Blue Alliance

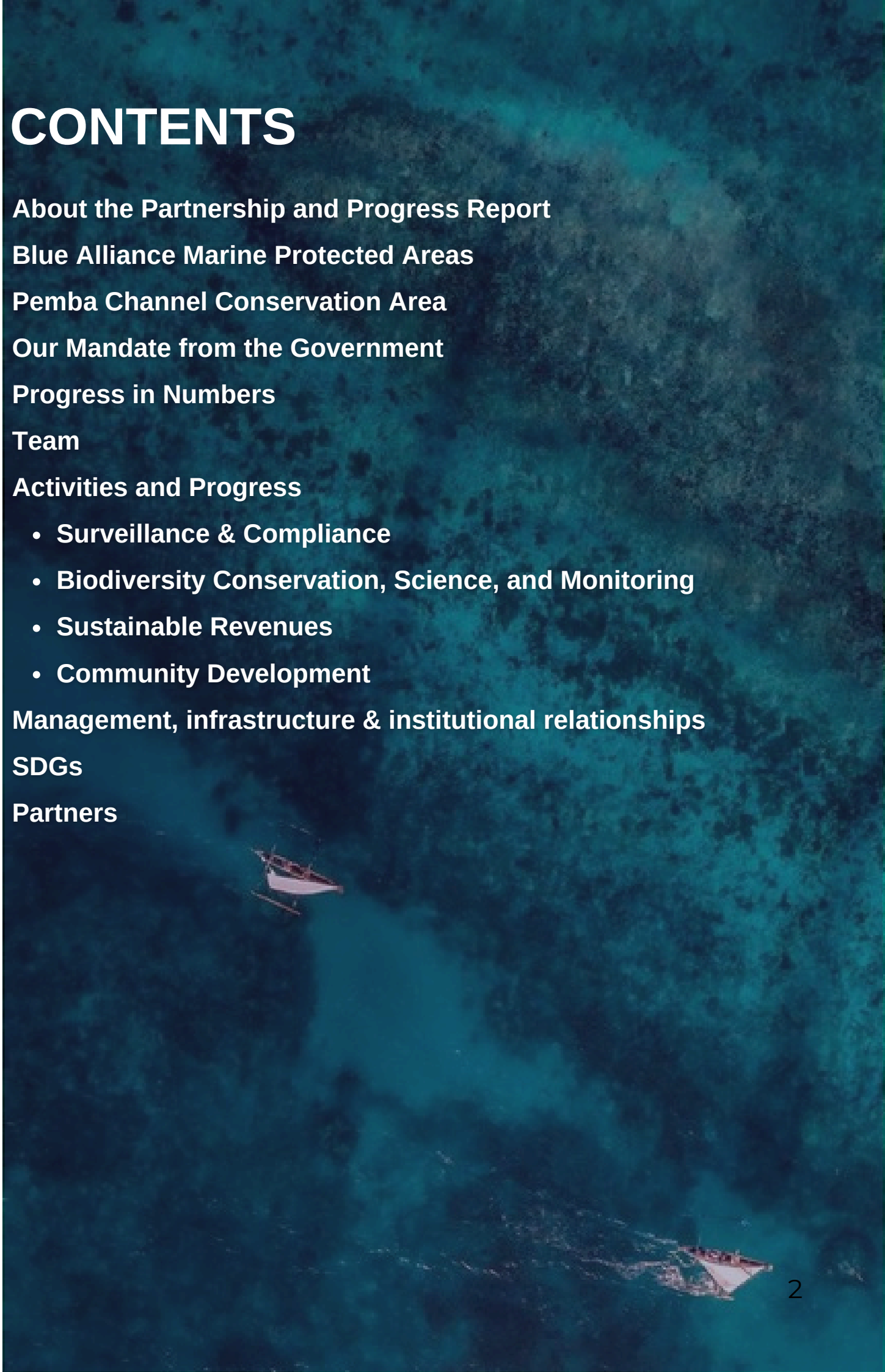
PEMBA CHANNEL
CONSERVATION AREA

SAC MEETING

PROGRESS REPORT

JULY - DECEMBER 2025

CONTENTS



ABOUT THE PARTNERSHIP AND PROGRESS REPORT

Since August 2023, the Ministry of Blue Economy & Fisheries (MBEF) of Zanzibar and Blue Alliance Marine Protected Areas (BA) have launched their partnership in a long-term agreement for the collaborative management of the Pemba Channel Conservation Area's (PECCA) Blue Economic Corridor. The main objectives include contributing to the Blue Economy of the island and enhancing climate change resilience by improving the protection of 27,000 hectares of vital coral reef ecosystems.

The President of Zanzibar and Chairman of the Revolutionary Council, Dr. Hussein Ali Mwinyi, emphasised that the path towards a Sustainable Blue Economy depends on collective efforts from all partners to ensure coastal and marine ecosystems are well maintained.

This partnership aligns with the United Nations Sustainable Development Goals (UN SDGs) - No Poverty (1), Zero Hunger (2), Gender Equality (5), Decent Work & Economic Growth (8), Responsible Consumption & Production (12), Climate Action (13), Life Below Water (14), and Partnerships for the Goals (17) - addressing key global challenges through local action. Performance will be assessed against best practice impact standards, monitored by the co-management team.

Through a collaborative management structure, the Ministry of Blue Economy & Fisheries and Blue Alliance work together in four fundamental fields of operation;

- Community development through employment, micro-enterprise, and empowerment;
- Marine wildlife monitoring and conservation through robust science;
- Revenue stream development through ecotourism, sustainable fisheries, and community-based aquaculture; and
- Compliance through supporting patrols, community engagement, and awareness campaigns.

This multi-faceted approach will not only bolster PECCA's financial sustainability but also stimulate local economies, create employment opportunities, enhance visitor experiences, and fortify the long-term management of the Conservation Area.

Between July and December 2025, the Blue Alliance team, together with MBEF, Shehia Fishing Committees, and other stakeholders have implemented a number of activities as described in this report.

Blue Alliance
PEMBA CHANNEL CONSERVATION AREA

ABOUT BLUE ALLIANCE

Founded in 2015, Blue Alliance manages and finances large-scale Marine Protected Areas (MPAs) in the most biodiverse places on earth to ensure their long-term conservation and livelihood benefits.

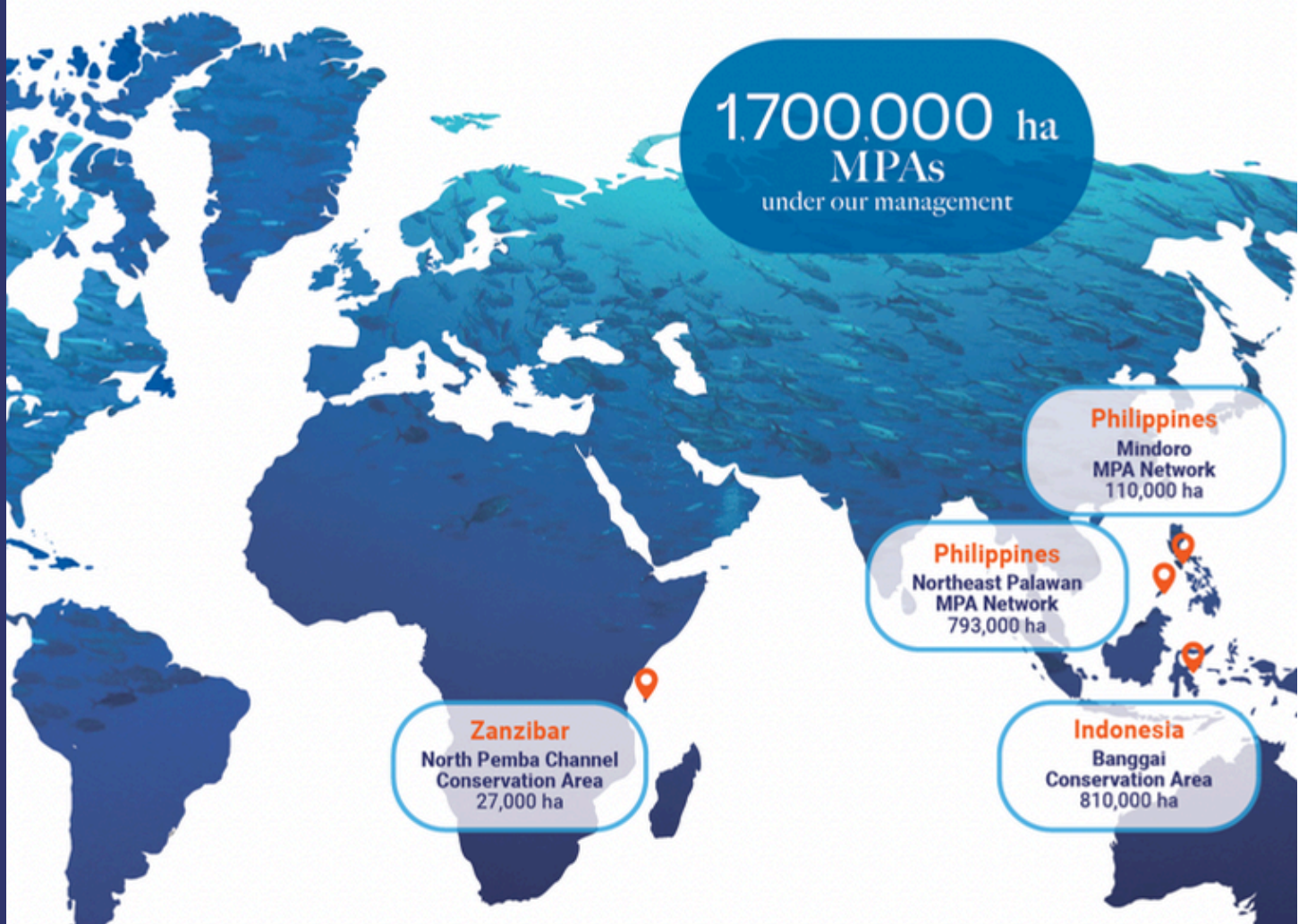
We operate under long-term delegated management agreements with governments to implement state-of-the-art conservation, compliance and resource management practices, ensuring regeneration of marine life and improving the food security and livelihoods of coastal communities.

Blue Alliance has developed a self-sustaining model for managing large MPAs by establishing Blue Economy social enterprises that positively impact coral reefs. These enterprises, owned by Blue Alliance, help alleviate poverty and reinvest all profits into MPAs.

With a team of over 110 professionals, the organisation currently oversees 1.7 million hectares of coral reef ecosystems across MPAs in Tanzania, Indonesia, and the Philippines.

By integrating conservation with reef-positive businesses, Blue Alliance is pioneering a scalable financially sustainable model for marine conservation. Blue Alliance aims to directly manage 9,000,000 hectares of large MPAs by 2030, regenerating some of the most biodiverse places on Earth.

Blue Alliance headquarters are in France with non-profit subsidiaries, entities, and reef-positive businesses in Indonesia, the Philippines and Tanzania, and two satellite funding offices in the United States and United Kingdom.

