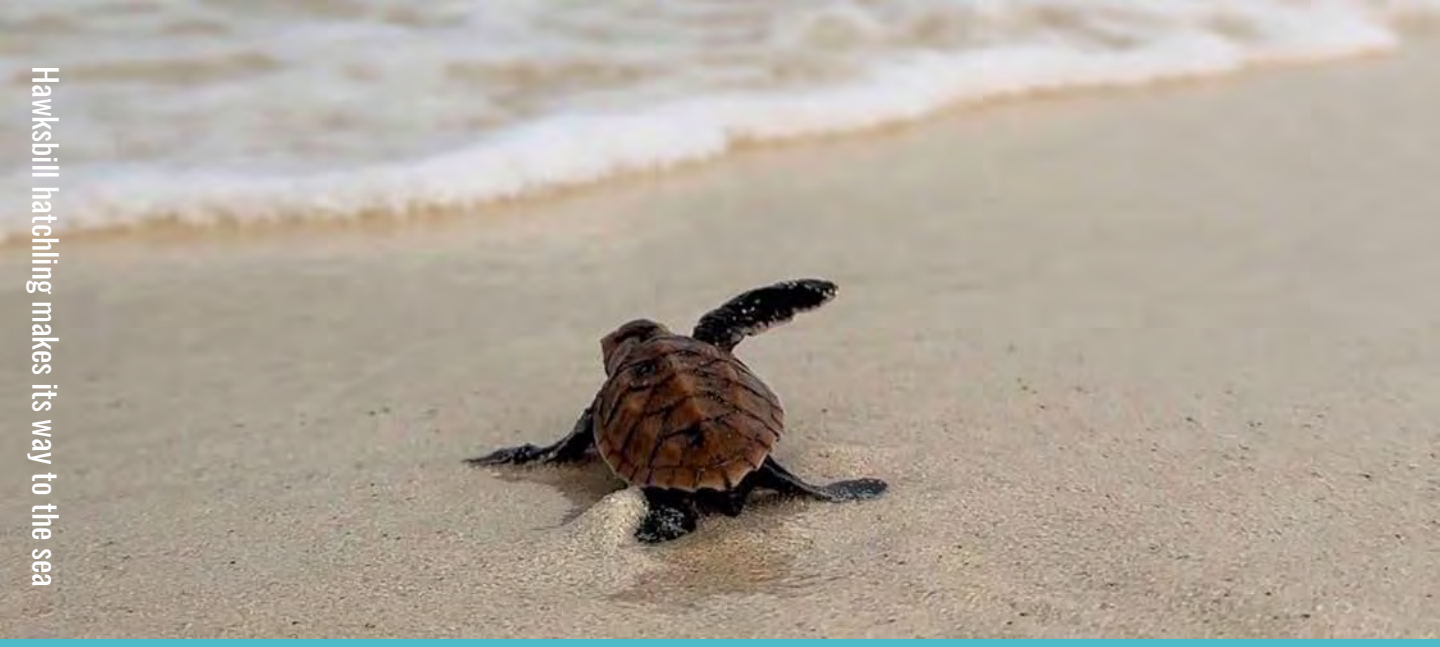
We continued to observe nesting at Raa Atoll through the last quarter of 2022. In the months of October and November, we had an additional seven nests laid on Bodufushi; five green and two hawksbill. Our Sea Turtle Biologist, Olivia, was lucky enough to witness three green nests being laid while patrolling the beaches at night and therefore was able to confirm that they all belonged to the same female. As each of the green nests were laid 10-12 days apart and in roughly the same area, it is assumed that all six green nests likely belong to the same individual, GR1503.

In December, GR1503's nests started to hatch, after an average incubation period of 69 days. Despite monitoring the nests with the help of the volunteer staff from JOALI BEING, we could not witness any hatching. Upon excavating the nests we found unusually low success rates. Since all of the nests are assumed to be from the same female, this low success rate is likely due to the female and not environmental factors.

Towards the end of 2022, we began collaborating with the Environment Ministry on a project to help manage and monitor Vandhoo's nesting beaches. Vandhoo Island, in the east of Raa Atoll, is currently being used as a regional waste management facility. It was declared a nesting hotspot in 2016 for both green and hawksbill turtles, but since then there has been no long-term monitoring of the beaches. There have also been several reports of poaching on the island. We are therefore establishing a long-term monitoring programme to determine the abundance of nesting, as well as to identify how much poaching may be occurring, and also deter further attempts.

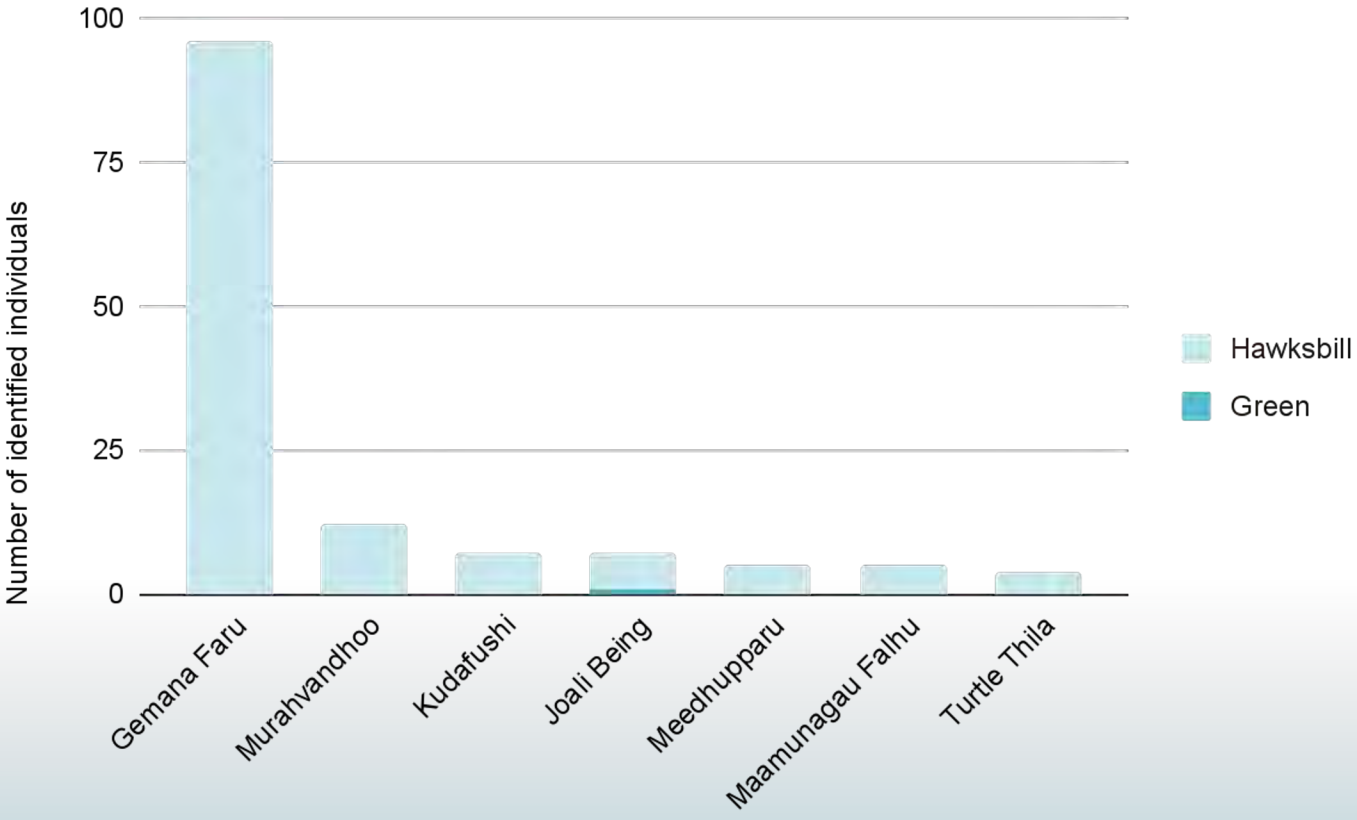
We added 33 sightings to our database this quarter, including 13 new individuals. One of these new individuals was the nesting green female - only the second green turtle to be added to our database for Raa Atoll.

-Olivia Forster, ORP Sea Turtle Biologist, Raa Atoll



Hawksbill hatchling makes its way to the sea

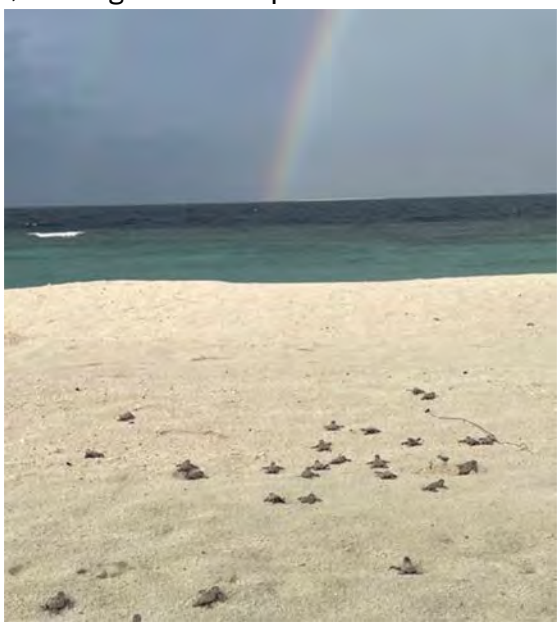
IDENTIFIED INDIVIDUALS PER SITE: RAA ATOLL



