MAIO BIODIVERSITY FOUNDATION

NEWSLETTER Nº 5

APRIL - JUNE 2023
Maio Island, Cabo Verde

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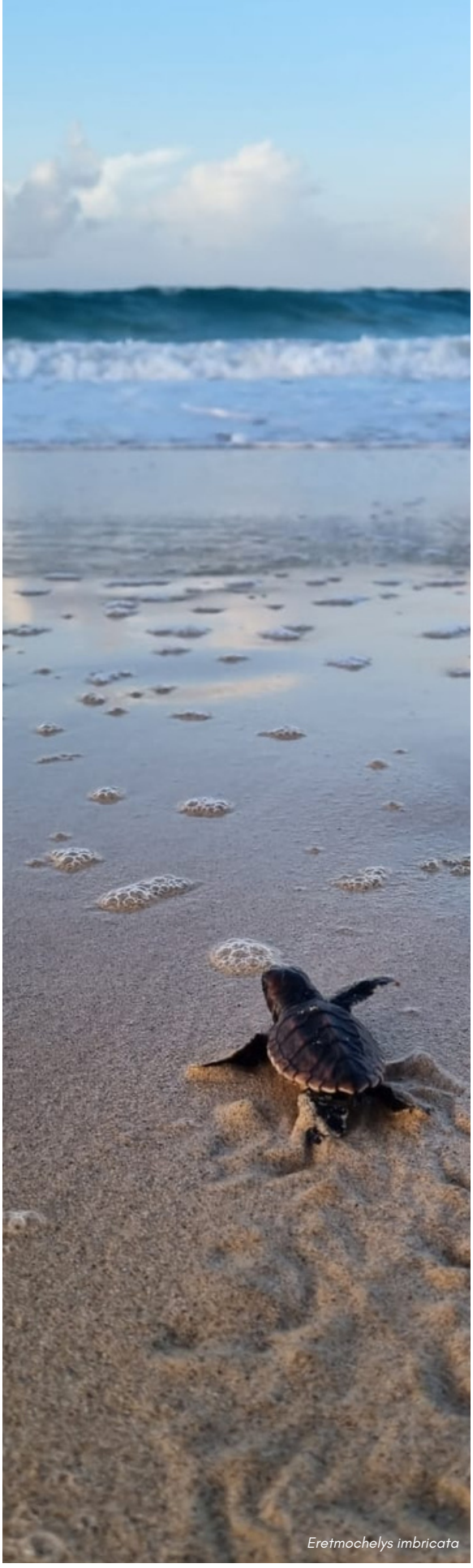
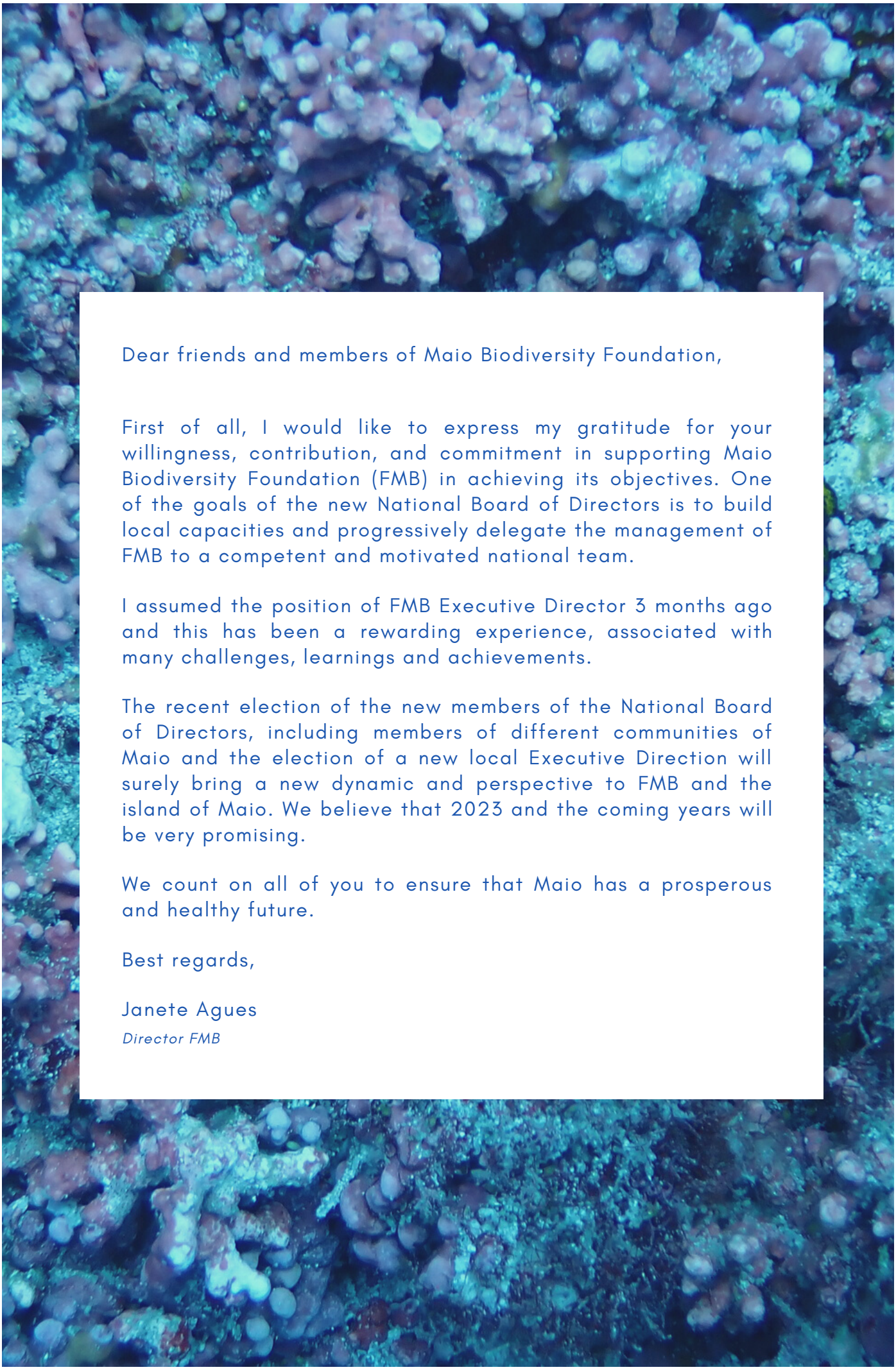
Community participation in ecosystem and biodiversity conservation initiatives has strengthened the bonds between people and nature, promoting a harmonious and sustainable relationship with the environment.