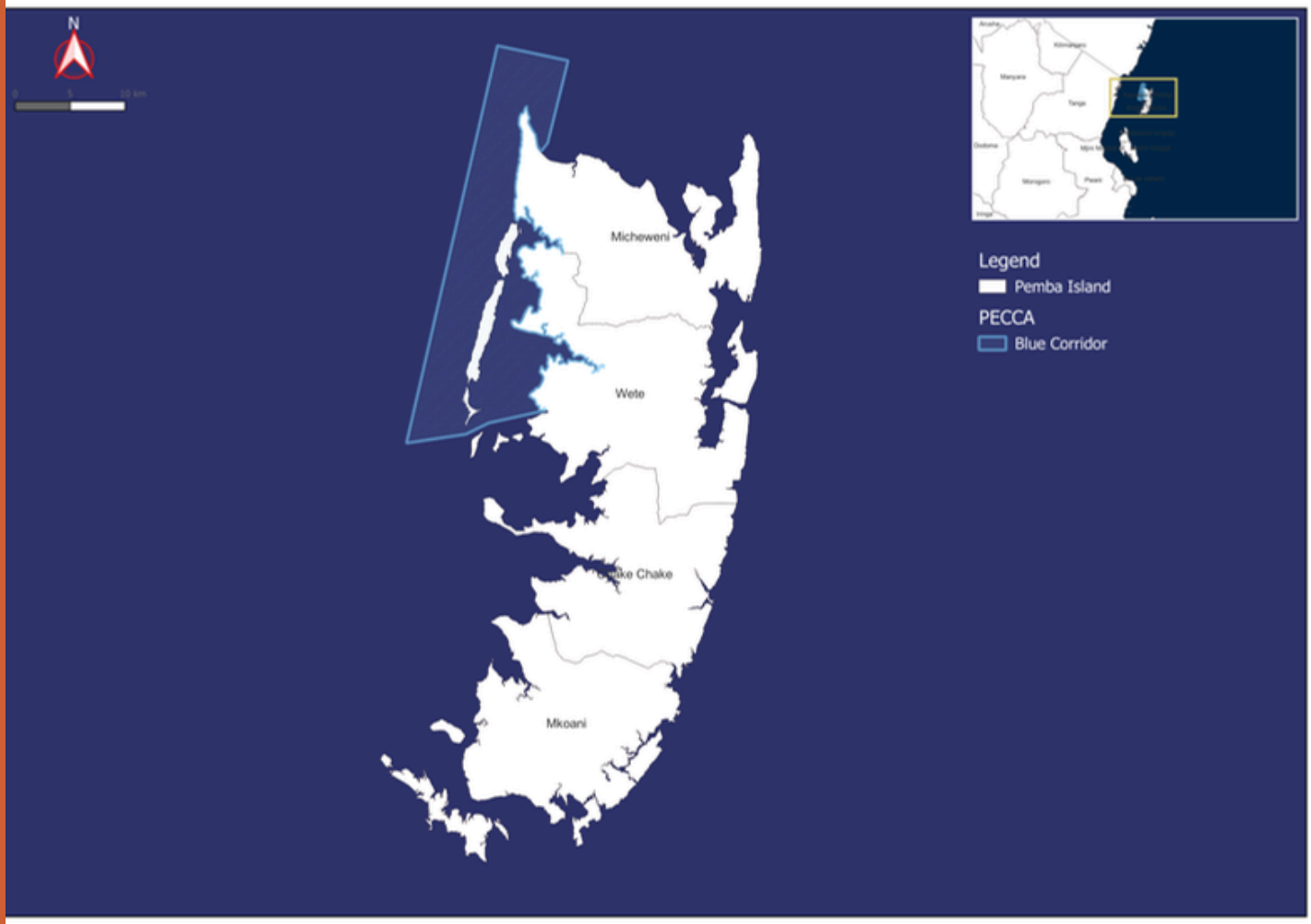


ZANZIBAR

PEMBA CHANNEL CONSERVATION AREA

50% of Tanzania's reefs are located around Pemba Island. The Pemba Channel Conservation Area (PECCA) encompasses highly biodiverse coral reefs, mangroves, and seagrass beds. The cool water upwellings from the deep Pemba Channel, which separates Pemba Island from mainland Tanzania, make Pemba Island's coral reefs a potential refuge against climate change.

Pemba's unique marine environment is home to more than 40 threatened marine species, including the critically endangered Napoleon fish, the blue bumphead parrotfish, green and hawksbill sea turtles, the reef manta ray, the dugong, and the endangered Indian Ocean humpback dolphin. The Pemba Channel is known for the highest cetacean abundance and diversity in the region.



OUR MANDATE FROM THE GOVERNMENT

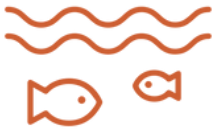
In August 2023, the Ministry of Blue Economy and Fisheries (MBEF) of the Revolutionary Government of Zanzibar signed an agreement with our local entity, the non-profit Blue Alliance PECCA, for the delegated management of the Pemba Channel Conservation Area. This renewable agreement, with a duration of five years, outlines a clear distribution of roles and responsibilities for the day-to-day management of the conservation area.

The MBEF aims to promote economic growth and social inclusion while improving the livelihoods of Zanzibaris and ensuring the preservation of environmental sustainability in the oceans and coastal areas. It is responsible for interventions in two key priority areas: empowering local people to benefit from the Blue Economy, and accelerating the structural transformation of Zanzibar's economy through bankable and sustainable investments in the Blue Economy.

Blue Alliance PECCA's activities are approved by local authorities and guided by a Stakeholder Advisory Committee (SAC). Serving as a mechanism for participation in the planning, management, and monitoring of the replenishment area, the SAC comprises representatives from government agencies, experts from academia, and other organisations.

PROGRESS IN NUMBERS

July - December 2025



27,000 ha with enhanced biodiversity protection and control of destructive and unsustainable fishing activities.

264 full-time and part-time jobs were created during the 2nd semester for BA PECCA and reef-positive businesses.

40+ threatened species under recovery

2,629 coastal community members with enhanced livelihoods (increased income).

2511 patrols conducted between July and December 2025 with 36 joint patrols.

4+ reef-positive businesses in development in the Blue Economy. US$4.1m of the US$9m planned has been mobilised to be deployed in North Pemba

BLUE ALLIANCE PECCA TEAM

Arnaud Gotanegre
DIRECTOR OF MPA OPERATIONS

Keneth Njako Mapunda
FINANCIAL OPERATIONS DIRECTOR

Suleiman Said Rashid
FIELD OFFICER

Margot Webster
###

Sabrina Adam
DATA MANAGER

Ainess Shoo
OFFICE ADMINISTRATOR

Tahir Rashid Ali
ZONE 5 ENFORCEMENT COORDINATOR

Haji Ali Juma
SCIENCE OFFICER

Hassan Mohamed Rashid
HEAD RANGER

Khamis Juma Khamis
HEAD RANGER

OMAR BAKAR ALI
SFC Engagement Officer

Hamad Khamis Mbarouk
ZONE 6 ENFORCEMENT COORDINATOR

RASHID SEIF RASHID
TECHNOLOGY OFFICER

Mwinyi Juma Ali
COMMUNITY OFFICER

Said Juma Shaaban
HATCHERY MANAGER

Sania Said Sleyyum
SENIOR ACCOUNTANT

Zoe Tridon
SUSTAINABLE FISHERIES PROJECT OFFICER

BLUE ALLIANCE PECCA TEAM

ZONE 5 RANGER TEAM

Tahir Rashid Ali (**Officer**), Ali Abdallah Khamis (**Head Ranger**), Mohd Makame Hamad (**Head Ranger**), Hamad Abdallah Othman (**Ranger**), Issa Ali Juma (**Ranger**), Khamis Shaib Kassim (**Ranger**), Ali Khalfan Rashid (**Ranger**), Sharif Said Omar (**Ranger**), Yussuf Fadhil Mohd (**Ranger**), Hamad Massoud Ali (**Ranger**), Hassan Iddi Khamis (**Ranger**), Abdul-qarim Mwinyi Juma (**Ranger**).

ZONE 6 RANGER TEAM

Hamad Khamis Mbarouk (**Enforcement Officer**), Khamis Juma Khamis (**Head Ranger**), Hassan Moh'd Rashid (**Head Ranger**), Haji Ali Juma (**Ranger**), Kombo Hamad Faki (**Ranger**), Kombo Khamis Kombo (**Ranger**), Yussuf Masoud Ali (**Ranger**), Asha Juma Khamis (**Ranger**), Asha Bakar Mtwana (**Ranger**), Zuwena Salim Ali (**Ranger**), Salim Hassan Ali (**Ranger**), Ali Bakar Sharif (**Ranger**), Khamis Ali Hassan (**Ranger**), Faki Khatib Faki (**Ranger**), Juma Masoud Khamis (**Ranger**), Asaa Khatib Said (**Ranger**), Rashid Bakar Suleiman (**Ranger**), Hamad Said Karama (**Ranger**).

BLUE ALLIANCE
GLOBAL TEAM

Our global executive team provides robust support to our local Blue Alliance sister entities and reef-positive businesses, offering a rich blend of expertise in effective co-management and sustainable business development. The collective experience of our global executive team includes:

- **80+ years** MPA operations
- **100+ years** Coral reef and fisheries science
- **30+ years** Community-based aquaculture
- **40+ years** Ecotourism
- **50+ years** in innovative blended finance

Nicolas Pascal
EXECUTIVE DIRECTOR & CO-FOUNDER

Angelique Brathwaite
DIRECTOR CONSERVATION & SCIENCE & CO-FOUNDER

Gary Lotter
ECOTOURISM DIRECTOR

Célia Marcadal
DIRECTOR FINANCE & HUMAN RESOURCES

Arnaud Gotanegre
DIRECTOR OF MPA OPERATIONS

Joel Bertani
AQUACULTURE DIRECTOR

Célia Berche
PARTNERSHIP AND FUNDRAISING MANAGER

Victor Le Bas
PARTNERSHIP OFFICER

Romain Martel
FINANCE BUSINESS PARTNER

Denmark Recamara
SCIENCE MANAGER

Daniel Sadd
FISHERY BIOLOGIST

Cassandre Vandamme
MARINE ECOLOGIST

Katherine Wallis
COMMUNICATIONS MANAGER

ACTIVITIES & PROGRESS:

1. SURVEILLANCE & COMPLIANCE

SURVEILLANCE & COMPLIANCE

Our role as an official co-management entity is to enhance compliance with fishery and environmental laws and regulations. We achieve this through surveillance and long-term community engagement programmes. One of our major management interventions is assisting in the enforcement against illegal and destructive fishing methods. This is done through joint patrols involving local police and military representatives, enforcers from Shehia Fishing Committees, and our own rangers.

Our key compliance programmes include:

- Joint 24/7/365 surveillance patrols and sea rescue patrols with local authorities.
- Demarcation of PECCA and special zones through highly visible marker buoys on breeding zone and replenishment area boundaries.
- Comprehensive, ongoing training in anti-poaching techniques and apprehension for breeding zone/replenishment area and fishery law violations.
- Digital solutions to advance monitoring efforts with the EarthRanger surveillance tool.
- Logistical and equipment support.

SURVEILLANCE & COMPLIANCE

From the numerous surveillance and compliance activities between July & December 2025, we will be presenting a selection of the most relevant.

ENFORCEMENT AND COMPLIANCE PLAN

1.1 REVIEW AND UPDATE ENFORCEMENT PLAN

- We updated the enforcement plan that was presented and discussed internally with BA/ MBEF /SFC / KMKM.
- The plan is progressing well.

1.2 STANDARD OPERATING PROCEDURES (SOP) IMPLEMENTATION

- This semester we have been implementing SOPs for:
  - patrols with the EarthRanger app,
  - conflict resolution mechanisms,
  - incident reporting and offence recognition,
  - engagement of SFCs - CMG / MBEF / KMKM, and Human Rights, and
  - boat and engine maintenance.

PATROL ACTIVITIES

1.3 PATROLS BY BA AND SFC

- **2511** sea and foot patrols between July & December 2025.
- **504** illegal activities recorded
- **261** illegal gears seized.
  - Together with MBEF we confiscated **43** artisanal spearguns, **25** monofilament nets, **28** small mesh nets, **154** wire traps, and **11** oxygen tanks.
- **40** turtle nesting patrols.
- 24/7/365 command station and hotline in operation.
- Below is a table showing the percentage increase in enforcement efforts from 2024 to 2025.