RAA

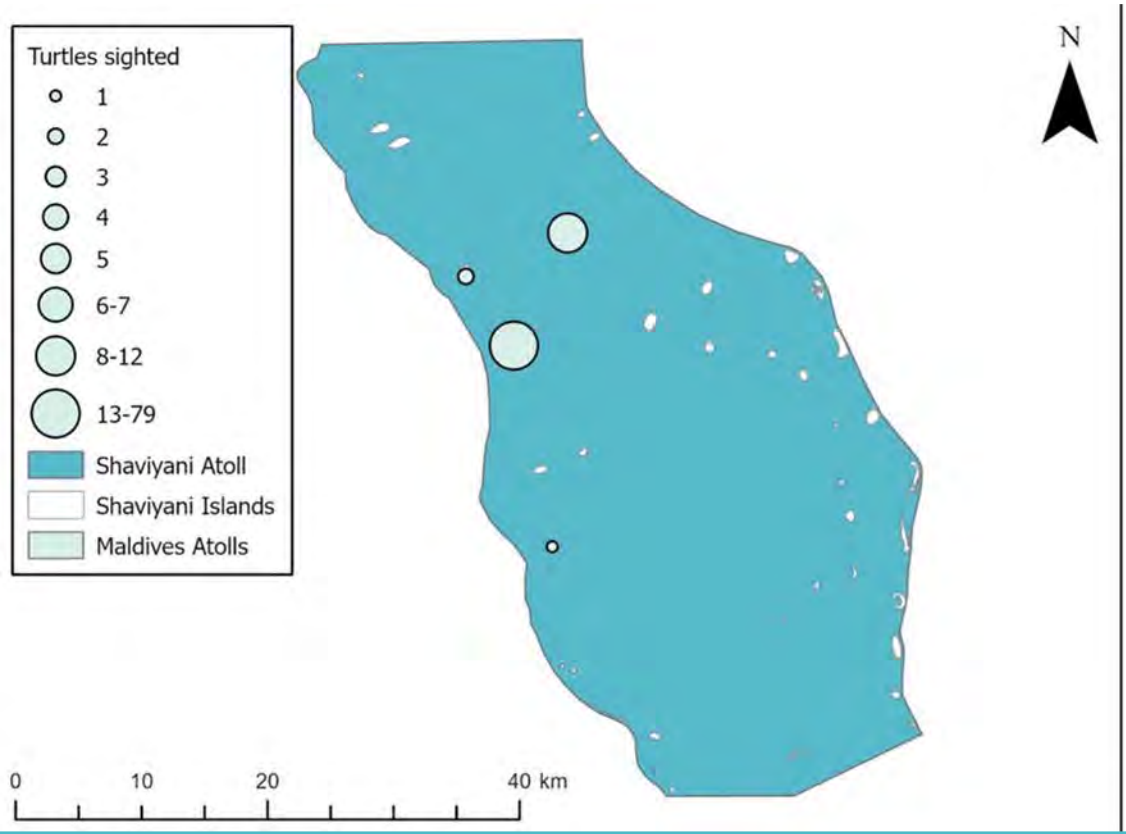
(Left) October saw Raa Atoll's first sea turtle festival, as part of the Vaavoshi Sea Turtle Festival. A large team of biologists and volunteers from several islands in Raa Atoll, including JOALI BEING, JOALI Maldives, Intercontinental Maldives, and NGOs Manta Trust and Noo Raajje, joined the festival at Fainu School. The day was filled with fun and educational activities, including a beach clean up, where we removed a large ghost net- which coincidentally turned out to be ORPs 1,000th ghost net as per the database!

(Right) In December, guests and staff were lucky enough to witness a day time hatching event. After a tropical storm, our sea turtle biologist noticed a crack in the sand at one of our hawksbill nests, and within 15 minutes the hatchlings had begun to emerge. In total, 79 hatchlings made it out of the nest and down towards the sea where a beautiful rainbow was spread across the sky. Hawksbill turtles are listed as critically endangered in the Maldives, so guests and staff were especially excited to see them nesting and hatching on JOALI BEING.

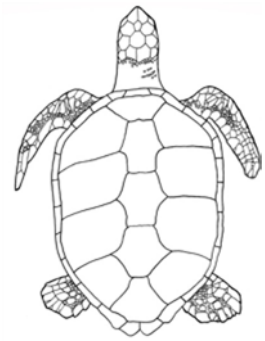


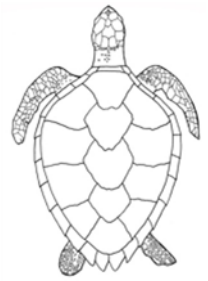
ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	27	79
Sites Surveyed	4	15
Nests Laid	15	21
Nests Hatched	5	7
Hatchlings Counted	81	81
Ghost Nets Removed	1	8



SHAVIYANI ATOLL, MALDIVES





GREENS

Total Sightings: 9
Total Individuals: 9

HAWKSBILLS

Total Sightings: 252
Total Individuals: 45

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	68	71	261
Total Number of New Individuals	9	12	54

Hawksbill swimming © Oscar Lebron

SHAVIYANI ATOLL

In October 2022, we expanded to Shaviyani Atoll, located in the north of Maldives. In partnership with Fairmont Sirru Fen Fushi, also known as Gaakoshibee, we welcomed Neus Segura, our first sea turtle biologist for Shaviyani.

Shortly after Neus arrived, she travelled to Maafushi in Kaafu Atoll to attend the Vaavoshi Sea Turtle Festival. The day started with a beach clean-up carried out by students and teachers. The attendees were given presentations on the importance of protecting sea turtles, carried out by a former ORP team member, Kaia. Our team also set up workshops to explain what to do in case of finding an entangled turtle, how to report ghost gear, and our Code of Conducts for how to behave around nesting females, hatchlings, and when swimming with sea turtles. The day wrapped up with a fantastic marine life themed parade.

Two of our resident turtles were quickly adopted once Shaviyani adoptions were launched! HK5376 is now called Bexy and HK5378 is Bumble. We love the names and want to thank the new adoptive parents. Their kind donations help us continue to conduct research to protect sea turtles and their habitats.

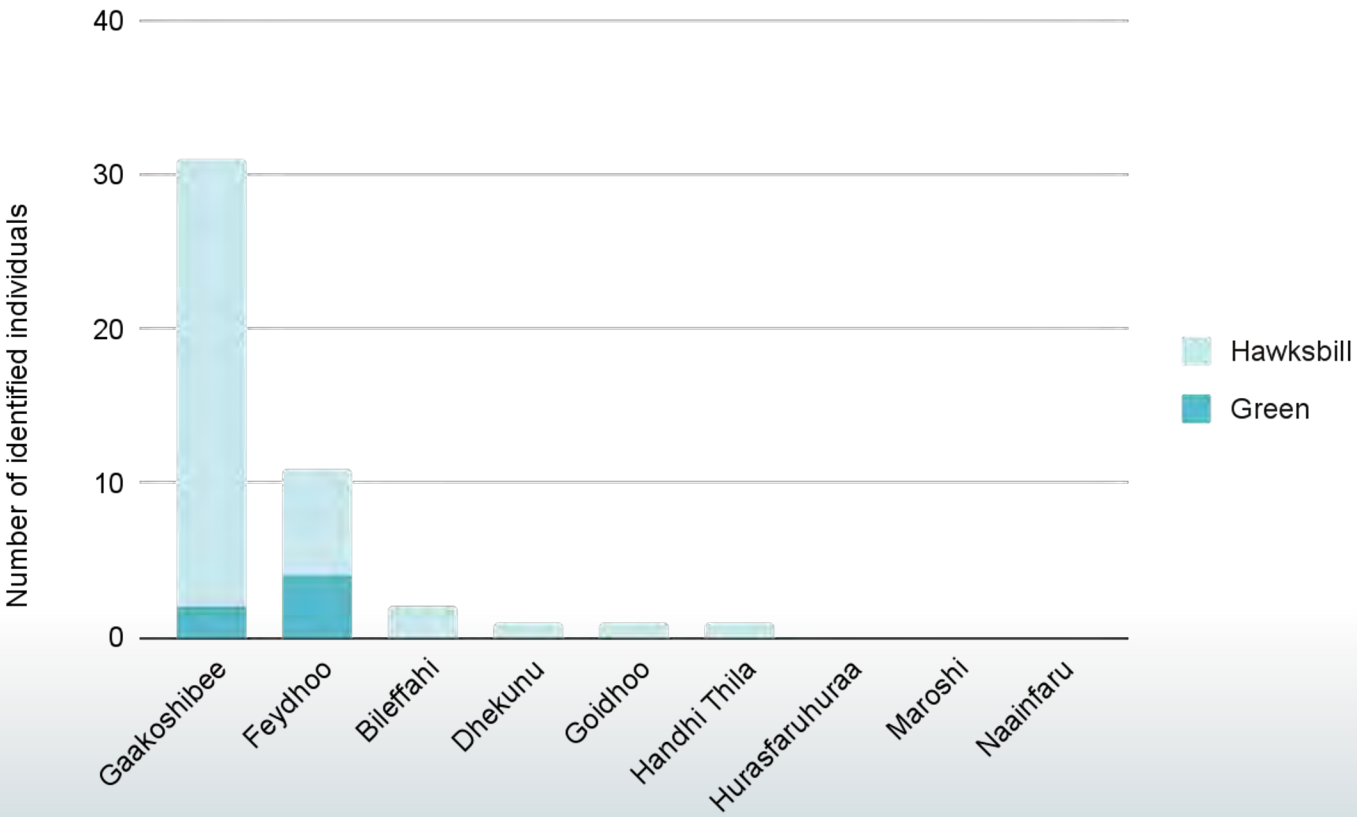
Since October, there have been no nesting attempts, hatching events nor rescued sea turtles documented in the atoll. Unfortunately, one of the sightings added for this quarter was of a juvenile hawksbill, who passed away later this year and was found drifting inside Feydhoo Harbour. The cause of death remains unknown.