Eretmochelys imbricata



Dear friends and members of Maio Biodiversity Foundation,

First of all, I would like to express my gratitude for your willingness, contribution, and commitment in supporting Maio Biodiversity Foundation (FMB) in achieving its objectives. One of the goals of the new National Board of Directors is to build local capacities and progressively delegate the management of FMB to a competent and motivated national team.

I assumed the position of FMB Executive Director 3 months ago and this has been a rewarding experience, associated with many challenges, learnings and achievements.

The recent election of the new members of the National Board of Directors, including members of different communities of Maio and the election of a new local Executive Direction will surely bring a new dynamic and perspective to FMB and the island of Maio. We believe that 2023 and the coming years will be very promising.

We count on all of you to ensure that Maio has a prosperous and healthy future.

Best regards,

Janete Agues

Director FMB

MAIO BIODIVERSITY FOUNDATION

TESTIMONIAL

Caretta caretta

Bluespotted seabass (grouper)

Cephalopholis taeniops

Species of fish found in Cabo Verde, known for its beauty, impressive size, and importance for both commercial fishing and the marine ecosystem. The Bluespotted seabass is a species that must be protected and conserved so that future generations can enjoy its presence in Cape Verdean waters.

The grouper population in Cabo Verde and other parts of the world has significantly decreased due to overfishing and the destruction of natural habitats. To ensure the survival and recovery of its populations, certain conservation measures are essential, such as the implementation of marine protected areas and regulations for sustainable fishing.

"If we don't act now, we risk losing our fishing sources soon"

"We, the Guardians of the Sea, play a crucial role in the conservation of marine resources and the sustainability of fishing in Maio, by documenting the megafauna and illegal activities at sea.

The decline in the fish population in our fishing areas is a consequence of intensive fishing and the lack of respect for the closed fishing season and minimum size restrictions for their capture.