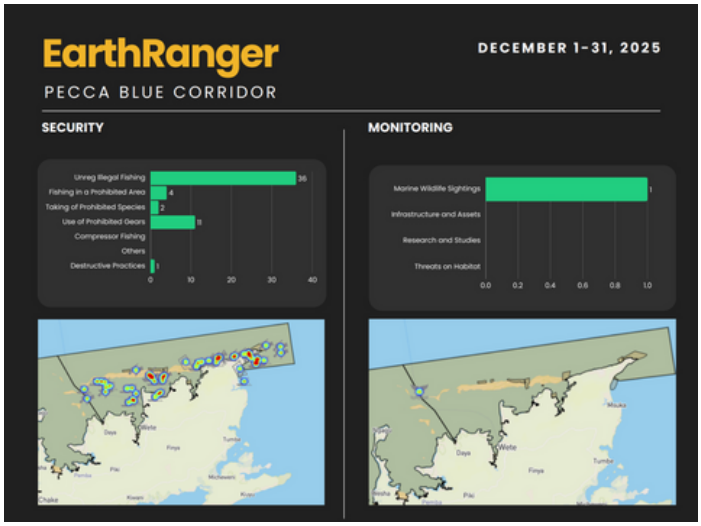
	Patrols	Kilometres	Hours
2025	4230	40,911	19,460
2024	1408	18,513	14,211
% Increase	67%	55%	27%

SURVEILLANCE & COMPLIANCE

PATROL ACTIVITIES

1.4 EARTH RANGER APP + RADIO

- Monthly reports were sent to MBEF about ranger's performance and fishers performing illegal activities (504 illegal activities recorded in the second semester of 2025).
- Weekly EarthRanger patrol reports are available online (example from a section of the December 2025 report shown).



SUPPORT TO ACTIVITIES

1.5 SUPPORT TO SFC (COMMUNITY RANGERS)

- We provided fuel allowances to 12 SFCs as well as other expenses for patrolling.
- Support was provided as agreed according to the MoU signed with 12 SFC/ Shehia/ DC/ MBEF.
- 12 Work Plans have been developed.

1.6 EQUIPMENT FOR SFC ENFORCEMENT AND BA TEAM

- The supply of uniforms and standard kit for SFC and rangers is ongoing, including reef shoes, raincoats, uniforms, life jackets, sunglasses, and water bottles.
- 5 fibre boats are available for patrol with 15 HP and 75 HP engines, and 8 motorcycles are also available.

SURVEILLANCE & COMPLIANCE

1.7 MAINTENANCE OF EQUIPMENT AND FACILITIES

- We have one office in Wete and 3 ranger stations.
- We conduct regular maintenance on the patrolling vessels, marker buoys, and facilities according to the SOPs.

CAPACITY BUILDING

1.8 TRAINING AND CAPACITY BUILDING SFC COMMUNITY RANGERS AND REGULAR MEETINGS WITH SFCS / SHEHIAS

- Monthly work plans for 12 SFCs are completed.
- We conducted training and monthly follow-ups with each SFC, together with Shehias and MBEF, within the CMG (SFC SOP and regulations, bylaws, laws / one report for all meetings provided every month).
- We have conducted **67** trainings this semester for 1823 attendees (577 women).

INSTITUTIONAL ARRANGEMENTS & AGREEMENTS

1.9 MBEF & LOCAL COMMISSIONERS

- Enforcing the secondment agreement.
  - Looking for a focal point.
- New PECCA station in Gando approved with the recruitment of 4 new PECCA rangers.
  - Selection done.
- MBEF is invited to weekly internal team meetings.
- Monthly follow ups on work plans and monthly reports are shared with MBEF.

SURVEILLANCE & COMPLIANCE

1.10 SFC

- Ensuring the SFC have their IDs.
- Review of SFC by-laws through CMG per CMA with MBEF.
- Maintenance of Buoys.
- Ensuring the trainings, development and follow up of the SFC's Work plan.
- Existing temporary octopus closure in Zone 5 & 6 have been marked with GPS and new temporary closures are being proposed (Mnarani).
- SFC Fundo have been re-elected.
    - Looking for the same process in Tondooni SFC.

1.11 JOINT PATROLS

- **36** missions conducted jointly with KMKM, police and BA PECCA.
- We provided logistical support.
- We collaborate at national events with KMKM and Police.

ACTIVITIES & PROGRESS:

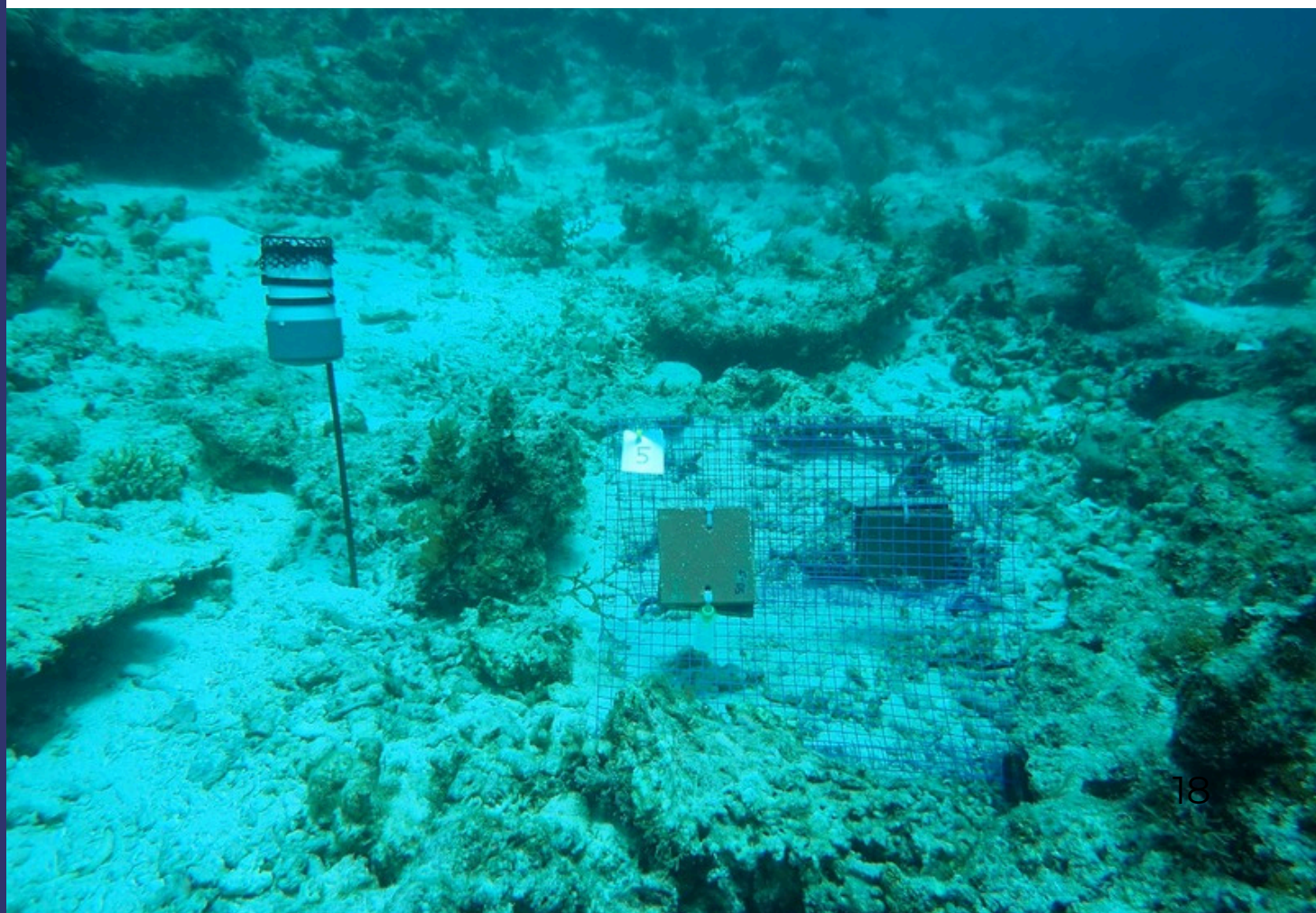
2. BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

We monitor coral reef health (inc. associated flora and fauna) to determine ecosystem health and temporal change, as well as tracking the impact of our management interventions. We plan to expand our assessments to associated ecosystems and rare species. We carry out direct conservation programmes in and around our MPAs and replenishment areas. With the support of funders, we are exploring innovative monitoring methods.

Our key scientific programmes include:

- Biophysical underwater assessments of reef fish and coral reef ecosystems.
- Underwater assessments of commercial fish biomass.
- Fish productivity in PECCA through experimental CPUE (catch per unit effort) programme.
- Sea turtle nesting monitoring, establishment of hatcheries, and training of monitors.
- Crown of Thorn (COTs) monitoring and collection programme.
- Coral bleaching monitoring.
- Coral spawning, settlement and recruitment study.
- Fish Spawning Aggregations (SPAG).
- Capacity building & Awareness campaigns.



BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.1 CORAL REEF HEALTH ASSESSMENTS

The coral reef monitoring programme aims to determine changes in the health of coral reefs within the Blue Economic Corridor over time. It includes monitoring reefs for specific indicators, as well as for negative stressors (e.g. CoTS).

Reef health is affected by a wide range of factors, which affect the coverage of living corals. The number and species of fishes for example is an indicator of reef health and nutrient influx increases the amount of macroalgae observed. Such situations can allow for outright mortality, or might allow for different genera to proliferate, thus changing the reef composition. Twelve (12) parameters are monitored on 10 reefs (5 deep, 5 shallow) in alternate years (Figure 1). The indicators encompass: corals (genera, abundance, diversity, bleached/diseased), fish community (species, abundance, length, diversity), macroalgae (abundance), calcareous coralline algae and bottom substrate (rubble, sand etc). Rugosity, a measure of habitat complexity, is visually assessed.

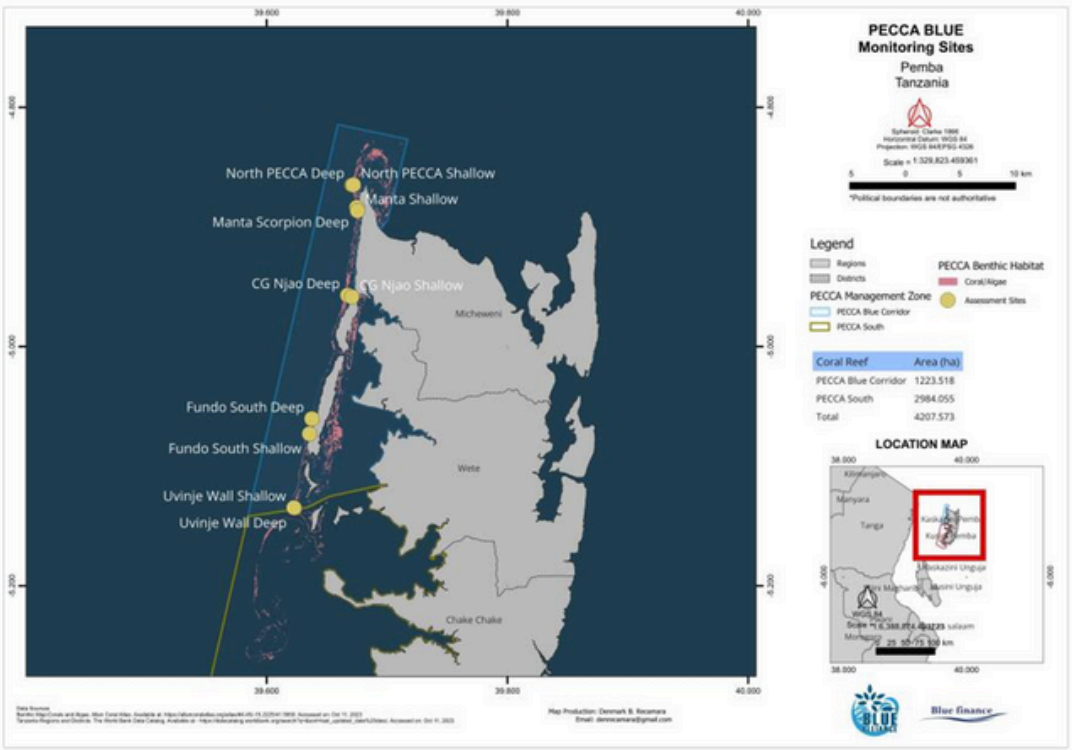


Figure 1. Monitoring sites in the Blue Economic Corridor: reef health is evaluated at 10 sites, including 5 shallow and 5 deep stations. The sites were chosen for broad coverage of the area, and include sites within the Kwanini Marine Conservation Area no-take zone.