Overall, 32 hours were spent surveying the waters of Gaakoshibee and taking Photo-ID during each sea turtle encounter. A total of 68 sightings were added to the Shaviyani Atoll database. We now have 54 identified individuals in Shaviyani Atoll.

-Neus Segura, ORP Sea Turtle Biologist, Shaviyani Atoll

Neus taking Photo-ID of a juvenile hawksbill

IDENTIFIED INDIVIDUALS PER SITE: SHAVIYANI ATOLL



SHAVIYANI

(Left) We often find resident juvenile hawksbill sea turtles at Gaakoshinbi's coral reef. Our star of the show is Phoebe, the most sighted hawksbill at the reef. Phoebe was named back in 2017, but a resighting this October revealed an important fact - Phoebe's tail tip was just surpassing its carapace! This means that Phoebe is in fact a young male sea turtle. Due to the knowledge gap regarding hawksbill tail growth rates, our sea turtle biologist is keeping track of tail lengths during sightings to find out more.

(Right) In December, we visited a total of five schools to conduct presentations about sea turtle biology and threats, ORP's Photo-ID project, and what we can do to help sea turtles and their environment. The seventh and eighth graders of Milandhoo, Maaungoodhoo, Lhaimagu, Maroshi and Kanditheemu Schools were all a fantastic audience, listening very carefully to the turtle talk and asking many questions. Multiple children said they want to become marine biologists when they grow up to see whether they can resolve the mystery of the 'sea turtle lost years!'

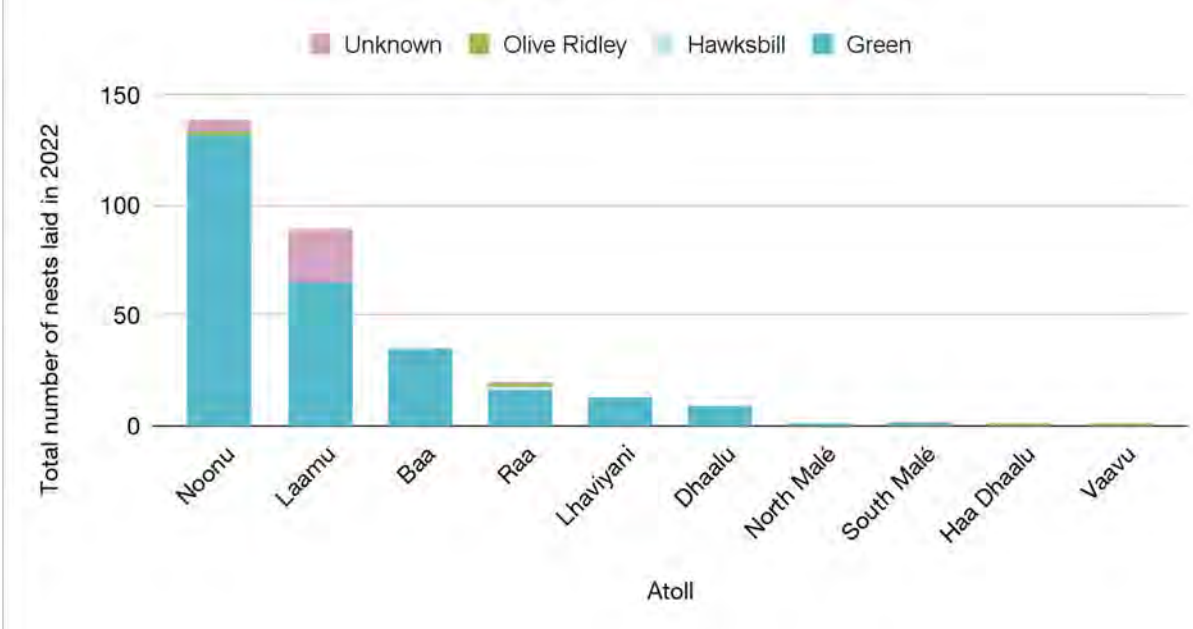
ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	32	32
Sites Surveyed	1	1
Nests Laid	0	0
Nests Hatched	0	0
Hatchlings Counted	0	0
Ghost Nets Removed	1	2

Green turtle nesting at Noonu Atoll

RECORDED SEA TURTLE NESTING ACTIVITY

	This Quarter	This Year
True Nests Laid	58	310
False Crawls	38	251
Nests Hatched	68	127
Live Hatchlings Counted	5,778	10,615
Average Hatching Success	65.3%	79.7%
Average Incubation Time (days)	64.5	61



OLIVE RIDLEY PROJECT

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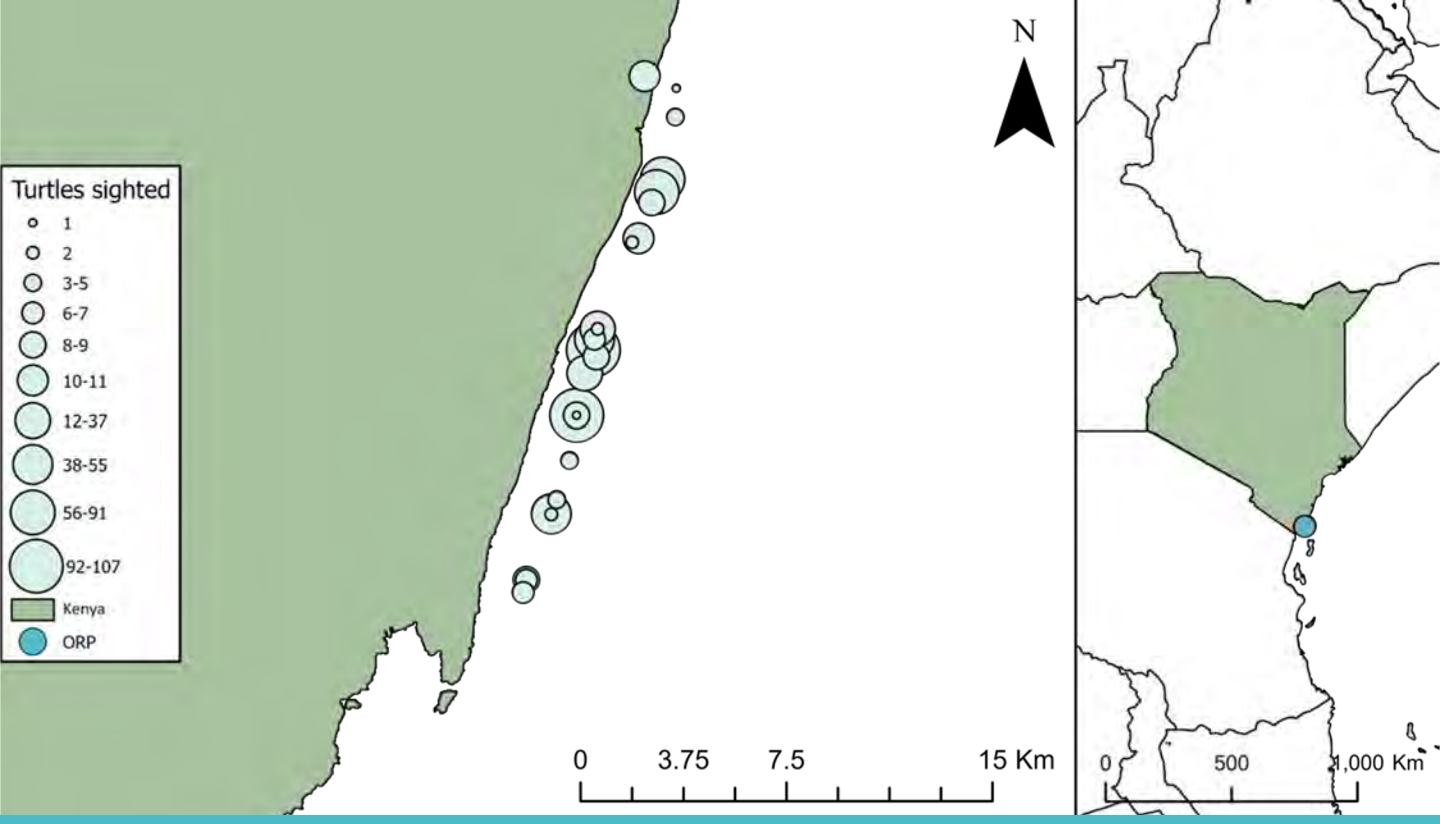
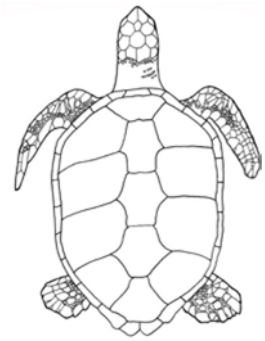
KENYA

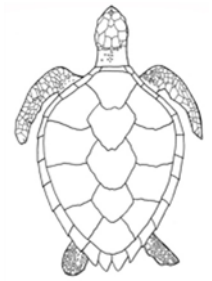


DIANI BEACH, KENYA



GREENS

Total Sightings: 3,212
Total Individuals: 587



HAWKSBILLS

Total Sightings: 499
Total Individuals: 79

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	341	1253	3,769
Total Number of New Individuals	99	202	833

G441, most sighted green turtle from Milele reef.

KENYA

The last quarter of 2022 was packed with activities and exciting new opportunities for our team in Kenya. In early October, our project coordinator, Leah, featured in a Wildlife Direct documentary focusing on life under the sea. The documentary is yet to be aired, but when it does we hope that audiences will be able to better understand our work and the importance of sea turtle conservation.