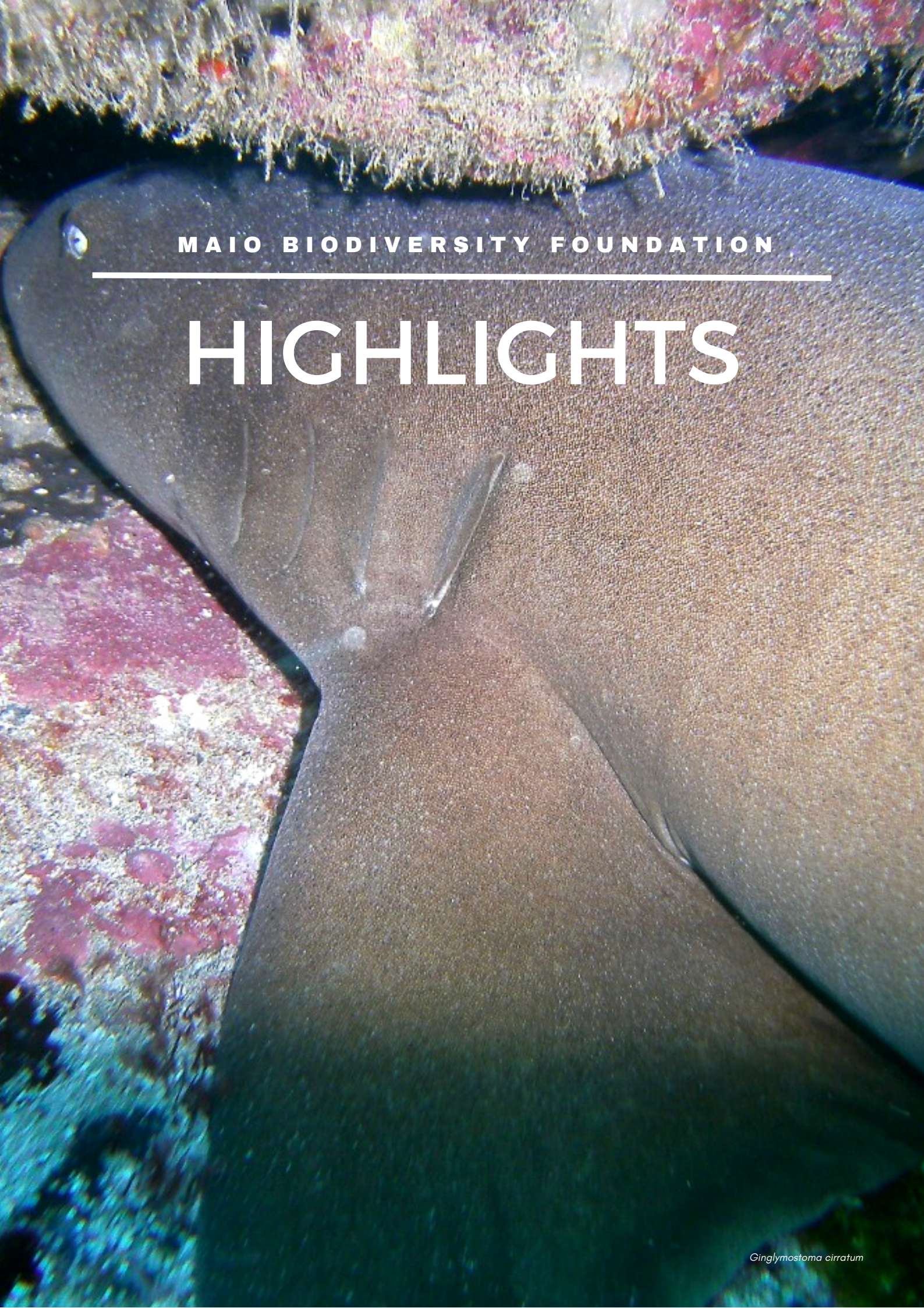
As fishermen, we can play a more active role by sensitizing the government to implement more effective monitoring of fishing activities and advocating for the creation of additional marine protected areas.

It is urgent for everyone, especially the youth, to become aware and prioritize the conservation of marine resources."

Alexandrino Cardoso, "Feron"

MAIO BIODIVERSITY FOUNDATION

HIGHLIGHTS



Ginglymostoma cirratum

MEDAL OF MERIT, 2ND CLASS

Maio Biodiversity Foundation, along with the NGOs Cabo Verde Natura 2000 and Turtle Foundation, was honored on July 5th with the prestigious Medal of Merit, Second Class, presented by the distinguished President of the Republic Dr. José Maria Neves.

A distinction that represents recognition for our unwavering commitment to the conservation and protection of the environment, as well as the promotion of sustainable development in Cabo Verde, with a special focus in Maio island. We are grateful for this important recognition and renew our commitment to continue our mission towards nature and the communities in Maio.

In this special moment, we would like to highlight the support and involvement of our funders, partners, volunteers, and the communities of Maio.

NEW SPECIES: *Mirpurina edytavaresi* NEOGASTROPODA MOLLUSK

"Dedicated to Walter (Edy) Tavares, an outstanding Cape Verdean basketball player born in Maio island, who contributed decisively and undisputedly for the qualification of his country's team in the World Basketball Championship. The white cloak that covers his shell when he moves, a real meringue, is a tribute to Real Madrid, the Spanish team for which Tavares plays, elected Best Pivot in Europe in 2023."