Baseline information was collected in 2024. Outputs were reported in a previous SAC report and revealed relatively low coral cover (deep – 15%; shallow – 12%) and moderate fish biomass (31mt/km2).

2026

The next event is scheduled for March 2026. All data is inputted on the MERMAID platform for global data sharing and reporting. Comparing 2026 results with the baseline will indicate how coral reef health and fish community parameters have evolved over two years.

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

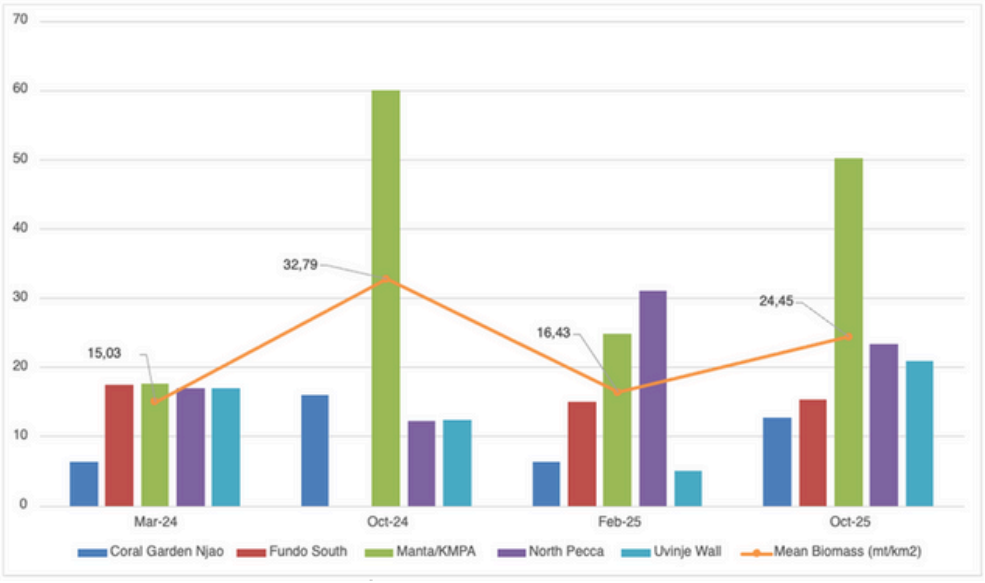
2.2 COMMERCIAL FISH BIOMASS ASSESSMENT

The programme is primarily aimed at determining the impact of a reduction in fishing effort on fish biomass. A subset (18) of reef fish families or genera that are commonly fished, is selected and these are monitored twice annually – once in the rainy season and once in the dry season.

The protocol is modified from the Variable Distance Method (Labrosse et al 2022). The methodology involves the identification of the target fish to family or genus level, count and size class, as far from the observer as visibility allows.

Data is collected at the same monitoring sites: North PECCA, Manta, Njao, Fundo and Uvinje (Figure 1). In 2025, assessments were carried out in February and in October.

The mean commercial fish biomass in 2025 was 20,44 mt/km^2, slightly lower than in 2024 (23,91 mt/km^2). Clear patterns can be observed, with peaks in commercial fish biomass in the spring (October). Manta KMPA consistently has one of the highest commercial fish biomass values.



Commercial fish biomass (mt/km^2) at each site across time. Values are taken from averages of transects at each station (shallow / deep), averaged per site. Note that in February 2025, only deep stations were surveys and juvenile fish <10 cm were not recorded.

2026

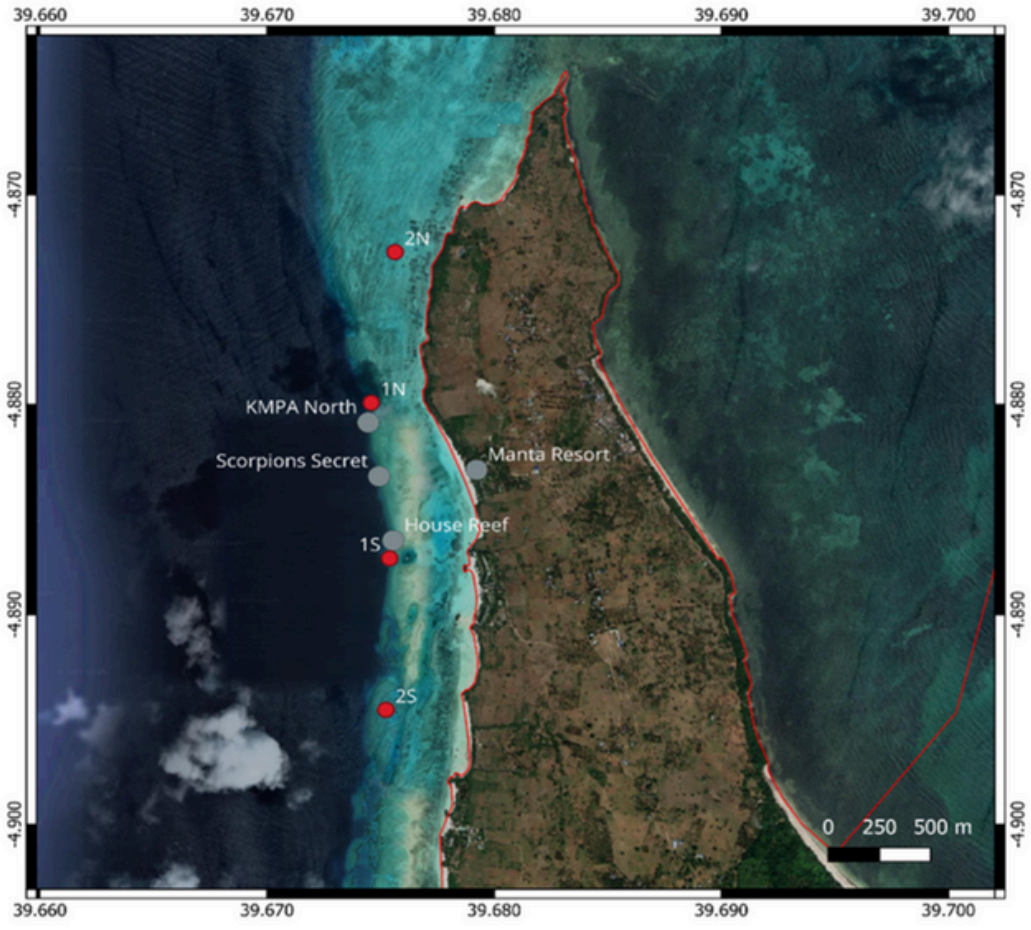
Commercial fish surveys will be carried out again at the same sites in March and October 2026 using the simplified methodology described above. Standardization of fish ID, size estimates and counts continues to be reinforced to minimize observer bias.

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.3 EXPERIMENTAL CPUE (CATCH PER UNIT OF EFFORT)

Importance

- Assessing Fishery Health: measure abundance and size of fish populations
- Measuring Fishery Productivity: Catch should be higher in conservation area, breeding area
- Monitoring Trends: Helps identify long term trends in our management
- Community Engagement: Direct collaboration with fishers and easy to communicate results



Map of eCPUE sites

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

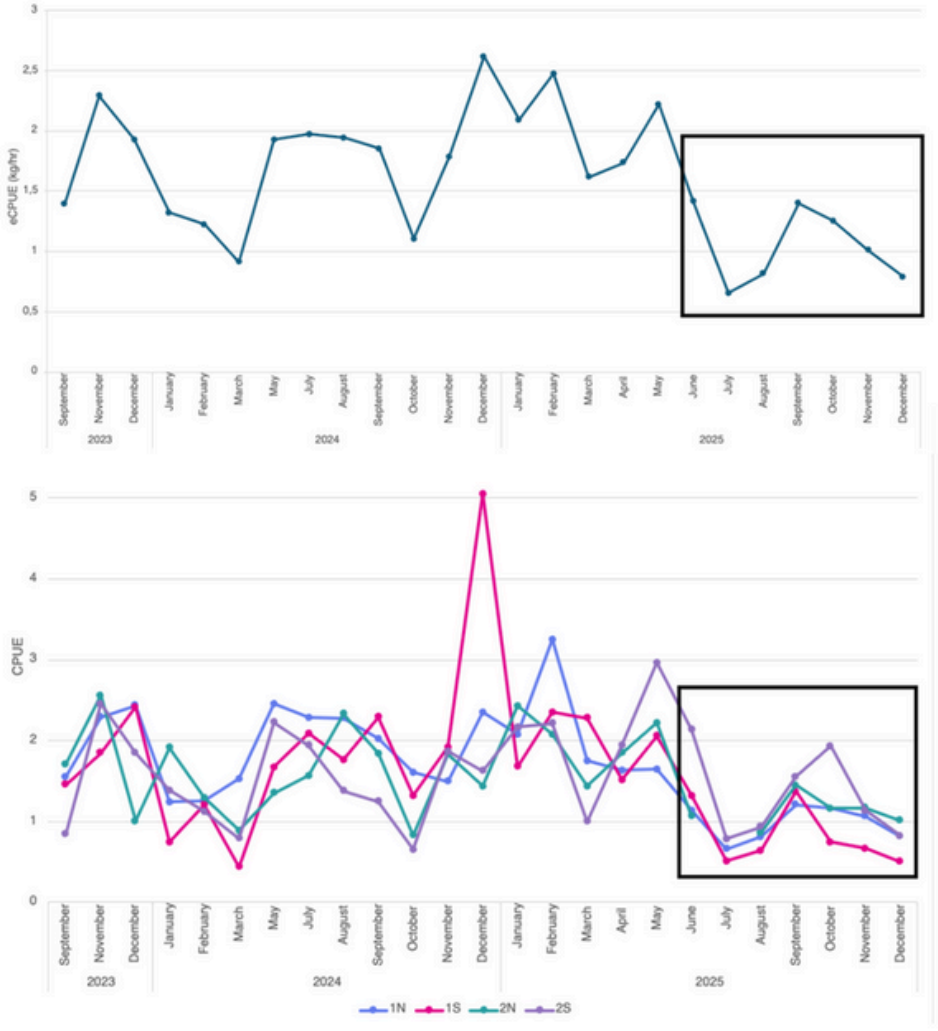
2.3 EXPERIMENTAL CPUE (CATCH PER UNIT OF EFFORT)

Activities

- 5203 fish sampled across 12 months totalling 576 hours.
- Four sites are still the same (1N, 2N, 1S, and 2S).
- Although CPUE rose in the first half of 2025, on average CPUE was slightly lower in 2025 (1.47 kg/hr) compared to 2024 (1.67 kg/hr).

On average and across the 4 sites, the CPUE value for 2025 was 1.47 kg/hr, slightly lower than the average value in 2025 (1.67 kg/hr). Average CPUE rose in the first half of 2025 and declined in the second half.

Year to year differences may be due to various factors, including natural variation and oceanographic conditions. Continued monitoring and expansion of research scope in methodology and space to better capture various aspects of the fishery (see below) will be important to reveal long-term trends in fishery health.