Later in October, Leah participated in the Western Indian Ocean Marine Science Association (WIOMSA) scientific symposium in South Africa. She presented our work in Kenya to a whole new audience and was also able to network with many organisations working throughout the Western Indian Ocean and gain important insights.

ORP's Senior Project Scientist, Dr Stephani, visited Kenya in early November. She took part in a number of activities and met many of our project partners.

In mid November we piloted a drone study to help us identify potential sea turtle aggregation sites in the Diani-Chale Marine Reserve. The success of the pilot drone study (see next page) strengthened our resolve to acquire a drone to help us with our sea turtle monitoring efforts. We ran a (very successful!) fundraising campaign for a drone on Giving Tuesday in December and will be getting our own drone in the new year.

Our collaboration with the Arribada Initiative continued and we tagged three green turtles with Snapper GPS tags. We are studying potential applications of these tags in understanding the movement of green turtles in foraging areas.

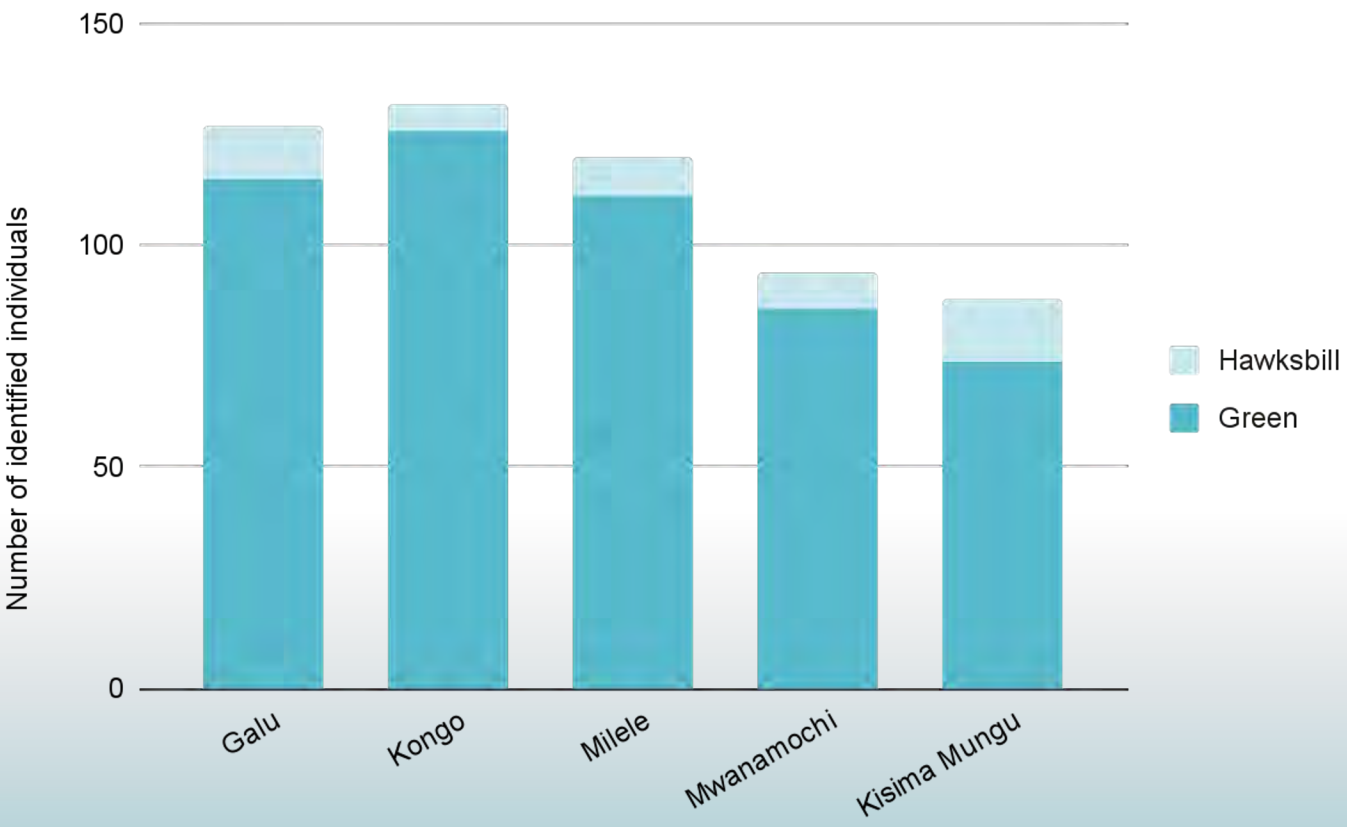
Excitingly, we were also able to launch our 'Sea Turtle Monitoring by Scuba' volunteer program in collaboration with our partners Diving the Crab. Our former volunteer Juma went on to receive his Open Water Dive Certification as the first beneficiary of the program.

Lastly, this quarter we managed to conduct a total of 60 dives, resulting in 341 sightings, of which 99 new turtles were added to the database.

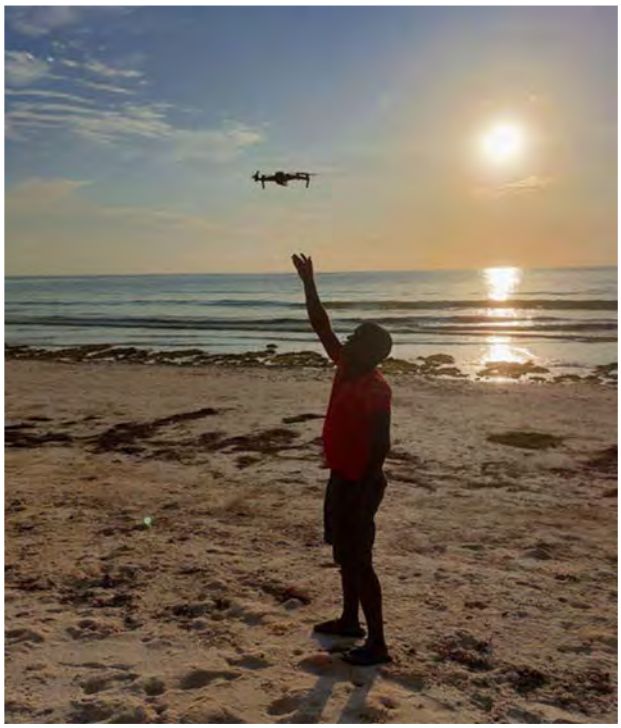
- Leah Mainye, ORP Project Coordinator Kenya

G755, master of great posesi

IDENTIFIED INDIVIDUALS PER SITE: KENYA



KENYA



(Left) ORP Infield Supervisor Jenni worked with Mike Mwangómbe of the Kenya Marine Mammal Research and Conservation Group to conduct a pilot drone study in the lagoon area of the Diani-Chale Reserve in November. In five days we covered 15 km, and recorded sightings of over 20 sea turtles, some baby reef sharks, an eagle ray, and a pod of dolphins! The drone was also able to spot an entangled green turtle which was immediately rescued and freed with the help local fishermen. You can watch a video of the rescue effort on YouTube.

(Right) ORP Project Coordinator Leah participates in the 2022 WIOMSA Scientific Symposium in South Africa. Leah presented our work on sea turtle conservation in Kenya and was able to reach out to an audience of 700+ participants. We were honoured to be able to take part in this event, known to be the largest gathering of multidisciplinary scientists in the marine field across the Western Indian Ocean, and share our work while also gaining important insights.

ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	70.7	208.9
Sites Surveyed	11	18
Adopted Turtles	86	103