Find out more:
https://www.researchgate.net/publication/371599933_Una_nueva_especie_de_Mirpurina_Ortea_Moro_Espinosa_2019_Mollusca_Neogastropoda_de_la_isla_de_Sao_Vicente_dedicada_a_un_gran_deportista_caboverdiano_Edy_Tavares_genio_y_figura_del_baloncesto

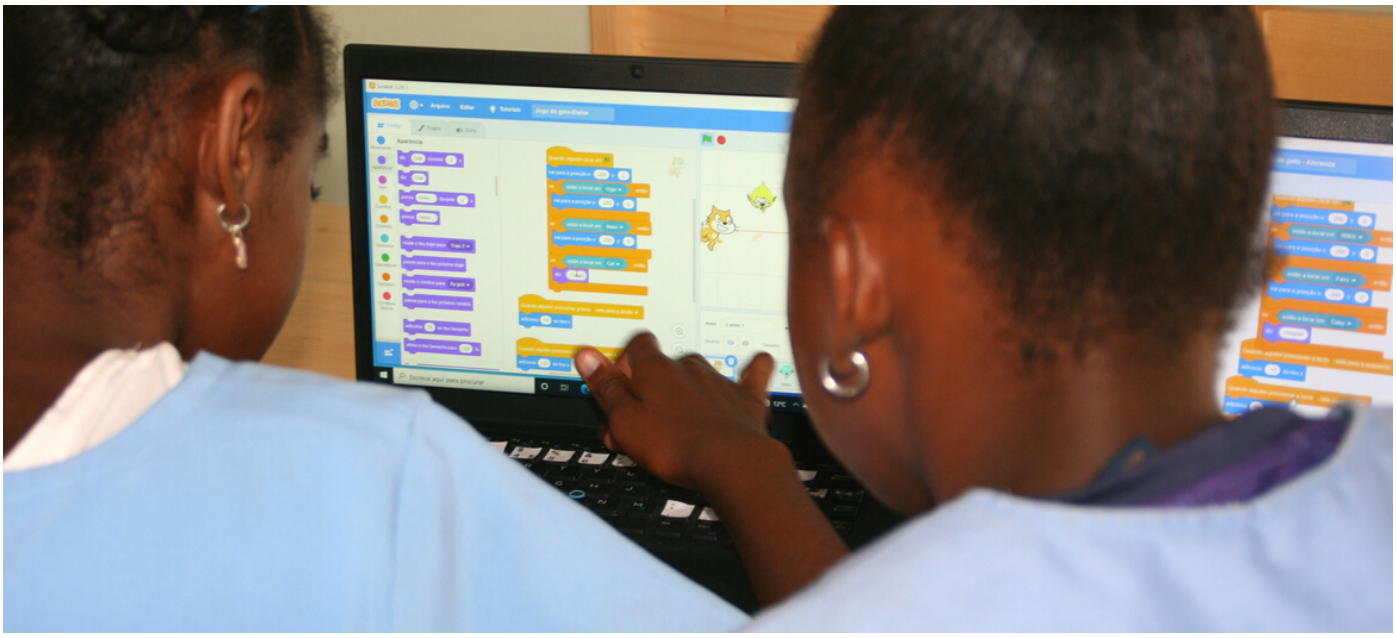
The neogastropod mollusk (*Mirpurina edytavaresi*) exhibits unique and distinctive characteristics compared to other similar species described in the islands of Cabo Verde. The live animal's coloration, mantle ornamentation, and shell with weak growth striae are accompanied by a whitish background with subtle golden bands. Additionally, the asymmetric radula and remarkable gill development are distinctive features of this new species. It's worth noting the presence of a retractable lamellar shield between the mantle and the shell, which also contributes to its identification and distinctive trait.

THE ENVIRONMENTAL CONSERVATION NETWORK IN CABO VERDE, TAOLA+

From May 16th to 19th, the Environmental Conservation Network in Cape Verde, known as TAOLA+, met in Praia city with the National Directorate of the Environment, the Parliamentary Specialized Commission for Economy, Environment, and Land Management, and the Small Grants Programme of the Global Environment Facility (GEF). The purpose of the meeting was to present the results of the project "Dialogue on Public Policies for an Integrative and Innovative Marine and Coastal Management in Cabo Verde," as well as to share information about TAOLA+ and establish synergies between the organizations.

Through the Environmental Conservation Network in Cape Verde, TAOLA+, we have the power to make a significant difference in conservation at nacional and international level.

During two of the five days meetings, the NGOs focused on the turtle work made in all the islands. They reviewed the 2022 season, the meeting featured expert presentations on the latest scientific research and technological advancements in marine turtle conservation. Workgroups were formed to address specific challenges, such as reducing bycatch and implementing community-based conservation initiatives, fostering an environment for open dialogue and knowledge sharing among diverse stakeholders. The event was concluded with a renewed commitment to sustainable practices, emphasizing the need for continued vigilance and adaptive management to ensure the long-term survival of marine turtle populations in the region.