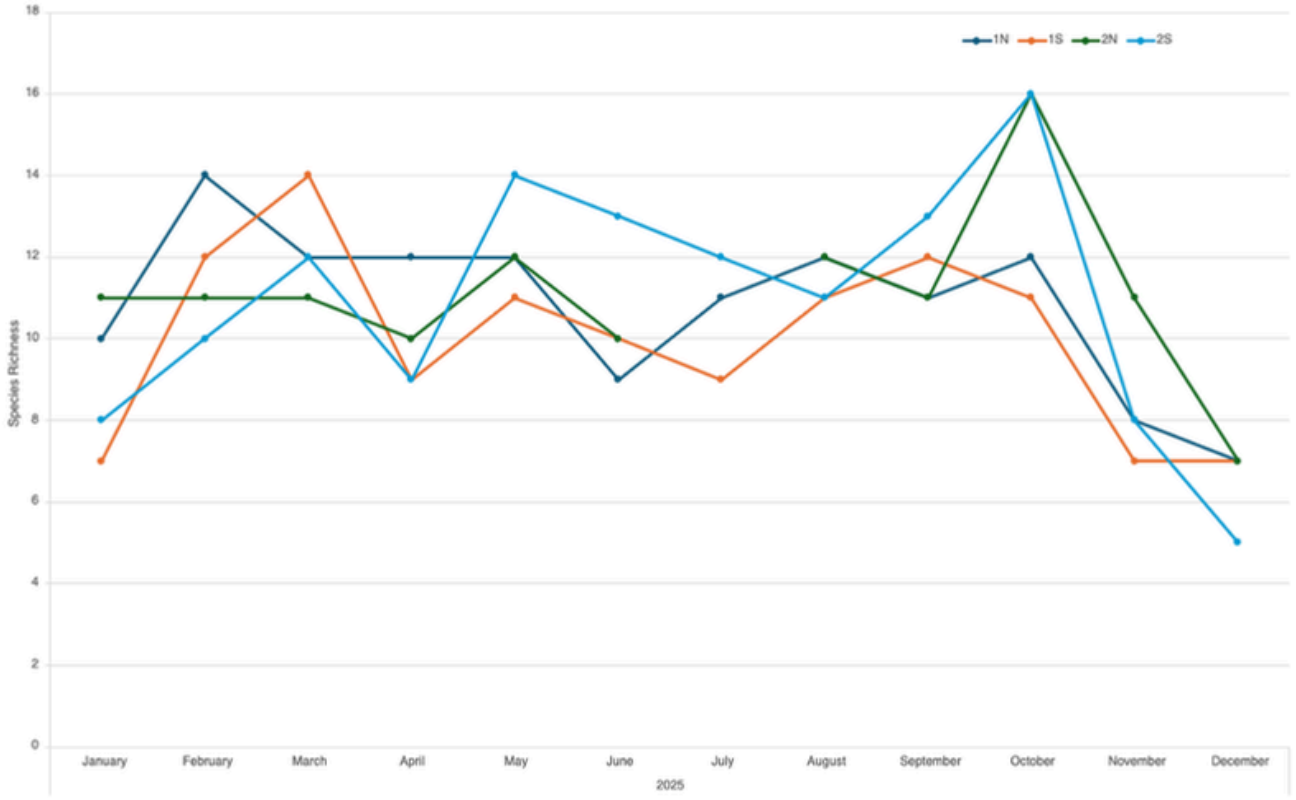


Average CPUE across time (top) and average CPUE per site (bottom). Boxes show data collected since the last SAC report.

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.3 EXPERIMENTAL CPUE (CATCH PER UNIT OF EFFORT)

Species richness remained stable in 2025, with peaks around February and October and lower valued in November and December. Average values fluctuated around values previously observed in 2023 and 2024. Showing stability could be a sign of ecosystem health around the breeding site outside Manta. More will become clear as this campaign continues.



Evolution of species richness

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.3 EXPERIMENTAL CPUE (CATCH PER UNIT OF EFFORT)

2026 – Expansion of the eCPUE campaign

Data digitalisation - Introduction of ABALOBI Monitor app for data collection and visualisation.

Advantages:

- Streamlining data collection process
- Ease of data collection for local data collectors
- Transparency
- Fewer errors
- Real time data analysis
- Increased ownership of local stakeholder through immediate data visualization
- Data sharing

Program expansion to the rest of the BEC

The line and hook eCPUE protocol will be expanded to all monitoring sites (see Figure 1 above) to track eCPUE values across the Blue Economy Corridor. This will allow a better understanding of the overall health of the fishery in North Pemba, track spatil

Program expansion to include herbivorous fish

The current methodology deals with hook and line fishing, which catches predatory species of reef fish. This means that we are missing important information on herbivorous fish and those with lower trophic levels.

4 bamboo traps have been made, which will be baited with local seaweed and for one to two nights. Data will be analyzed in the same way, by obtaining a value of weight per effort.

This expansion will be trialed at the current sites around the Kwanini no-take zone before expansion to the rest of the zone.

These results will show a clearer picture of the health of the fishery in the BEC and reveal patterns that may have been missed with previously collected data.

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.4 SEA TURTLES

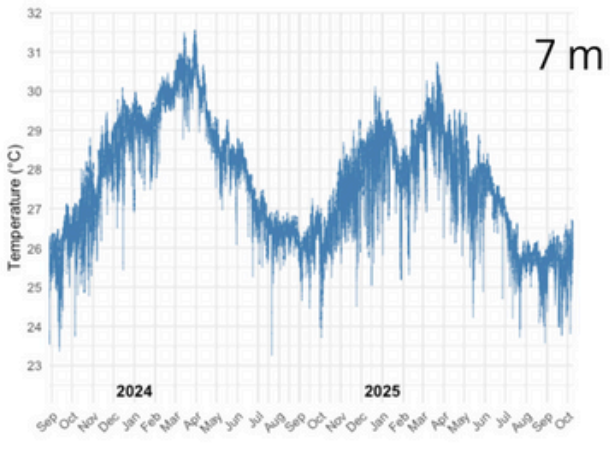
Patrols, nest protection and relocation to hatchery (if necessary) will resume in the first semester of 2026, during nesting season. Awareness presentations and meetings with rangers and fishers were carried out in August 2025 and will continue in 2026. Blue Alliance also plans to renew our collaboration with JUFE Theater to continue conducting public awareness campaigns on sea turtle conservations in target villages in the BEC.

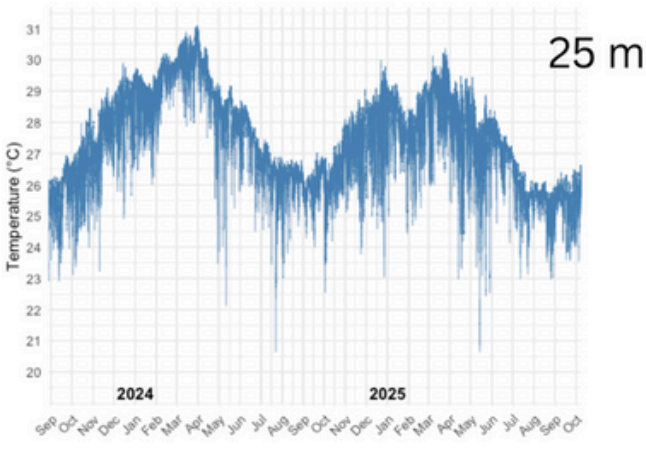
2.5 CORAL BLEACHING

Coral bleaching refers to the expulsion of the photosynthetic algae (zooxanthellae) from coral polyps in response to sustained stress, usually from durable increases in sea temperatures, and often leading to widespread coral mortality.

Blue Alliance continually monitors sea temperatures with HOBO loggers placed at 7, 15 and 25 meters depth at the Manta site. Coral bleaching monitoring was carried out in depth from March to May 2024, during the 4th mass coral bleaching event linked to the 2023 – 2024 El Niño event that led to substantial coral bleaching and mortality across the region and the world. Reefs were re-surveyed for coral bleaching in March 2025.

Results of the coral bleaching monitoring were presented in the previous SAC report. Generally, while temperatures rose to over 31°C in 2024, leading to important coral bleaching and mortality, temperatures were on average 1°C cooler in 2025 during the Northeast monsoon period (the bleaching season) and less than 3% of all colonies showed signs of bleaching in March 2025.





Temperature series at Manta KMPA at 7 and 25 meters depth, in °C.

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.5 CORAL BLEACHING

Coral bleaching monitoring will be carried out again starting in March 2026 with photoquadrats. Blue Alliance has also planned to train COTS community monitors to recognize coral bleaching and report broad observations made during monthly COTS monitoring, to serve as an early warning system triggering intensive monitoring.

All data is shared with CORDIO East Africa, to be integrated into regional databases.

2.6 COTS OUTBREAK RESPONSE PLAN & MONITORING

Crown of Thorn Starfish (CoTS) are natural predators of coral. Under certain conditions however, population outbreaks occur. This means that the starfish are consuming corals atfaster rates than coral can regrow, resulting in large decreases in coral cover. BA monitors reefs to determine the CPUE of CoTS. This programme has continued from 2024, now monitoring 7 sites with on average 10 fishers per site.

Map of COTS monitoring sites

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

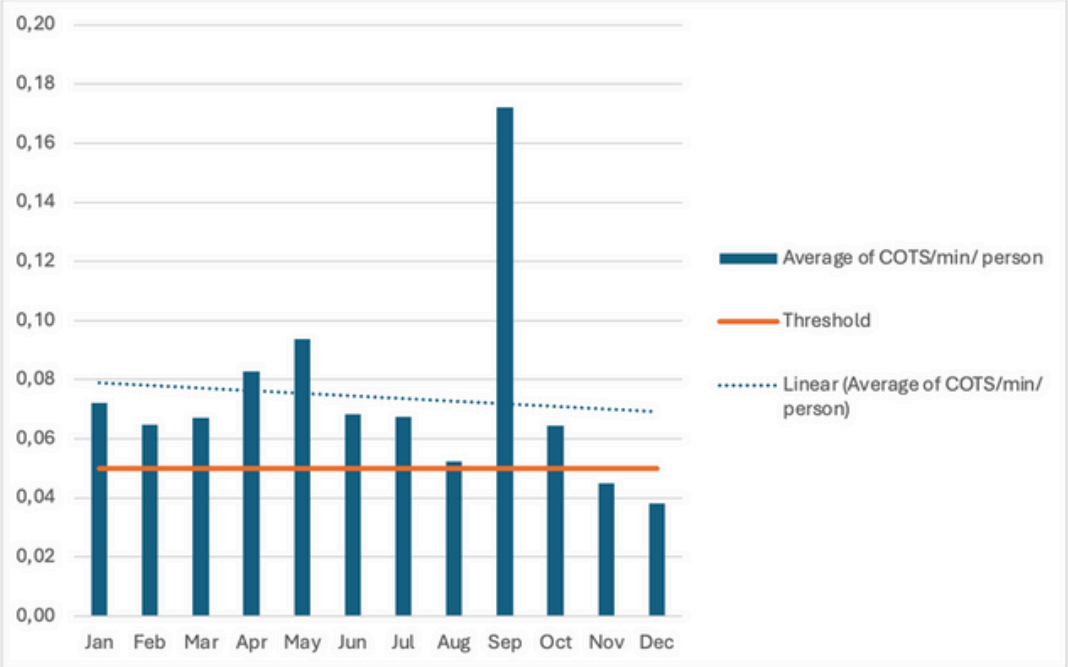
2.6 COTS OUTBREAK RESPONSE PLAN & MONITORING

According to the Great Barrier Reef Marine Park Authority, the trigger for collection (and disposal) of the starfish for reefs (with less than 40% cover) is a CPUE of, or greater than 0.05.

This value was on average exceeded the first 10 months of the year, but COTS CPUE has reduced to below threshold since November 2025. Other indicators consistent with outbreaks - clumping of CoTS and large numbers observed during the day –

were not seen. It is possible that the ecosystem at Pemba differs from that on the Great Barrier Reef and monitoring is on-going to determine a suitable trigger for the PECCA.