OLIVE RIDLEY PROJECT

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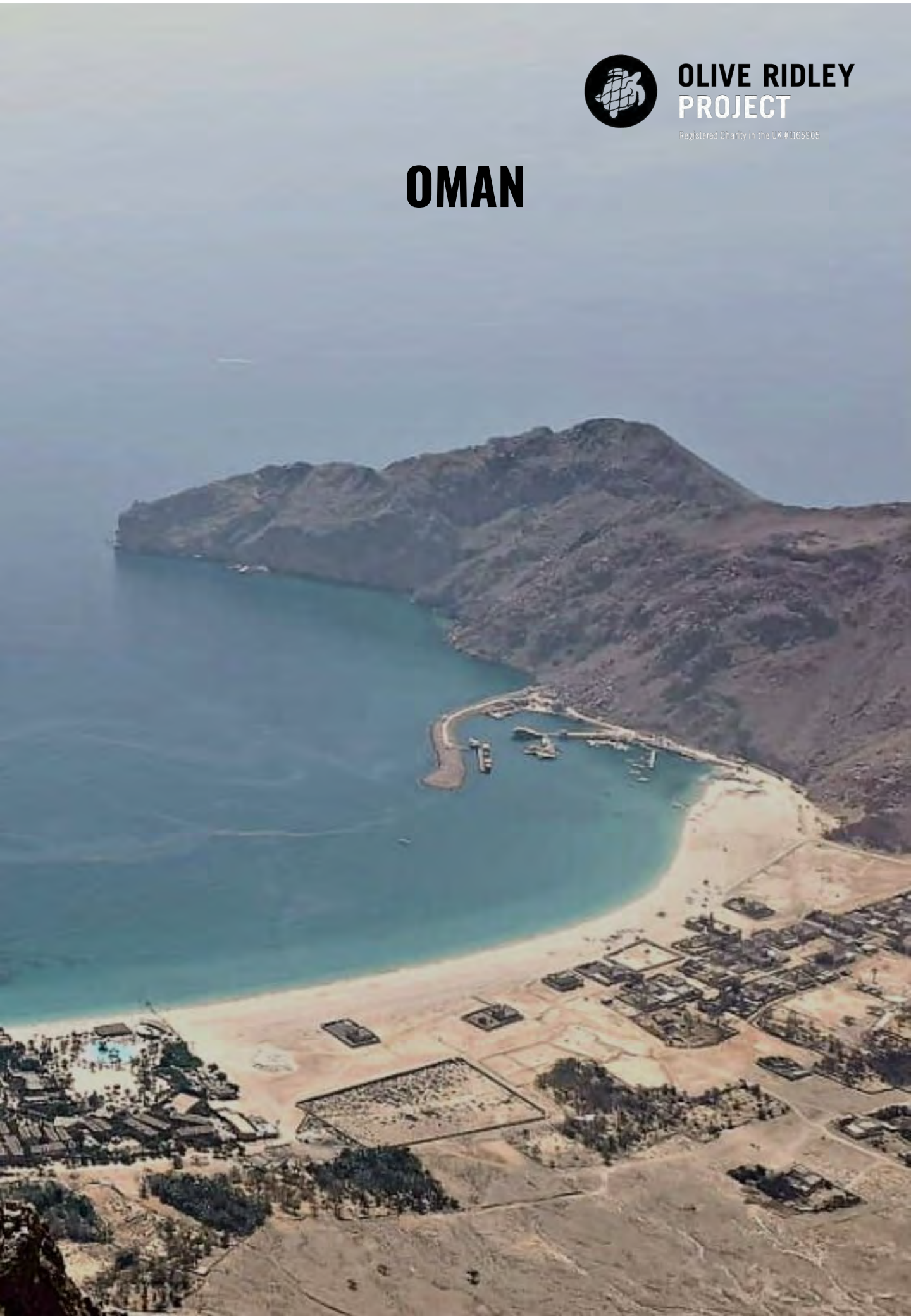
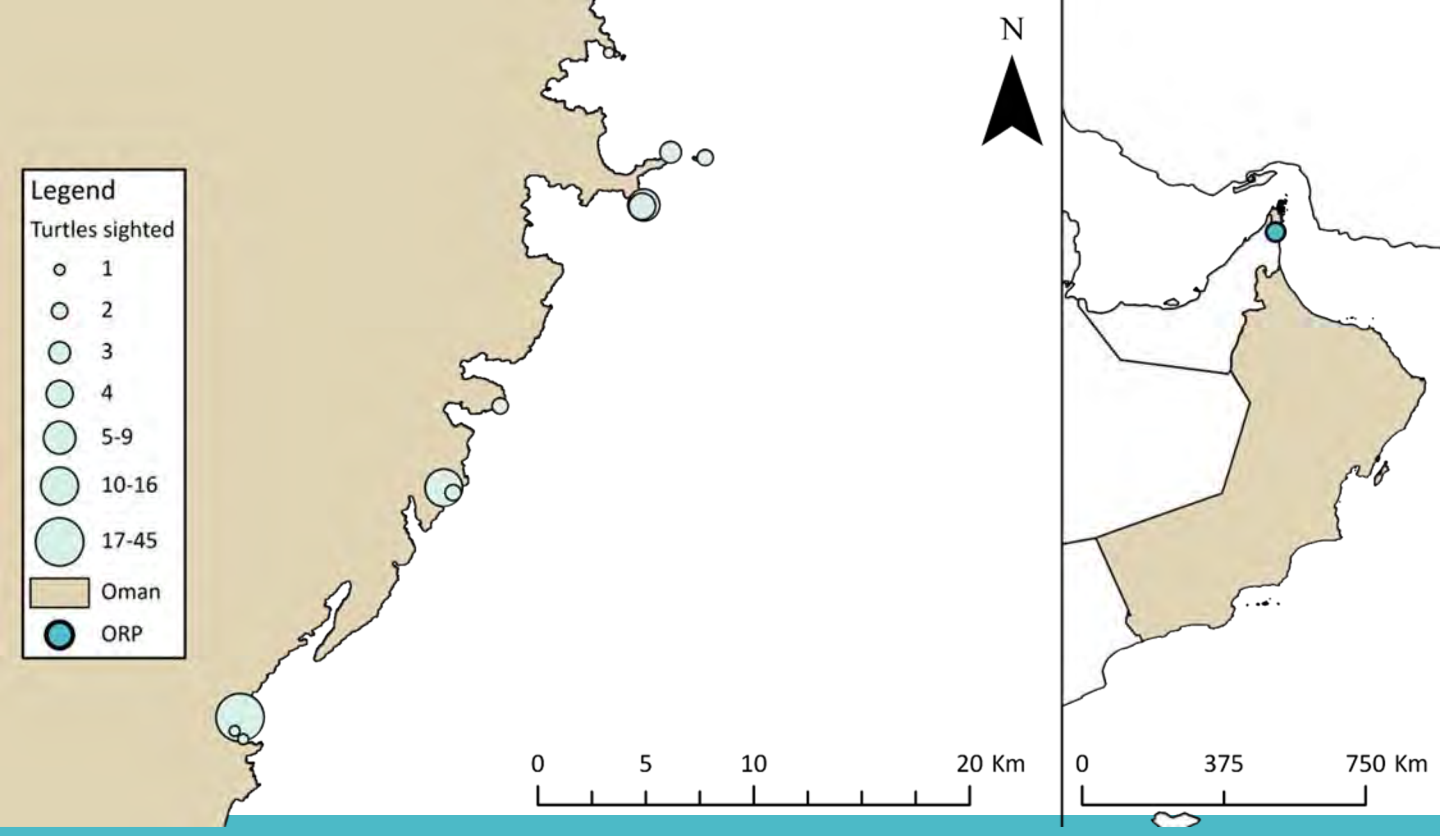
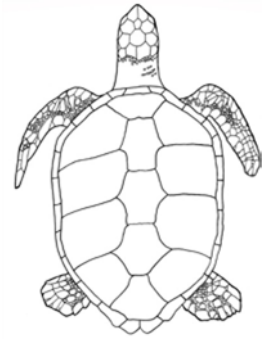
OMAN



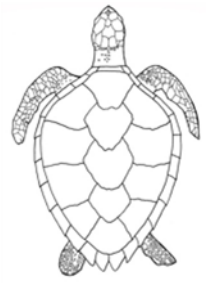


OMAN



GREENS

Total Sightings: 317
Total Individuals: 105



HAWKSBILLS

Total Sightings: 15
Total Individuals: 10

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	153	265	332
Total Number of New Individuals	35	74	114

GM042 spotted swimming over a reef

MUSANDAM

In the last three months of 2022, we recorded the greatest number of sea turtle sightings ever in Oman!

October saw a record breaking 57 confirmed sightings of 37 individuals, including 23 new sea turtles. This total was then immediately beaten by the massive 71 confirmed sightings of 34 different sea turtles across the month of November. However, there only nine new individuals were added to the database. This set December up with a tough act to follow, and we only recorded 25 confirmed sightings of 15 individuals. Two new sea turtles were added to the database.

The research was conducted during 83 hours of underwater surveys across five different sites.

The reduced number of sightings in December could possibly be a result of the algal blooms that appear in the the Gulf of Oman around this time of year. In addition, the water temperature dropped to 24 degrees Celsius, which may have encouraged the sea turtles to seek warmer waters.

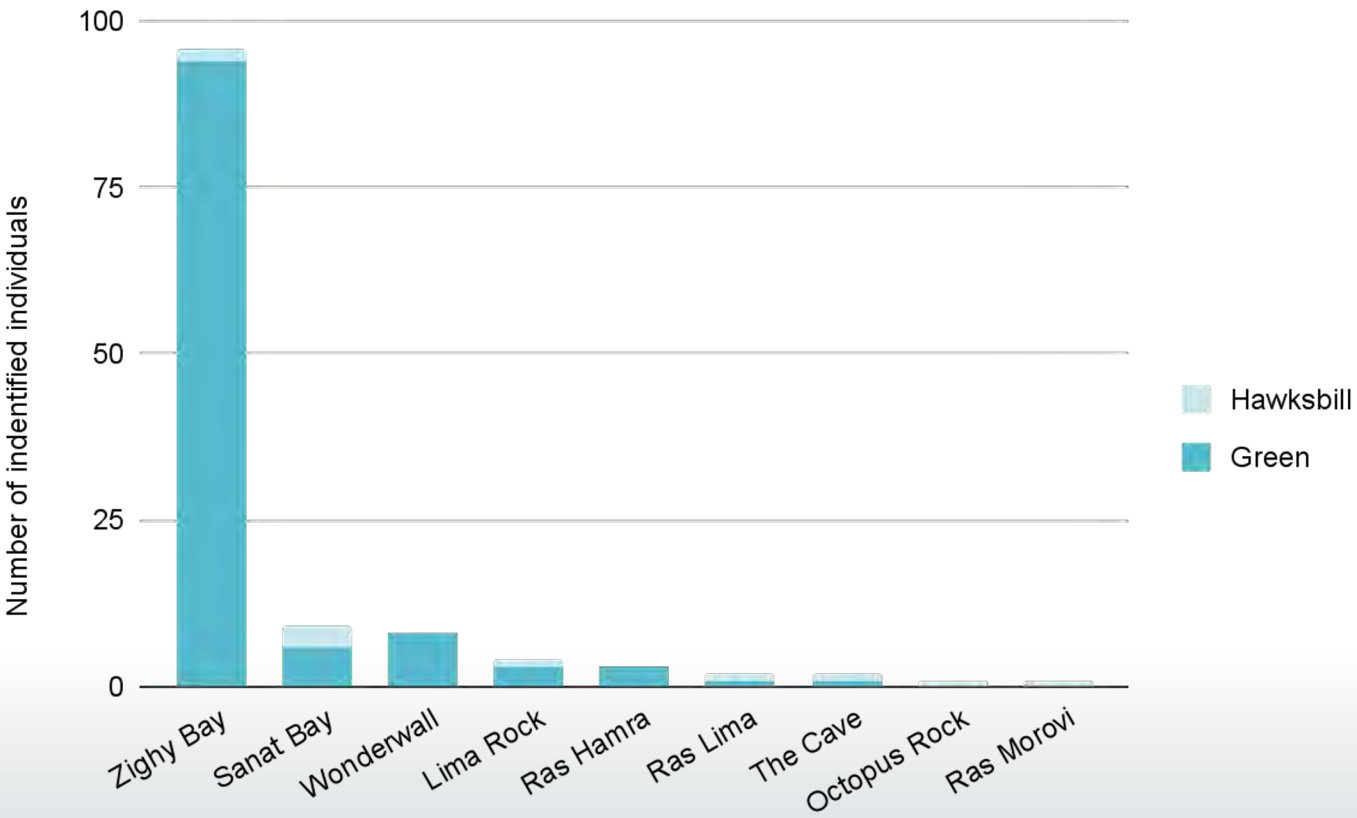
The work for the proposed rescue centre in Oman is currently on hold as we try to navigate some bureaucratic matters, however, we hope to be able to move forward with the project in the new year.