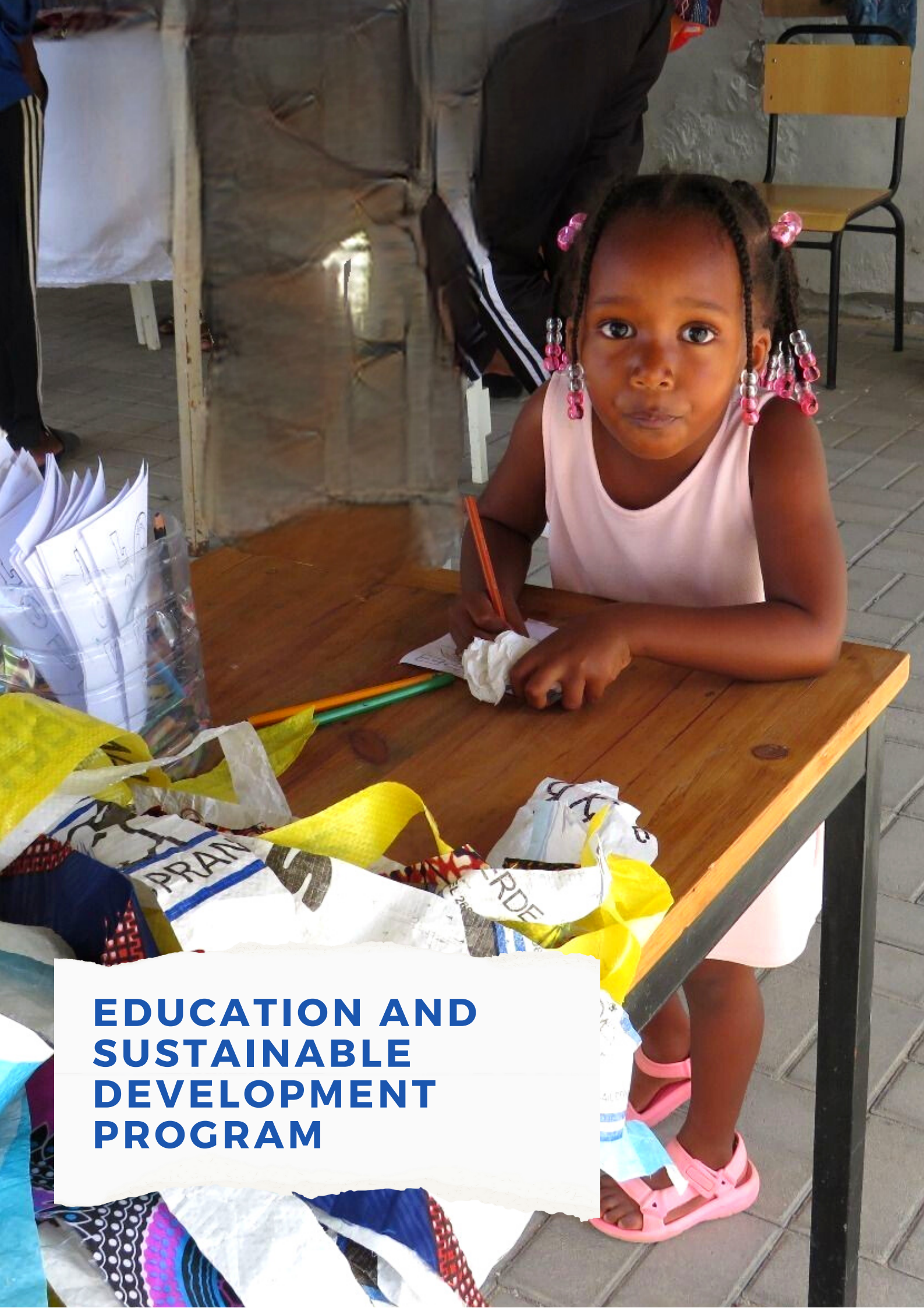
ARRIBADA CLUB OF MAIO ISLAND

"Conservation" and "Technology" are the pillars that define the Arribada Club, an initiative funded by Arribada Initiative, FMB, the Ministry of Education Delegation of Maio Island and Smiley Kids asbl.
The aim of this club is not only to raise awareness among children about the importance of nature conservation but also to introduce them to the technologies used for this purpose.

The curriculum of Arribada Club is divided into several modules, all interconnected and of increasing complexity. At the beginning, children learn basic concepts of computational science, then progress to mastering computer usage, and eventually delve into satellite tracking technologies like GPS. Each academic year the content from Arribada Club will become more advanced.

The first year of Arribada Club was composed by 60 students from the 5th living in Porto Inglês City.

The teacher, Catarina Monteiro, states that the first academic year of Arribada Club was a significant challenge but also a great success. She leaves the following note: "Arribada Club provides children with the opportunity to learn new content and get closer to technologies, especially those used to help conserve nature. Knowledge is power, and in a constantly developing world, it's crucial for children to start adapting to new technologies early and learn how to make the best use of them, as they will undoubtedly be part of their future. Additionally, Arribada Club is free and provides equal opportunities for all children who wants to learn about this topic."