In response to the outbreak threshold level being exceeded and according to the response plan, 885 COTS were removed from the reefs of the BEC in 2025, contributing to the control of these populations and coral reef protection.



Average COTS CPUE (COTS / min / observer) value across sites each month in 2025. While the outbreak threshold value was exceeded on average the first 10 months of the year, average COTS CPUE value has decreased below threshold since November 2025. The average COTS CPUE value has also decreased throughout the year.

2026

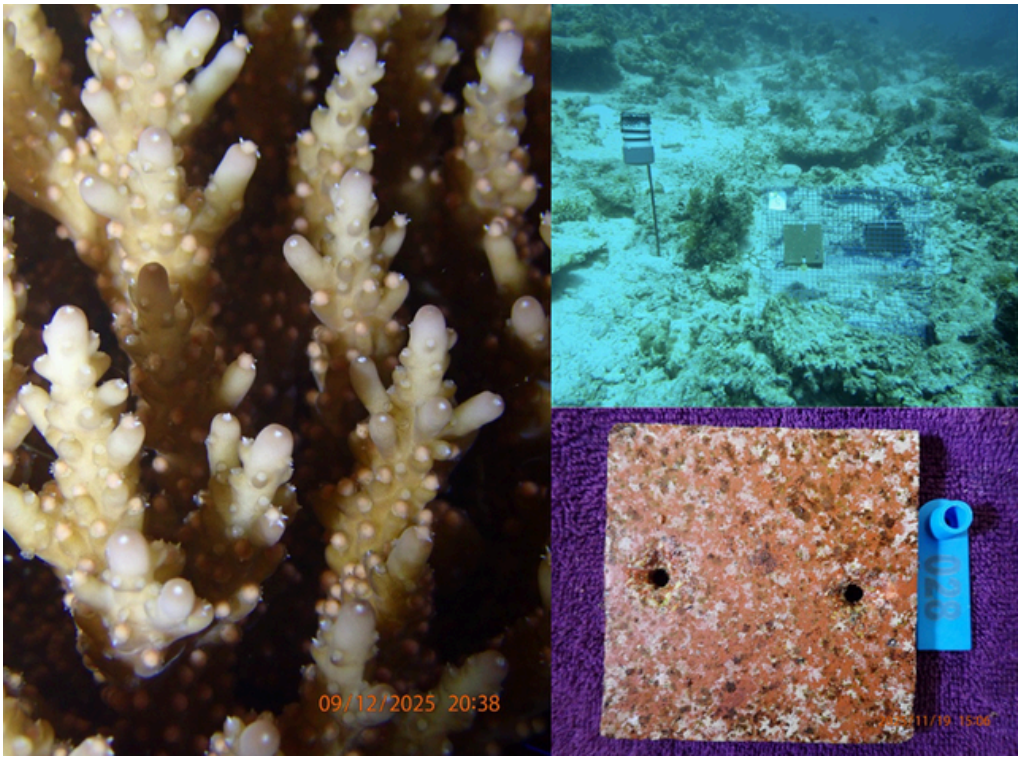
COTS monitoring with community fishermen will continue in 2026. Blue Alliance will also work to renew and strengthen its partnership with dive centers in the BEC, for them to serve as an early warning system if large number of COTS are observed during their dives.

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.7 CORAL REPRODUCTION, SETTLEMENT AND RECRUITMENT STUDY

Starting in 2025 since the last SAC report, Blue Alliance has launched a coral reproduction, settlement and recruitment study. The objectives are to determine potential source and sink dynamics of coral larvae supply in the BEC, assess settlement and recruitment patterns and factors and inform potential future interventions for reef recovery such as substrate stabilization.

Methods involve:
Coral spawning monitoring through targeted night dives, camera deployment and coral egg traps. The goal is to build a spawning calendar for major reef building species found in Pemba.
Settlement tiles are deployed at the 5 sites, soak for 2 months and are then bleached and analyzed under the microscope for presence of coral settlers. The first tiles were retrieved in September 2025, and monthly on a rolling basis since.
Parameters affecting settlement are assessed: sedimentation (with sediment traps), light and temperature (with loggers).
Recruitment surveys are carried out every 6 months to assess the presence of coral recruits (<10 cm) across the BEC. The first surveys were carried out in September 2025. A follow up survey will be carried out in February 2026.



pawning event (Acropora) recorded in December 2025 (left), settlement tiles and sediment trap in the water (top right), settlement tile after retrieval from the water (bottom right).

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.8 FISH SPAWNING AGGREGATIONS

This project aims to identify the spatial and temporal specifications of spawning aggregations (SPAG) of major targeted fish species (grouper, snappers…). Many fish species aggregate in large numbers to reproduce, often aligned with lunar phases and specific oceanographic conditions. Identifying these to the ability to predict when SPAG may occur could allow for targeted conservation measures tailored to protecting these events to avoid depletion of fish stocks.

In 2025, eight (8) fishermen were interviewed monthly in Makangale and Fundo. Questions aimed to determine observable patterns such as seasonality of juveniles and larger numbers of adults for targeted species, as well as whether they had observed any potential signs of SPAG, such as sperm or eggs, colour changes, etc.

Dive centres in the BEC were approached in November 2025 to present the SPAG research project and launch a collaborative information shang group. Dive guides and instructors at dive centres were presented with a document explaining the purpose of the project and signs to look for underwater, and a Whatsapp group was created for information sharing. Participants were reminded to retain this information as confidential as long as no protection measures are in place.

In 2026, interviews with fishers will cease and the project will focus on diver observations.

Spawning aggregation of Acanthurus leucosternon

BIODIVERSITY CONSERVATION, SCIENCE & MONITORING

2.9 CAPACITY BUILDING & AWARENESS

In 2025, the science team completed the following activities:

- Hiring of new science team member
- Advanced Open Water training for field team
- Emergency First Response training for field team
- Swimming practice for data manager

A special visit was conducted by the science team to Madungu Secondary School in Chake Chake in December 2025. 80 students attended the session, which focused on awareness of marine ecosystems, main threats and conservation priorities, and presentation of BA's work in Pemba. The session included formal presentations as well as engaging, interactive activities.

2026

In 2026, swimming lessons will continue, and the two members of the science field team will be trained to Rescue Diver level, and one to Divemaster level.
In addition, Blue Alliance will host two Tanzanian interns in collaboration with Action for Ocean (AFO) for each 6-month period, totaling 4 interns during the year. This collaboration will increase the capacity of the science team, and will provide valuable experience and skills to the interns.
The science team will also collaborate with the compliance team to carry out school visits in targeted areas, raising awareness of marine ecosystems, threats, conservation principles and BA's work.

ACTIVITIES & PROGRESS:

3. BLUE ECONOMY SUSTAINABLE REVENUES

BLUE ECONOMY SUSTAINABLE REVENUES

Blue Alliance PECCA aims to become self-sustaining through the development of a pipeline of reef-positive businesses in and around the Blue Economy. These sustainable enterprises will enhance the livelihoods of coastal communities, mitigate threats to marine biodiversity, and generate tangible revenue streams for reinvestment directly back into Blue Alliance. Blue Alliance will invest over US$9.5m in the blue economy by 2030. Since the signing of the agreement, US$2.2m has been mobilised so far to be deployed in North Pemba.

Key sustainable blue economy initiatives include:

- Aquahub sea cucumber Ltd, a community-based sea cucumber hatchery and grow-out aquaculture company.
- Replacing the Underwater Room at the Manta Resort with a new design and improved sustainability.
- Wildlife ecotourism tours.
- Supporting Samaki Bluu, a fishery supply chain improvement company.

BLUE ECONOMY SUSTAINABLE REVENUES:

3.1 SEA CUCUMBER PROJECT

Blue Alliance PECCA has established Aquahub Sea Cucumber Ltd. as a Zanzibari limited company owned 100% by Blue Alliance PECCA. Aquahub Zanzibar is a vertically integrated aquaculture enterprise combining a sea cucumber hatchery and processing facilities with community-based sea ranching. Targeting global markets, the project enhances livelihoods for approximately 4,000 local households while supporting the regeneration of seagrass ecosystems. Pilot farms have already benefited over 90 households, with recent hatchery production and successful full-moon spawning at the Pujini facility generating juveniles now ready for transfer to community grow-out farms.

Aquahub aims to foster a community-based sea cucumber mariculture industry within PECCA by leveraging sector expertise, impact investment, and operational capacity to establish large-scale, professionally managed, and financially viable sea cucumber farms across multiple communities. As part of the Blue Finance impact loan facility launched in 2024 with BNP Paribas, Aquahub Zanzibar is designed to create sustainable livelihoods, restore marine biodiversity, and support the long-term management of the Pemba Channel Conservation Area. Expansion plans include the development of commercial-scale farms to significantly increase production.

Aquahub works closely with local and national governance structures, producer groups, and community development boards to ensure shared understanding, transparency, and community ownership of the farming model. Preliminary and feasibility activities are underway in Gando, Makangale, Fundo, Mtambwe South, Vumawimbi North, and Ukunjwi. Recent developments include the construction of an additional five-hectare grow-out pen and a security tower in Vumawimbi, strengthening production capacity and securing farms against poaching, with construction supported by Aquahub staff, Blue Alliance, and community volunteers.

Expected Benefits and Outcomes

- Creation of >100 full time jobs for PECCA residents
- Recovery of stocks of sea cucumber in PECCA
- Creation of > 900 part time jobs for PECCA residents
- Regeneration of >100 hectares of seagrass ecosystems
- Creation of 11 community funds for PECCA residents
- Significant export revenues
- Technical upskilling of PECCA residents in sustainable aquaculture practices
- Financial support for the replenishment area activities of Blue Alliance PECCA

BLUE ECONOMY SUSTAINABLE REVENUES:

aquahub

3.1 SEA CUCUMBER PROJECT UPDATES

Between July and December 2025:

- Juvenile sea cucumbers were transferred and stocked in the pre-grow out farm at Vumawimbi.
- A new General Manager was welcomes to the Aquahub team.
- A new security tower was constructed and eight security guards were hired.
- The nursery was expanded with 50 new hapas.
    - Blue Alliance PECCA's science team assisted in construction by providing scuba expertise.
- A total of 12 hectares of pens was constructed at Vumawimbi.

BLUE ECONOMY SUSTAINABLE REVENUES:

3.2 SAMAKI BLUU - FISHERY SUPPLY CHAIN IMPROVEMENT

Blue Alliance supports Samaki Bluu, a Zanzibari limited company that collaborates closely with the small-scale fishing communities of Pemba Island to promote sustainable fishing practices, offer training on eco-friendly techniques, and enhance the traceability of the fisheries value chain. Samaki Bluu specializes in high-quality fish products, implementing sustainable fishing practices around the replenishment areas and increasing revenues for local fishers. Samaki Bluu's fishing fleet comprises 50+ skilled fishers from the local communities of North Pemba, leveraging their expertise in traditional fishing methods and expert handling and filleting techniques. Additionally, the organisation has established a robust cold chain system, reducing waste and overfishing while improving fish quality and value.

Reef-positive businesses like Samaki Bluu demonstrate how sustainable enterprises can address ocean ecosystem degradation while creating lasting positive benefits for local communities.

Progress Update:

- 180 fishers trained.

BLUE ECONOMY SUSTAINABLE REVENUES: ECOTOURISM

BlueWild ECOVENTURES
INVESTING IN TOURISM FOR MARINE PROTECTION

3.3 UNDERWATER ROOM

The Manta, Pemba Island, in conjunction with Genberg Underwater Hotels and BlueWild EcoVentures, the tourism division of Blue Alliance Marine Protected Areas (MPAs), have entered into a distinctive collaboration to launch the latest generation of Underwater Room.
The collaboration is funded by Blue Alliance, designed and built by Genberg Underwater Hotels (Sweden), and managed by The Manta, Pemba Island.