We launched our sea turtle adoption programme in Oman in the last part of 2022 and are happy to report that several turtles have been adopted already. We would like to thank all our adoptive parents for supporting our work to protect sea turtles and their habitats in Oman.

-Tom Osborne, ORP Sea Turtle Biologist, Oman

A barnacle covered GM044

IDENTIFIED INDIVIDUALS PER SITE: OMAN



OMAN

(Left) In November, the water sports staff at Six Senses Zighy Bay, our partner resort, were alarmed when they observed a green turtle that they believed was showing strange behaviour. GM042 was spotted floating upright in the water and letting fish peck at it.

Concerned about its health, they retrieved the sea turtle and consulted with our sea turtle biologist. During thorough inspection, no obvious injuries were found, the sea turtle was declared healthy and released. It swam off straight away, maybe back to the cleaning station where it was found for further 'sea turtle spa treatment'.

(Right) GM106, first spotted in October 2022, was observed with damage to its right eye. It was still swimming and foraging as though nothing was wrong at all, and continued to be spotted on the house reef for nearly three weeks before disappearing, and hasn't been seen since. We are keeping an eye out for the juvenile green turtle though, hoping to see it return with its wound healed.

ADDITIONAL INFORMATION

	This Quarter	This Year	Since Project Began
Hours Spent Surveying	83	293	1794
Sites Surveyed	5	9	9
Ghost Nets Removed	0	37	65

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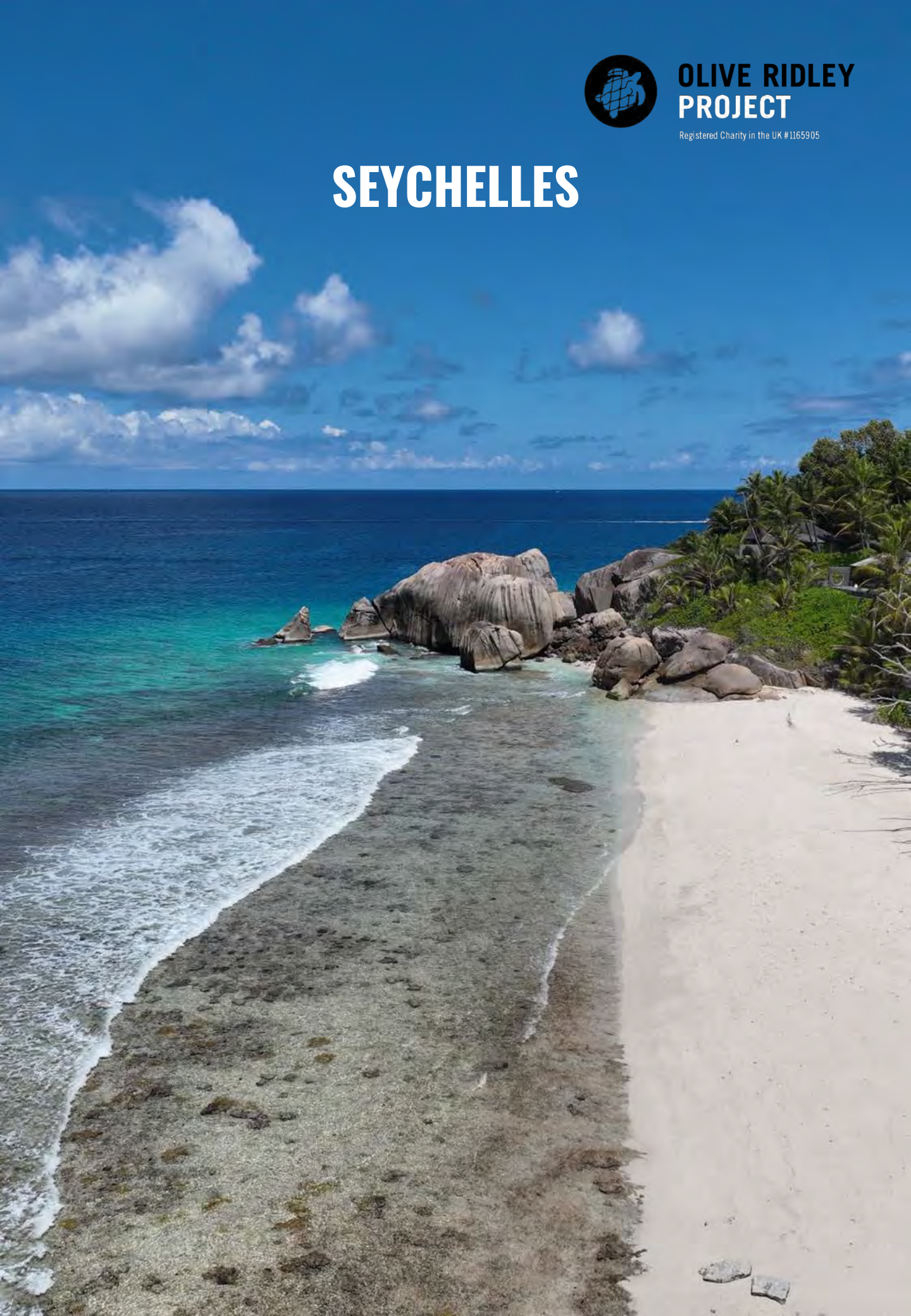
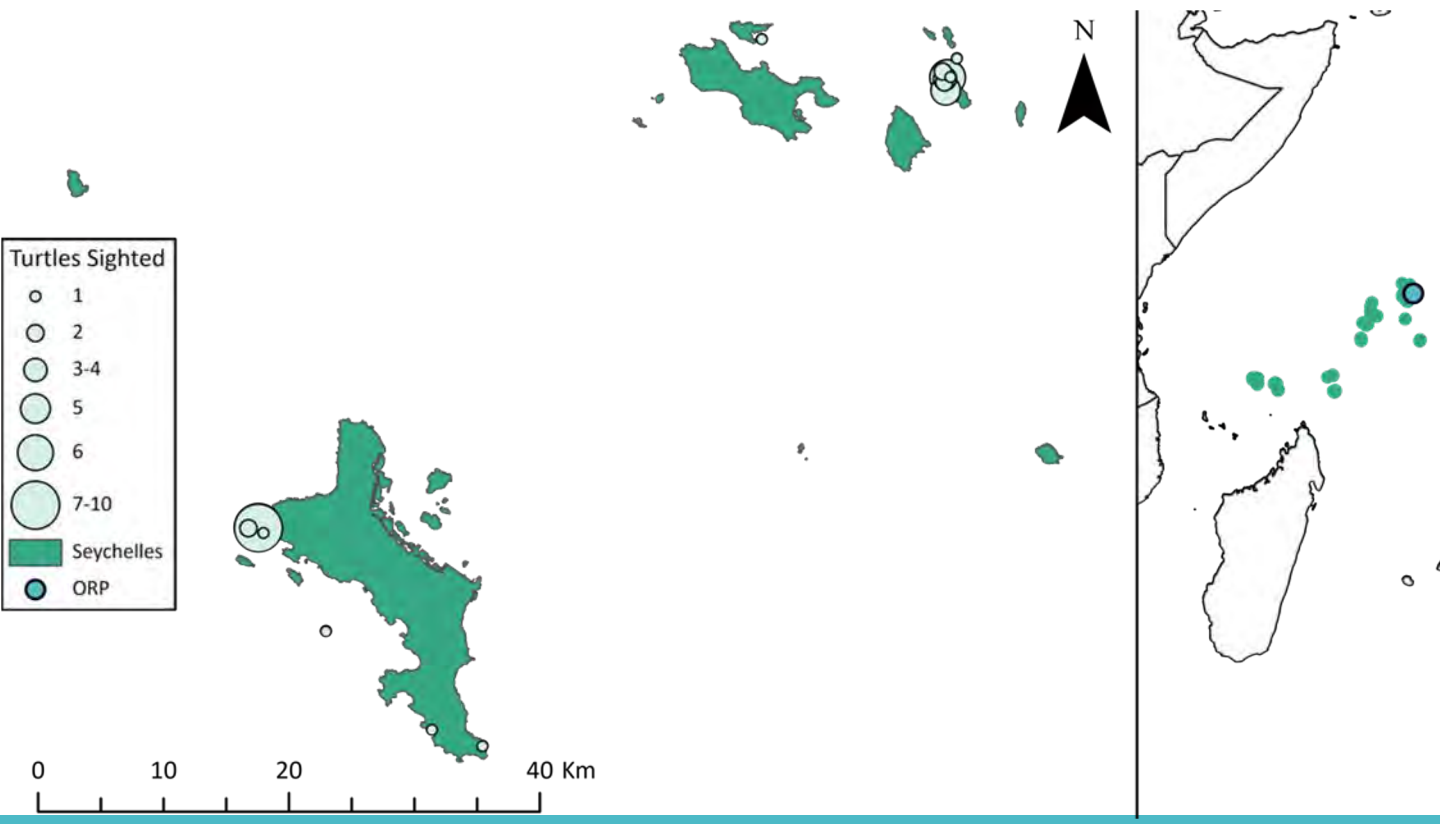
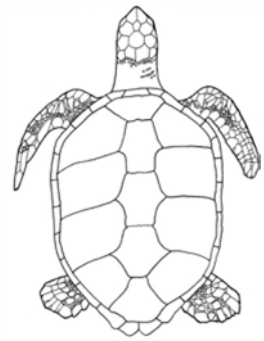
SEYCHELLES