EDUCATION AND SUSTAINABLE DEVELOPMENT PROGRAM

TRANSFORMING WASTE INTO ART AND ENVIRONMENTAL AWARENESS

In partnership with the local Delegation of the Ministry of Agriculture and Environment and local artisans, we organized a Recycled Crafts Fair to celebrate the World Environment Day. The main goal of this event was to promote environmental awareness and emphasize the significance of recycling and reusing of the waste contributing to the preservation of the planet.

At the fair, visitors admired the creativity of the artisans as they transformed recyclable materials into beautiful works of art and decorative objects. Each piece not only showcases sustainability but also raises awareness about the importance of rethinking our consumption habits and reducing waste.

Commitment ribbons were also distributed to combat the use of plastic, aiming to raise awareness among people about the need to reduce plastic consumption in their homes.

WORLD OCEANS DAY

The amount of plastic in the ocean is expected to double in the next 15 years, and it's estimated that by 2050, there could be more plastic in the ocean than fish. Commemorating World Oceans Day was an opportunity to recognize the significance of marine ecosystems and renew our commitment to protect them. With the financial support of the Ministry of the Sea, FMB organized two meaningful initiatives to highlight the importance and vitality of the oceans.

In partnership with students and volunteers from the Red Cross, a sea clean-up campaign was organized around the port. FMB team, composed of experienced divers, conducted a detailed survey of the debris beneath the island's port, preparing the ground for an underwater clean-up campaign in collaboration with ENAPOR.

Through collective efforts, we can ensure the long-term sustainability of our oceans, safeguarding these precious ecosystems for future generations.

COMMUNITY-BASED MARINE TURTLE CONSERVATION PROGRAM

Eretmochelys imbricata

SEA TURTLE NESTING
Caretta caretta

For the first time, FMB is pleased to announce that a young man from Maio island, Herval Silva, has been elected coordinator of the community-based marine turtle conservation program.

This achievement is a source of great pride for Maio and FMB, whose mission is to capacitate, empower and involve local individuals in the marine turtle protection program, as well as in other conservation initiatives carried out in the island. Herval's appointment as coordinator is the result of a long-standing effort of FMB to empower local development partners and to promote long-term sustainability and impact on communities.

"Assuming the responsibility of being part of the coordination team as a person from Maio and a young individual represents a significant challenge. However, it is also a reason of great pride for me and for the people from Maio, as it demonstrates that we are competent and capable of achieving our goals. We just need to have a clear objective and embrace the daily challenges, turning them into opportunities. I will give my best to ensure that at the end of the season, all the work is carried out with the rigor and excellence that FMB prioritizes." - Herval Silva

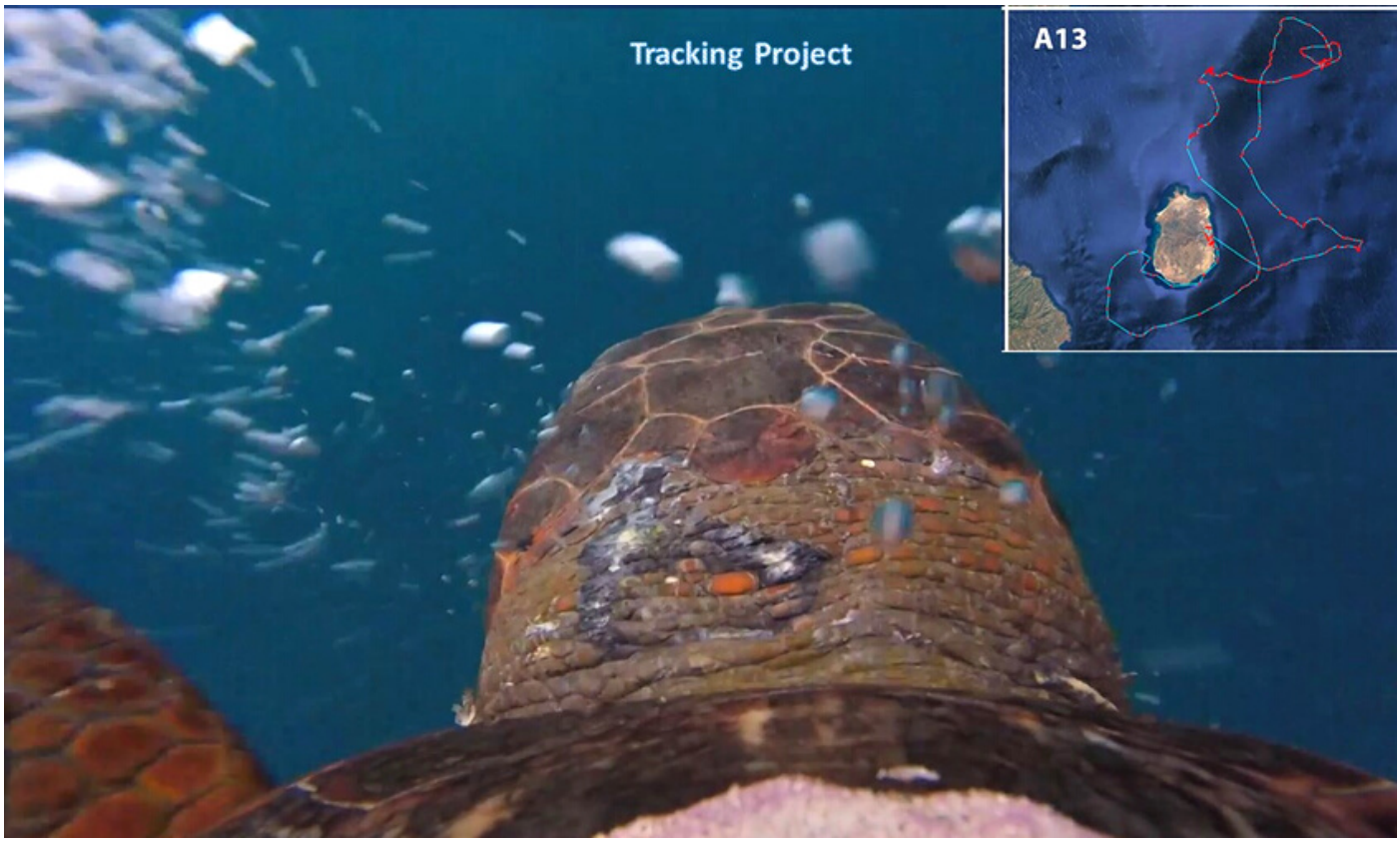
A part from recognizing the value and potential of local people this program also promotes the sustainable development of the island by demonstrating how conservation can bring tangible benefits to the community. The Turtle program and the Homestay initiative from FMB empower the local talents and drive to a sustainable future, where marine turtle conservation and the well-being of local communities go hand in hand.