Progress at SECO's shipyard has advanced steadily, and all major structural works are now complete. The unit has successfully completed water testing, stability has been confirmed, and final outfitting and commissioning are underway.

Due to a construction delay, the Manta Underwater Room is now scheduled to be fully operational and in the water by February 2026, offering a spectacular guest experience with a truly unique window into the underwater world.

Building on the success of the first Manta Underwater Room and in line with the commitment of The Manta, Pemba Island and Blue Alliance to transform travel into an agent for good, this new chapter will deliver an authentic 'reef-positive' product with all profits channelled into marine conservation in the North Pemba Channel Conservation Area (PECCA).




BLUE ECONOMY SUSTAINABLE REVENUES: ECOTOURISM

3.4 DIVE PEMBA

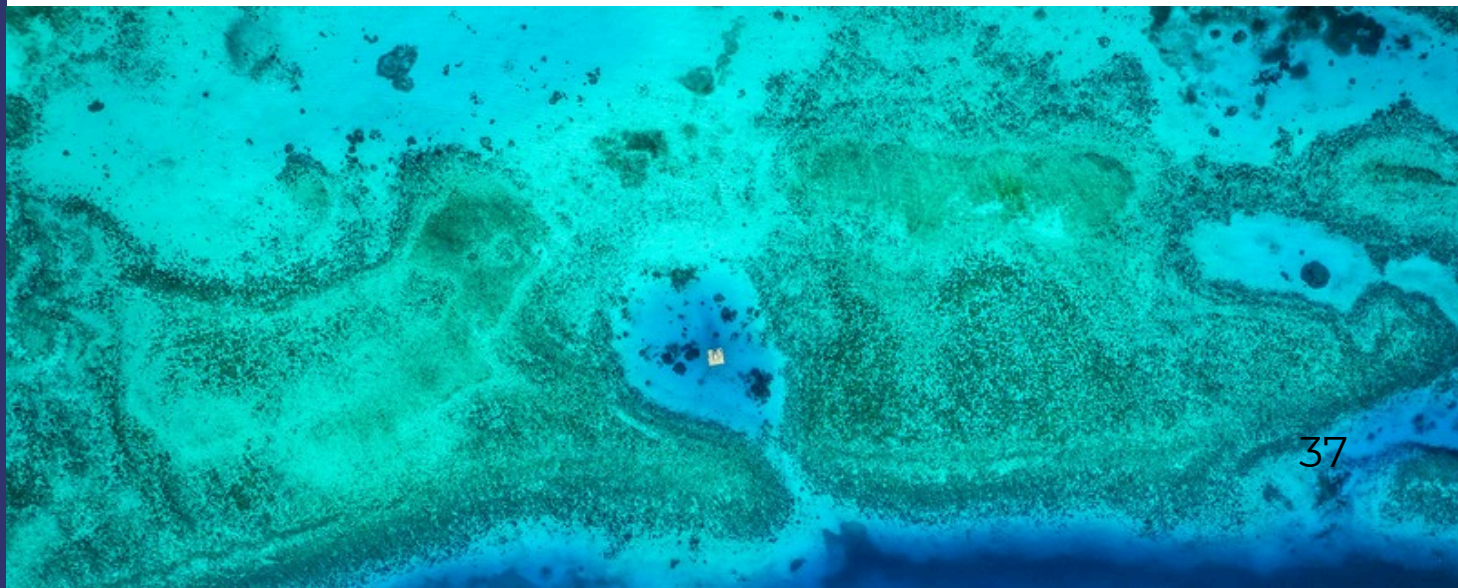
- On hold.

3.5 PEMBA CORAL REEF SAFARI

- Active and licensed to Manta Resort to operate.

3.6 USER FEES PECCA

- Website for traveller awareness and engagement is in progress.
- Awaiting final approval and go-ahead from Ministry of Blue Economies and Fishery (MBEF).



INVESTMENT PLAN

Total investment for BA PECCA during 2023-2028: **US$9.4m**

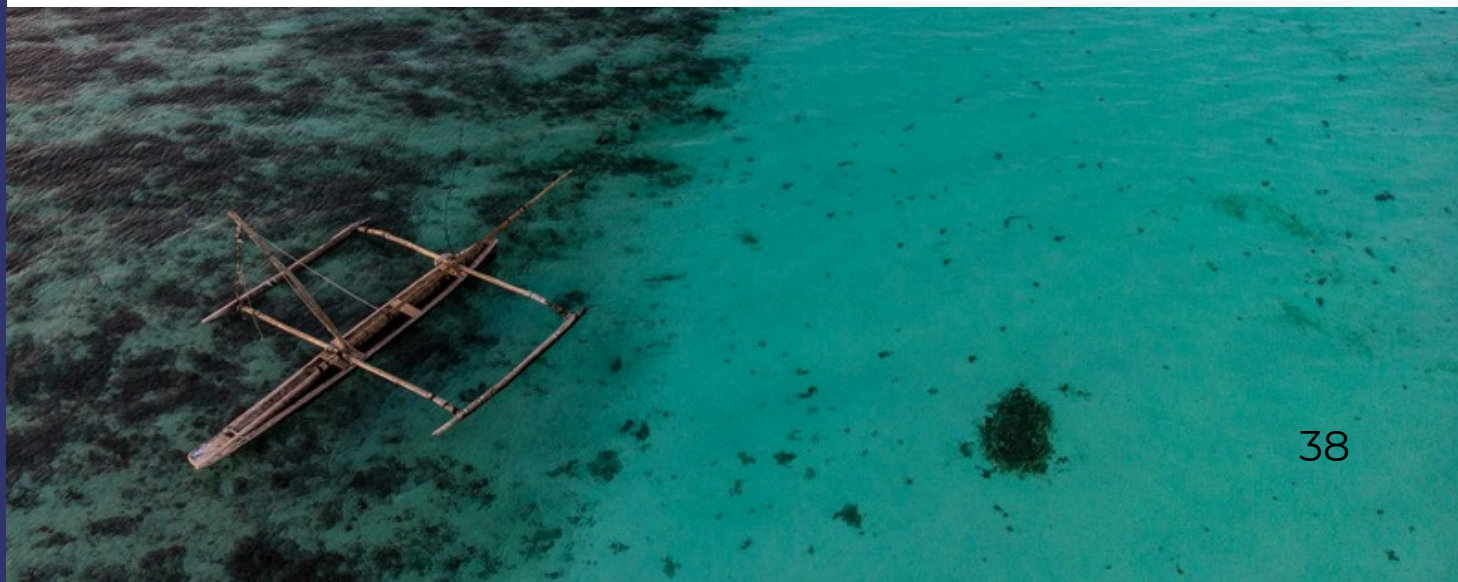
Grants : **US$4m**

Secured: **US$4.1m**

Impact loans: **US$5.4m**

Identified: **US$4.6m**

Concept	Details	Total
Management of BA PECCA	Operations : US$400k X 5y	US$2m
Equipment of BA PECCA	Vessels, vehicles, ranger station, etc.	US$0.25m
Aquahub sea cucumber	Hatchery, nursery, processing, operations	US$2.5m
Samaki Bluu	Facilities, operations	US$0.6m
Aquahub mangrove crab	Hatchery, nursery, processing, operations	US$2.3m
Underwater Room and Coral Reef Safari	New facility, vessels, equipment, operations	US$1.7m
TOTAL		US$9.4m



ACTIVITIES & PROGRESS:

4. COMMUNITY DEVELOPMENT

COMMUNITY DEVELOPMENT

We collaborate closely with the government, partners, and local communities to identify and develop Blue Economy revenue models that can sustainably enhance the resilience of marine ecosystems and the livelihoods of coastal communities.

Our key community development programmes include:

- Creating new job and business opportunities in community-based aquaculture, ecotourism, and sustainable fishing.
- Enhancing existing aquaculture activities to increase sustainability and profitability for local communities.
- Incubating and accelerating micro-businesses within coastal communities.
- Providing job opportunities for local community rangers.
- Empowering and educating communities to enhance entrepreneurship capabilities, with a focus on women.
- Offering swimming and SCUBA lessons for the local community.

We have improved livelihoods (revenues) for +1000 individuals through various community development projects such as micro-loan programme, eco-brick programme, Samaki Bluu fishers, aquahub, seaweed support and fisher resource monitoring.

COMMUNITY DEVELOPMENT

4.1 SEAWEED FARMERS

ACTIVITIES AND PROGRESS

- Women in Vumawimbi trained in swimming, snorkelling, and deep-seaweed farming; training ongoing.
- Aquaculture technician conducting weekly visits for monitoring.
- Continuing monitoring and data analysis.
- With SFC Makangale and Kwanini Foundation - equipment to be provided for post production.
- Discussions with the seaweed farmers showed us that there is a need to improve and certify product quality so farmers can access higher-value markets.
- Farmers also highlighted that they need access to suitable anchors and rope for cultivation.

COMMUNITY DEVELOPMENT

4.2 COMMUNITY-BASED AQUACULTURE

ACTIVITIES AND PROGRESS

- Part of Aquahub's model is involving community members in the grow-out phase of sea cucumber cultivation.
- Juvenile sea cucumbers and technical assistance was provided for community-based grow-out operations to local farmers from communities.
- **66 community members** benefitted from this in the second semester.

4.3 SAMAKI BLUU FISHERY SUPPLY CHAIN

ACTIVITIES AND PROGRESS

- Samaki Bluu works with fishers from the local communities of North Pemba, leveraging their expertise in traditional fishing methods and expert handling and filleting techniques. Additionally, the organisation has established a robust cold chain system, reducing waste and overfishing while improving fish quality and value.
- **180 local fishers** benefitted from this in the second semester.

MANAGEMENT, INFRASTRUCTURE & INSTITUTIONAL RELATIONSHIPS

MANAGEMENT, INFRASTRUCTURE & INSTITUTIONAL RELATIONSHIP

5.1 HUMAN RESOURCES

Description	Number
Finance and Administration Accounts Department	4
PECCA Rangers	28
Zone Coordinators	2
Community Engagement	1
SFC Engagement	1
Control Center (Earth Ranger) / technology	1
Operational Management	3
Bluewild experts	1
Aquahub experts	11
SFC members patrols	106
3 cooks	9
Ex-speargun fishers for CoTS surveyors	59
see turtle rangers,	8
Local security	34

FINANCIAL REPORT
2ND SEMESTER 2025

5.2 BUDGET PERFORMANCE

In accordance with the agreement between the Revolutionary Government of Zanzibar and Blue Alliance, the investment plan was structured as follows:

Year	Amount USD
Year 1	500,000.00
Year 2	1,500,000.00
Year 3	1,500,000.00
Year 4	500,000.00
Year 5	500,000.00
Total	4,500,000.00

By the end of the second year of implementation, the project had achieved 38% of the overall committed investment.

Performance against the planned commitments for the period reached 86%, with total investment amounting to USD 1.7 million.

The investment breakdown and accompanying narrative are presented on the following page, with all figures expressed in USD.