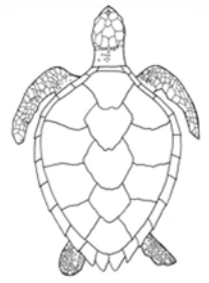


SEYCHELLES



GREENS

Total Sightings: 8
Total Individuals: 7



HAWKSBILLS

Total Sightings: 241
Total Individuals: 119

	This Quarter	This Year	Since Project Began
Total Number of Turtle Sightings	81	244	249
Total Number of New Individuals	46	122	124

Isi (HS77) emerging at Grand Anse to nest

FÉLICITÉ ISLAND

During the three months of 2022, we were blessed with many new sea turtle encounters, both in the water and on land in the Seychelles!

Thanks to the addition of an excursion boat at the resort where we are based, we were able to expand our survey area and are now also frequently monitoring the surrounding islands such as Grande Soeur and Ile Coco. Further, our sea turtle biologist identified a new site on Felicité Island, which seems to serve as a feeding ground for very small immature hawksbill turtles (approx. 30 cm carapace length).

The highlight of this quarter was the beginning of the hawksbill nesting season! While we were still busy with our last green turtle nests hatching, our first hawksbill turtle nested on the main nesting beach, Grand Anse, on 5th November. Since then, nesting season has been in full swing with a total of 24 nests so far.

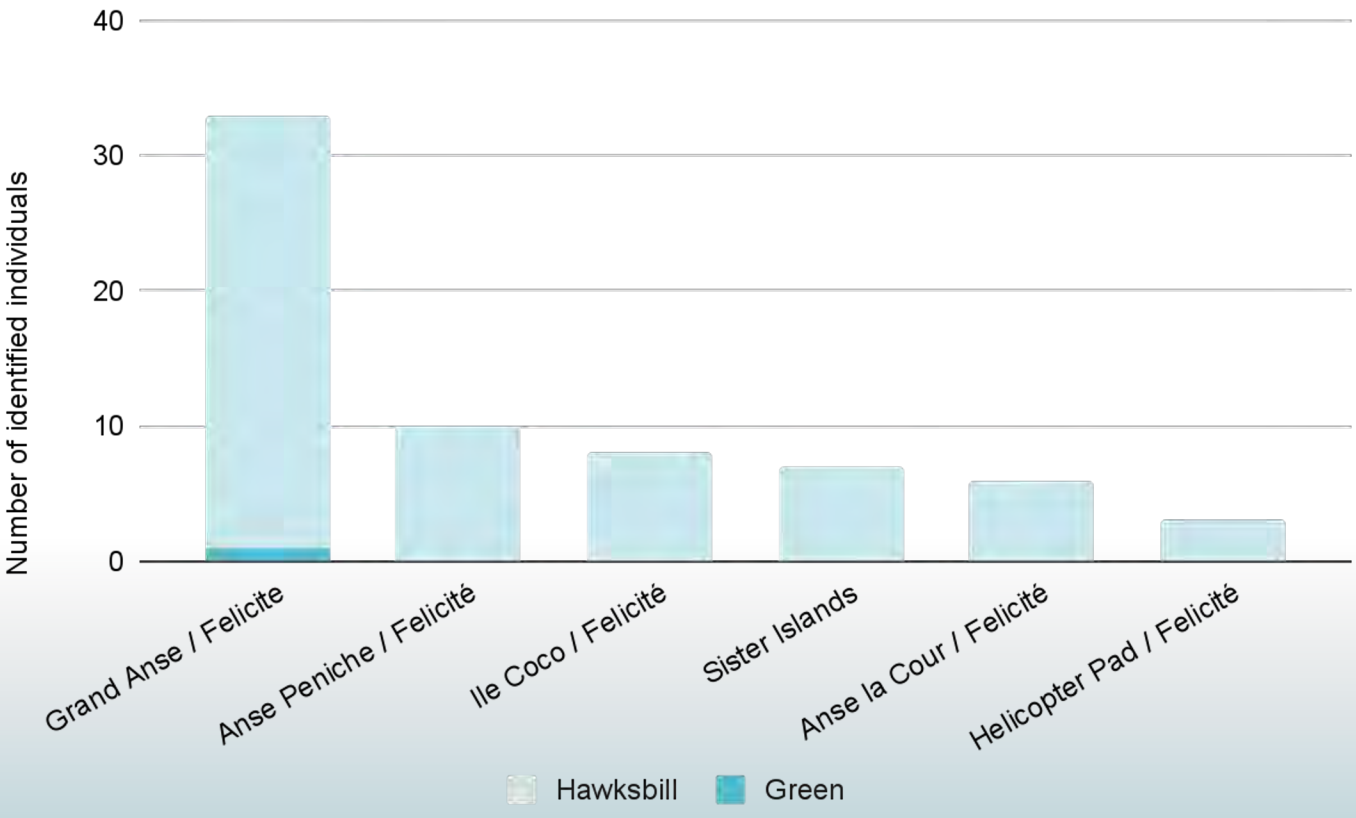
Three individuals laid repeatedly on our beaches, while others were only seen once. In addition to our main nesting beach we also had females emerging on our other beaches, where four individuals nested in this quarter. The majority of hawksbills in Seychelles nest during day-light, and tend to lay their eggs high up in the vegetation. Litter from non-endemic coconut palms often makes it difficult or impossible for sea turtles to successfully nest. Therefore, we cleaned the area of some litter and garbage that had washed up on the island. Big thanks to the resort and all those who participated.

In November we were privileged to welcome Dr Jeanne Mortimer to Felicité Island. Dr Mortimer is a turtle conservation legend and has been working with turtles in Seychelles for more than 30 years. She spent the weekend with our sea turtle biologist and gave a presentation for the resorts guests and hosts. We were also able to discuss a prospective collaboration between Turtle Action Group Seychelles (TAGS) led by Dr Jeanne Mortimer and ORP for the upcoming year.

- Lara Kalisch, Sea Turtle Biologist, Seychelles

Green sea turtle hatchling heading to the water

IDENTIFIED INDIVIDUALS PER SITE: SEYCHELLES



SEYCHELLES

The problem of beach erosion on the main nesting beach Grand Anse continues. In Seychelles, the peak hawksbill turtle nesting season coincides with the beginning of the north-west monsoon, causing sea turtles to lose a significant patch of the beach to sea erosion. Sea turtles are struggling to climb up the erosion cliff, and many individuals are laying their eggs in an area that will be lost to erosion. To counter this, our sea turtle biologist has established a safe turtle zone, where all these nest are relocated to. So far, ten nests had to be relocated, with the permission of the Seychelles Bureau of Standards.

(Right) Some female turtles, like this hawksbill here, luckily laid their nests high up in the vegetation, safe from flooding and erosion. However, it will be a real battle for the turtle hatchlings to reach the ocean when they emerge. Our sea turtle biologist might have to build a ramp for the hatchlings to reach the shore as the erosion will result in a steep cliff by then. We will keep you updated about the success of this approach.

ADDITIONAL INFORMATION

	This Quarter	This Year
Hours Spent Surveying	160	340
Sites Surveyed	14	15
Nests Laid	29	35
Nests Hatched	9	12
Hatchlings Counted	989	1346

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Pakistan

A nesting green sea turtle spotted at Hawke's Bay

PAKISTAN

The last quarter of 2022 was packed with activities for our team in Pakistan. Starting with ghost gear retrieval, our team was able to recover 169 kg of ghost nets, out of which 106 kg was recovered in December alone.

Much to our delight, we were able to observe and record quite a few instances of nesting. Two green sea turtle nests were spotted in October, while four were recorded in November. We were also able to record instances of false crawls. We are currently only monitoring Hawke's Bay beach but we hope to expand our research area next year.

Unfortunately, there have also been instances of dead sea turtles found lying on the shore this past quarter. In November, two dead juvenile green turtles were spotted by our team at Manora beach and Hawke's Bay. In the same month, an adult green turtle and an olive ridley were also found dead off of Manora beach. The cause of these deaths could not be determined.

Moving on to outreach, our team conducted two awareness sessions for schools where students - in the age bracket of 14-16 years - were invited to the beach and given a small presentation on sea turtles and ORP's work. There were 25 students on each trip and they were taken around turtle nesting sites by our project manager and field coordinator. The students were taught about the species of sea turtles that are found in Pakistan, and the nesting habits of sea turtles.

We have also made some headway into production and display of our ghost leashes - dog leashes made from ghost gear. The women of Abdul Rehman Goth village produced 46 leashes, which were then stocked at Karachi Farmer's Market and at an animal hospital called Healthy Tails. The leashes were also displayed at Karachi American School on the occasion of their students' day.