TECHNOLOGY AND CONSERVATION

Maio Biodiversity Foundation has taken a significant step forward in its marine turtle conservation program by implementing cutting-edge technological advancements. In recent years, we have used high-precision programmable thermometers on nesting beaches to study variations in nest incubation temperatures and model the effects of climate change on the incubation of both male and female hatchlings. Additionally, we have used night-vision cameras to study the impact of nest predators like ghost crabs. Drones have also been employed to monitor nesting turtle activity, and this technology holds potential for further implementation in the near future.

In the current year, new technological tools are being incorporated, particularly the use of tablets instead of traditional pen and paper for field data collection. This change has shown a reduction in errors associated with data entry into the computer, as well as significantly speeding up the analysis of information. Data is transmitted instantly from the beaches to the central computer via internet, streamlining the process and enhancing the overall efficiency of our conservation efforts.

FMB is actively participating in the development of low-cost, open-access Global Positioning System (GPS) transmitters in collaboration with "PEW Fellows" and the "Arribada Initiative." These GPS transmitters will be instrumental in identifying the movements of nesting turtles at sea and assessing the risk of interaction with industrial and artisanal fishing around Maio. As part of its ongoing commitment to marine life conservation, the foundation is testing innovative underwater video devices integrated with low-cost, open-access GPS. This technology will be further enhanced over the next three years and, together with the GPS transmitters, will be of great value in studying and conserving migratory marine animals.



PROTECTED AREAS PROGRAM

Cistanche phelipaea

RAPTOR MONITORING

Raptors, as top predators, represent the top of the food chain and thus indicators of ecological and environmental health changes.

By monitoring the size of raptor populations and understanding the food resources available to these top predator species, we gain valuable insights into the structure and functioning of ecosystems. This knowledge is essential for better understanding and managing the delicate balance of natural habitats and preserving the overall health and stability of the environment.

Indeed, obtaining information about the population size and food resources of raptors significantly contributes to promote environmental education and awareness about the importance of these birds of prey. This knowledge also aids in the management and preservation of the protected areas on Maio, resulting in broader and more effective protection for various species and promoting the ecological integrity of these precious natural environments.

The recent pilot study initiated to monitor the population size and diet during the breeding season of the Common Kestrel, an endemic raptor of Cabo Verde (*Falco tinnunculus alexandri*), has yielded promising results. In the first half of 2023, 72 individuals were recorded, scattered across the seven protected areas. The Natural Park of North of Maio exhibited the highest proportion (53%), followed by the Nature Reserve of Cimidor Lagoon (18%), while the other areas had proportions below 6%.