FINANCIAL REPORT
2ND SEMESTER 2025

5.2 BUDGET PERFORMANCE

Description	Budget Year 1 FY2024	Actual Year 1 FY2024	Budget Year 2 FY2025	Actual Year 2 First Half FY2025	Actual Year 2 Second Half FY2025	Actual Year 2 FY2025	Budget Year 3 FY2025
Marine spatial planning and other initial studies	100,000	21,059	309,278	1,664	21,845	23,509	309,278
Personnel	35,000	128,481	108,247	103,536	163,223	266,759	108,247
Vessels and vehicles	20,000	51,488	61,856	12,619	14,175	26,793	61,856
Community development, environmental awareness, ecological monitoring and communication	100,000	159,244	309,278	113,580	122,467	236,047	309,278
Management and infrastructure maintenance	150,000	16,801	463,918	130,649	139,159	269,807	463,918
Underwater assets, onshore improvement and moorings	80,000	137,088	247,423	163,508	205,263	368,771	247,423
Grand Total	**485,000**	**514,161**	**1,500,000**	**525,556**	**666,132**	**1,191,688**	**1,500,000**

FINANCIAL REPORT
2ND SEMESTER 2025

Description	Total Expenses July - December (USD)	Planned Budget 2025 USD	Total Actual 2025 USD
Marine spatial planning and other initial studies	21,845	309,278	23,509
Personnel	163,223	108,247	266,759
Vessels and vehicles	14,175	61,856	26,793
Community development, environmental awareness, ecological monitoring and communication	122,467	309,278	236,047
Management and infrastructure maintenance	139,159	463,918	269,807
Underwater assets, onshore improvement and moorings	205,263	247,423	368,771
Grand Total	**666,132**	**1,500,000**	**1,191,688**

During the reporting period, the project strengthened its organisational capacity, engaging 264 personnel across three entities and filling key leadership and technical roles. By the end of the second year, 38% of the total committed investment had been realised, with 86% performance against planned commitments and total investments of USD 1.7 million.

Implementation was affected by regulatory delays, notably in securing investor certificates from ZIPA and approvals for the underwater room, which postponed major investments in the hatchery expansion and underwater infrastructure. Despite these challenges, the project remains well positioned to accelerate implementation once approvals are finalised, with deferred investments expected to be delivered in subsequent phases.

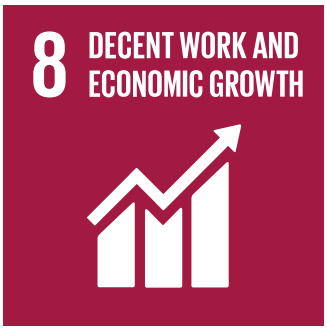
OUR IMPACT AND SDG

Our work is focused on building significant long-term impacts. Whether in today's actions or long-term planning, impact always comes first. Our MPA work is aligned with the United Nations Development Programme's Sustainable Development Goals (SDGs). We are actively enabling ocean-positive environmental and societal impacts in alignment with the following SDGs:

Reduction of poverty – we help coastal communities to sustainably increase fishery productivity and to develop alternative sources of protein.

We help coastal communities to sustainably, achieve **food security and improved nutrition**, while promoting sustainable agriculture.

We work towards gender equality via **female-focused** job creation and training.



Growing **sustainable tourism and community-based aqua-culture** businesses to create jobs.

Reducing waste and promoting resource efficiency and responsible practices specifically within reef-positive businesses.

Increasing **climate change resilience and contributing to climate risk mitigation** through improving the health of natural marine and coastal eco-systems, and protection for coastal communities from climate change-derived high-energy events.

Regeneration of coral reef ecosystems and endangered species – we focus on reducing harmful fishing practices through a combination of enhanced law enforcement and awareness initiatives, long-term community development and engagement programmes, and developing alternative ways of earning a living.

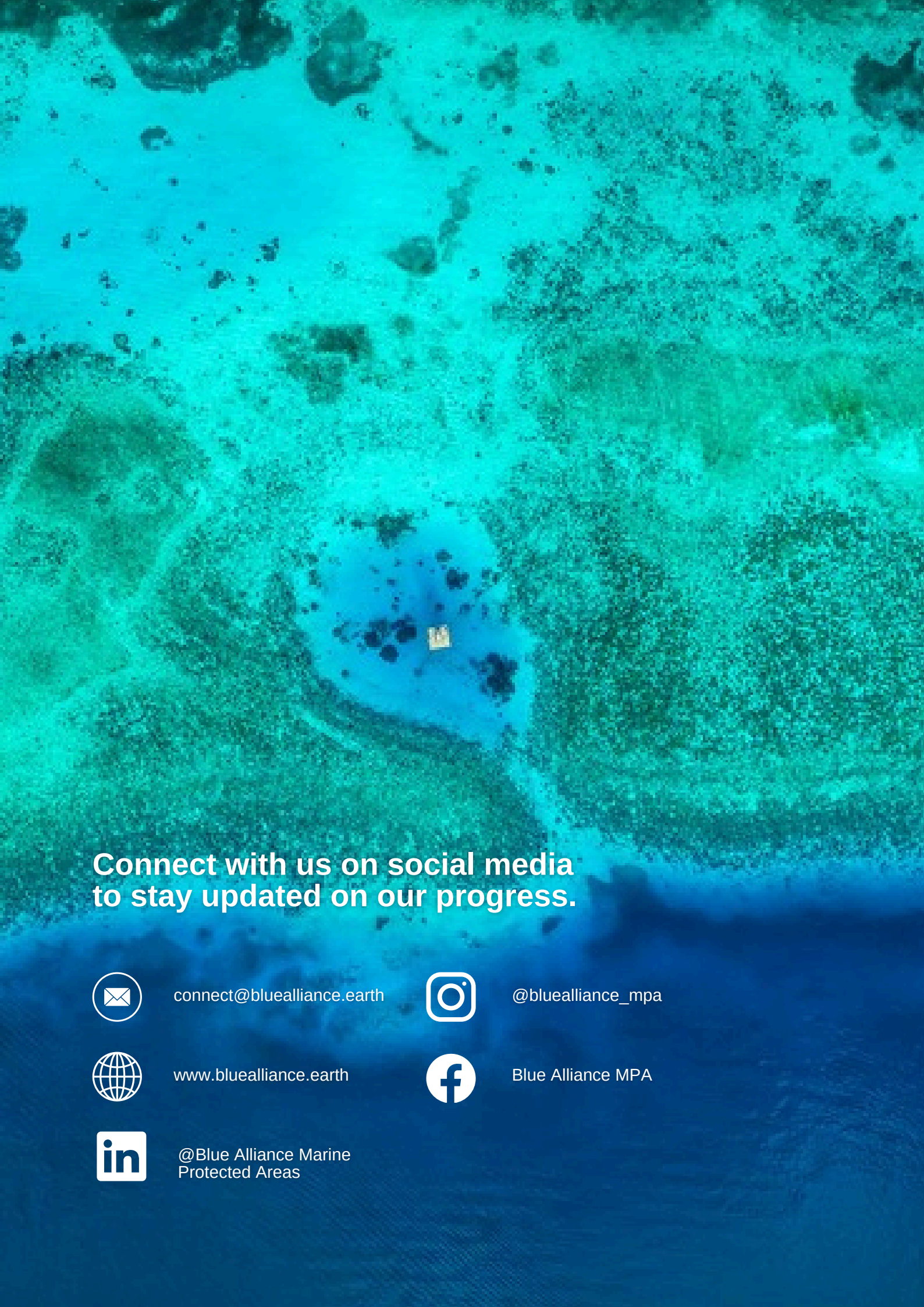
We strengthen the means of implementation and revitalise the **global partnership** for sustainable development.

GOVERNMENT PARTNER

Ministry of Blue Economy and Fisheries of the Revolutionary Government of Zanzibar

STRATEGIC FUNDING PARTNERS

BNP PARIBAS
UBS Optimus Foundation
UBS
GenEM FOUNDATION
Blue
GLOBAL FUND FOR CORAL REEFS
Bloomberg Philanthropies
OCEAN INITIATIVE
ARCADIA
BUILDERS VISION
Trafigura Foundation
Swiss Re Foundation
UKaid from the British people
PAUL M. ANGELL FAMILY FOUNDATION
WILSTAR
Milkywire
orraa
CONVERGENCE
BNCFF Blue Natural Capital Financing Facility
AXA Climate
Humanity Insured
catalytic climate finance facility
IUCN
Levine Family Foundation
IXM A CMOC Group Company



Connect with us on social media to stay updated on our progress.

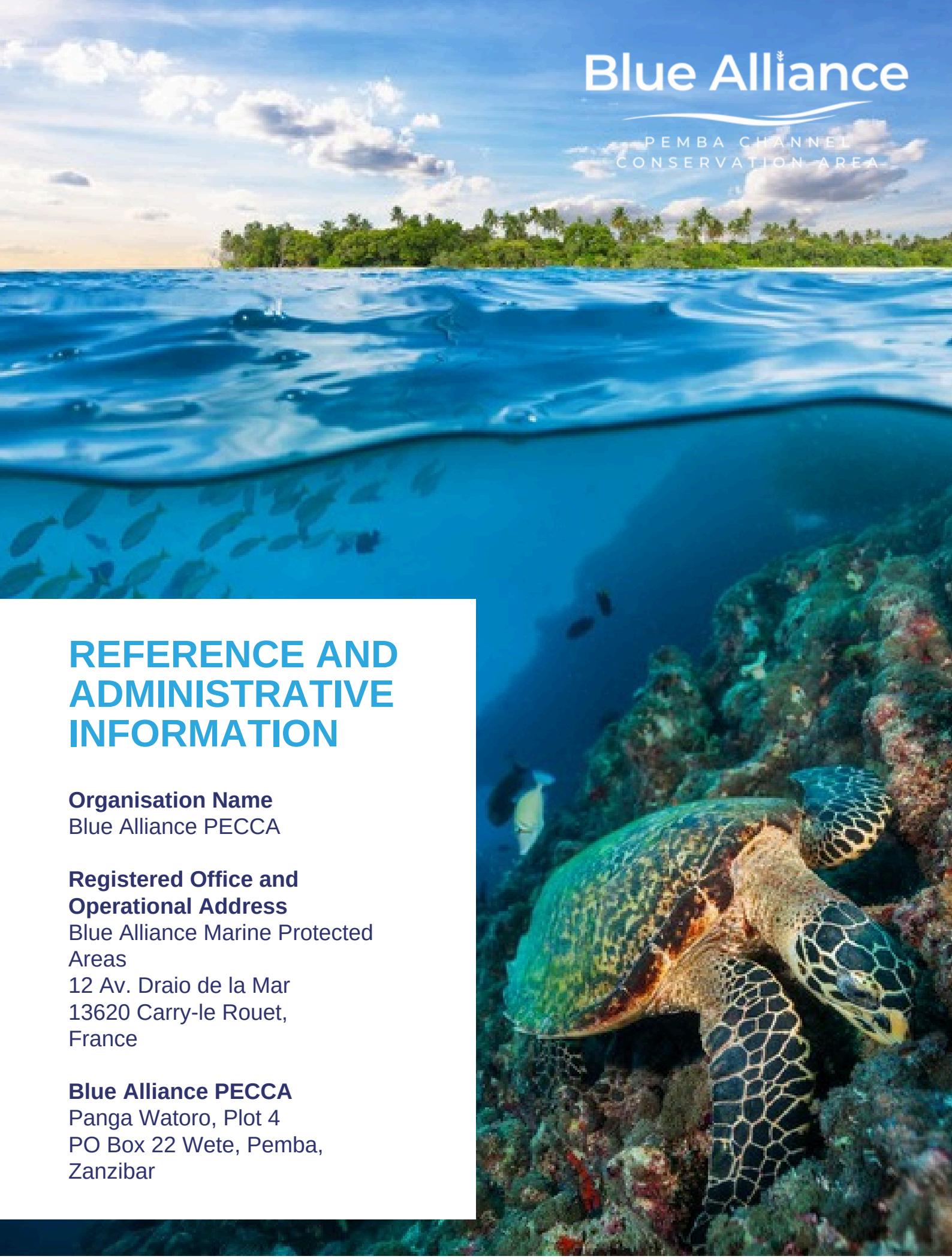
connect@bluealliance.earth

@bluealliance_mpa

www.bluealliance.earth

Blue Alliance MPA

@Blue Alliance Marine Protected Areas



REFERENCE AND ADMINISTRATIVE INFORMATION

Organisation Name
Blue Alliance PECCA

Registered Office and Operational Address
Blue Alliance Marine Protected Areas
12 Av. Draio de la Mar
13620 Carry-le Rouet,
France

Blue Alliance PECCA
Panga Watoro, Plot 4
PO Box 22 Wete, Pemba,
Zanzibar