-Usman Iqbal, Project Manager, Pakistan

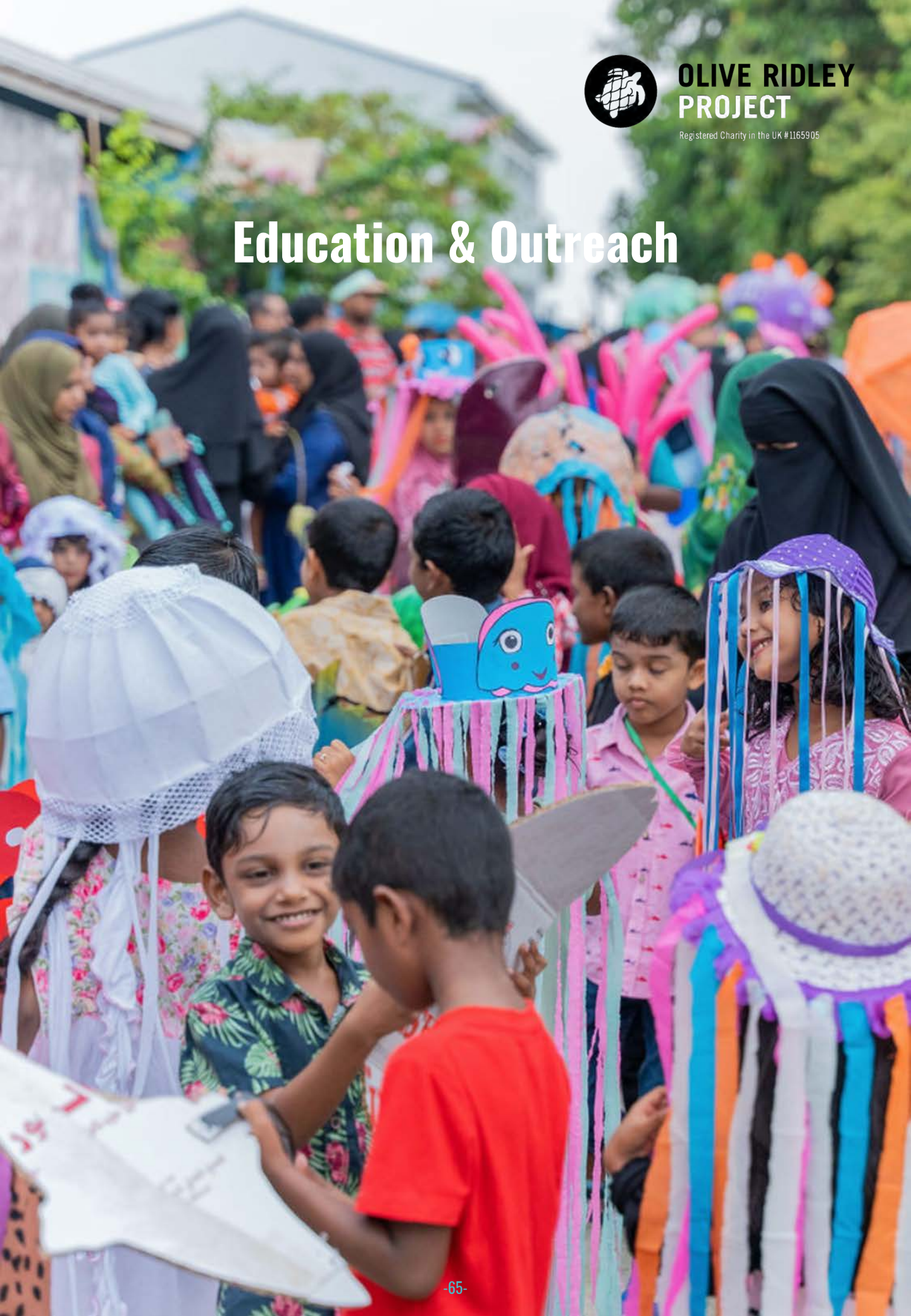
PAKISTAN

(Left) Our team spotted this adult female green sea turtle during one of their day patrols. She had finished nesting, and was making her way back into the sea. Our team quickly took Photo-ID by snapping pictures of the female's facial scales and measured her carapace length. This nesting data, collated over successive rounds of nesting, will help us study and understand sea turtle nesting patterns in Pakistan.

(Right) Project Manager, Usman, and Field Coordinator, Asif, have been conducting regular dives in Pakistan to recover ghost gear. In this picture they can be seen removing ghost gear from a tugboat wreckage 13 km off of the coast of Gadani in Karachi. The tugboat wreckage often snags drifting ghost nets and is a site that is regularly visited by our team. Our team undertook two dives to the wreckage site in the last quarter and was able to recover a total of 37 kg of ghost gear from this location alone.

ADDITIONAL INFORMATION

	This Quarter	This Year	Since Project Began
Ghost Nets Recovered (kg)	169 kg	391 kg	5529 kg
Overall Growth Ghost Net Recovery	43%	7.07%	3.05 %
Ghost Leashes Made/Sold	46/2	178/100	626/510
Ghost Net Jewellery Made/Sold	0/1	100/74	565/439



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Education & Outreach

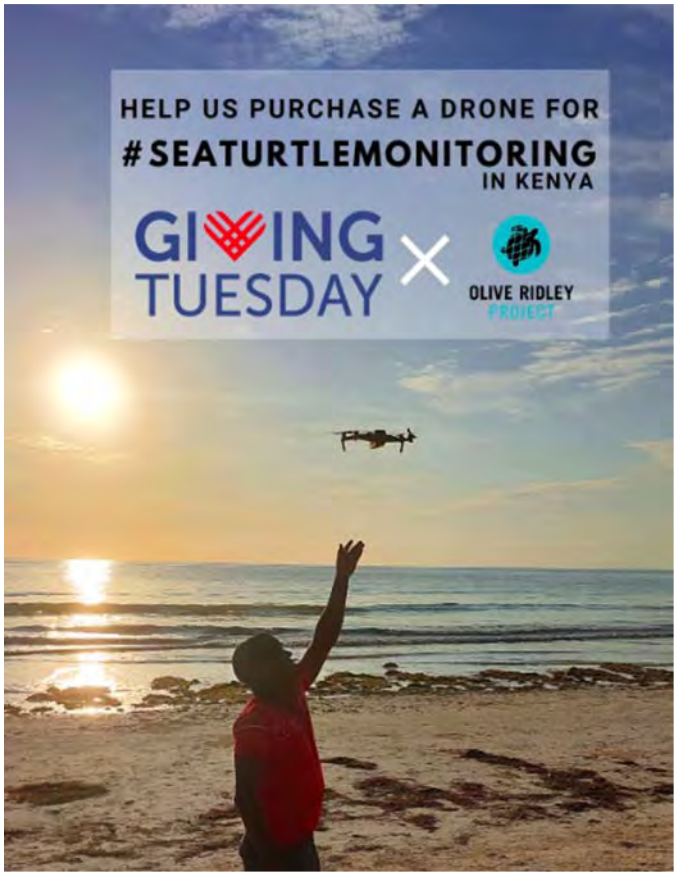
EDUCATION & COMMUNITY OUTREACH

(Left) On October 31st, we held our first multi-atoll Vaavoshi Sea Turtle Festival in the Maldives. The festival took place across eight different atolls in partnership with local schools. We reached a total of 2,177 students on festival day, and an additional 1,606 community members. The students took part in a variety of educational activities, including talks about sea turtles, video and poster competitions, beach clean-ups, and a parade where students marched together advocating for the protection of sea turtles and their habitats.

(Right) In Pakistan, our team conducted awareness sessions for two DIL (Developments in Literacy) schools. 25 students from each school visited Hawke's Bay beach in Karachi, where they learned facts about sea turtle species found in Pakistan, sea turtle biology, and the threats that these animals face, particularly from ghost gear. The students were then shown the nesting spots around the beach, and given directions on ORP Code of Conduct to follow around sea turtles and hatchlings. These sessions ended with the students participating in a beach clean up.

In Kenya, our team conducted a pilot study, visiting the fishing communities around the Diani-Chale Marine National Reserve (DCMR). We met with 35 fisherfolk ranging from 35 to 80 years, and participated in discussions to better understand the fishing communities' encounters with sea turtles and their experiences with bycatch and ghost gear. From this study, the Kenya team will launch a new community education and outreach programme for 2023, with the aim to foster positive attitudes towards sea turtle conservation and encourage voluntary adoption of good fishing practices to reduce sea turtle bycatch.

GIVING TUESDAY 2022



In November, we joined the world in celebrating Giving Tuesday, a global generosity movement unleashing the power of people and organizations to transform their communities and the world. Our focus this year was to raise funds for a drone for sea turtle monitoring in Kenya following the wonderful results from our pilot study (see page 51).

And we have the most wonderful and generous supporters – before they day was over, we had raised enough funds to purchase a drone!

We would like to thank everyone who donated to our Giving Tuesday campaign and we look forward to sharing more information about our drone monitoring in the new year.

RECENT SCIENTIFIC PRESENTATIONS

- Hancock J, Choma J and Mainye L 2022. Photo Identification as a Tool to Study Sea Turtle Populations in Kenyan Marine Protected Areas. Presentation at the 12th Western Indian Ocean Marine Science Association Symposium held 12th-15th October 2022 in South Africa.

IN THE PRESS

- Gainor D. (2022, December 21). Sea turtle amputee rescued from net entanglement finds forever home. *CNN.* https://edition.cnn.com/2022/12/21/world/national-marine-aquarium-rescued-sea-turtle-scn/index.html

- Plymouth National Marine Aquarium takes in Maldives turtle. (2022, December 20). *BBC.* https://www.bbc.com/news/uk-england-devon-64026204

PARTNERS, COLLABORATORS & DONORS 2022

We would like to express our sincere gratitude to all our partners, supporters, fundraisers, donors, adoptive parents,and volunteers! We are only able to do this work thanks to your generosity and support.

Thank you!