During the breeding season, the Common Kestrel feeds its offspring with sensitive prey, including resident birds (*Eremopterix nigriceps* - 9.1%, *Coturnix coturnix* - 3%, *Ammomanes cintura* - 6.1%) and endemic birds (*Passer iagoensis* - 51.5%), along with endemic terrestrial reptiles (*Chioninia spinalis* - 30.3%). This dietary composition highlights the species' reliance on local and endemic prey, emphasizing the significance of preserving their habitats for the overall health of the ecosystem.

JOINT ENFORCEMENT GROUP

One of the major pressures on natural resources on Maio island is fishing and extraction of inert materials (rocks and sand from beaches). Unfortunately, there is not an effective enforcement program implemented, particularly at sea.

To address this gap, seven institutions, namely the Local Delegaton Ministry of Agriculture and Environment, Fisheries Inspector, Maritime and Port Institute, Maio Municipal Council, Maritime Police, Tourist Development Company of the Islands of Boa Vista and Maio, and Maio Biodiversity Foundation, have joined forces and formed the Joint Enforcement Group (JEG).

In the first half of 2023, the JEG conducted 13 operations in four protected areas (PAs) with the highest incidence of illegal activities: Natural Park of North of Maio, Protected Landscape of Barreiro and Figueira, Marine Reserve of Casas Velhas and Natural Reserve of Morro Beach.

A total of 11 occurrences of sand extraction on beaches were recorded, taking place in four out of the seven PAs. This activity was most frequent in the Natural Park of North of Maio accounting for 55% of the cases, followed by Natural Reserve of Morro Beach with 27%. The Protected Landscape of Barreiro and Figueira and Marine Reserve of Casas Velhas each presented 9% of the occurrences.

The increase or decrease in illegal activities within the marine and terrestrial protected areas is crucial to assess the effectiveness of Maio's protected area management. The JEG plays a fundamental role in monitoring and combating such harmful practices, ensuring the proper preservation and conservation of these ecosystems.

Since 2016, JEG has been actively involved in combating sand extraction, both within and outside the protected areas.

MARINE AND SUSTAINABLE FISHING PROGRAM

Myripristis jacobus

DO YOU KNOW WHAT YOU ARE FISHING?

With the aim of determining the most frequently caught fish species, as well as their average size and weight, the team from the Marine Sustainable Fishing Program has initiated a new monitoring activity: the collection of fishing data on fishing vessels. In addition to identifying, measuring, and weighing all fish caught using line and hook during fishing trips with artisanal fishermen, information on the fishing effort is also recorded.

The data from artisanal fishing will serve to establish a baseline, meaning a current reference point, which will also allow us to identify population trends of the main target species in fishing In Maio island over the years. Among the impacts caused by overfishing, the first ones to be observed are the decrease in the abundance of top predators demersal fish (groupers and snappers), the reduction in the size of individuals (few individuals reach maximum size), and the increase in the catch of lower trophic level fish (breams, jacks, and lizardfish). Being attentive to these changes is important to assist in the implementation of marine resource management measures and thus prevent the collapse of declining species populations.

This pilot project is being carried out in collaboration with the Guardians of the Sea, a group of artisanal fishermen involved in citizen monitoring of marine megafauna and illegal activities. We would like to express our gratitude to our sea partners, who are dedicated to ocean conservation and the success of this initiative.

WHAT IS THE NORMAL STATE OF FISHING IN MAIO?

The Shifting Baseline Syndrome (Pauly, 1995) is a social phenomenon in which information from the past is not passed on to the new generations, and what is considered the "normal state" of an environment differs among generations.

For example, older fishermen often report that in the past, they used to catch a large quantity of groupers and snappers, so for them, the healthy state or baseline is "there were many groupers and snappers in Maio." However, they observe that they hardly see these species anymore due to intensive fishing over the years. On the other hand, a young fisherman who started fishing two years ago probably hasn't had much frequency in catching these species. Based on this young fisherman's fishing experience, his baseline will be "there are not many groupers and snappers in Maio."

Change in baseline is one of the greatest enemies of conservation, as it leads us to consider an impacted environment as a healthy one. If the environment is perceived as healthy, why should we take care of it? Retrieving memories from the past and showing all generations that what we fish today does not represent the healthy state of the sea is essential to awaken the desire to recover what was once the life in the sea of Maio. With this objective, Thais Macedo's doctoral research, in collaboration with the Autonomous University of Barcelona (UAB) and FMB, involves interviewing fishermen and fisherwomen from different generations to understand their perspectives on fishing changes.

FMB's VISION

Maio is an example in Cabo Verde and in the world, based on djunta mon, the conservation of biodiversity and social progress based on respect for local culture and gender equality.

FMB's MISSION

Promote the protection of biodiversity and the social progress of Maio Island through conservation actions and the empowerment and economic sustainability of local communities.

"Be the change you wish to see in the world! Become a guardian of nature, donate your time and energy to an environmental cause through volunteering with an NGO."

SUPPORT FMB

Elaborado por Andreia Adrião & Honorine Sylva