



## **2023 ANNUAL ACTIVITY REPORT**

**Wildlife Conservation Society (WCS)**

**Address:** 163, Orlando Mendes St., Sommerschield, Maputo City



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# 1. SUB-PROGRAMS OF WCS PROGRAM - MOZAMBIQUE

## 1.1 Table of sub-programs by province/city

Item	Project Name	Province
01	Co-management of Niassa Special Reserve <sup>1</sup>	Niassa and Cabo Delgado
02	Marine Program	Maputo City, Maputo Province, Inhambane, Zambézia and Nampula

## 1.2 Geographical location of implementation

- Maputo City
- Niassa and Cabo Delgado: Niassa Special Reserve

# 2. PROJECTS DESCRIPTION

## 2.1 Overview

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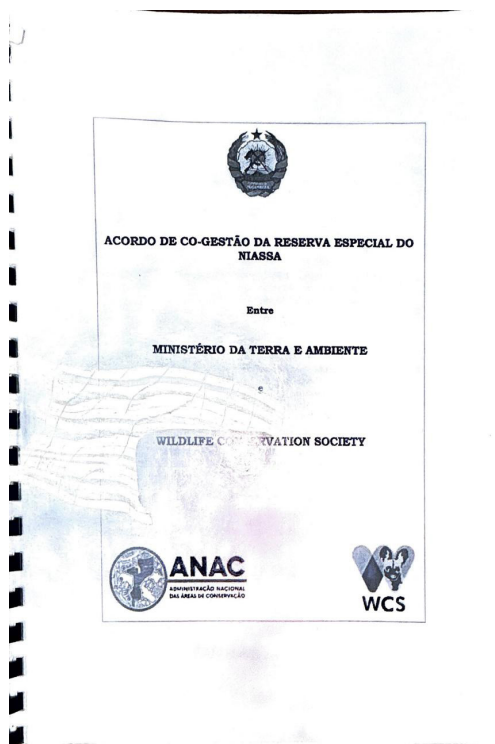
<sup>1</sup>It includes major funding: ECO-SMART: The Alliance for Ecosystem Conservation Systems.

- Improving the Radio Communications System;
- Improving and building support infrastructure;
- Flora and fauna monitoring activities; and
- Community development programs with a focus on income generation and mitigating human-wildlife conflict were developed.

In 2014, WCS Mozambique started to implement other programs, namely on Impact Mitigation and Biodiversity Offset and Marine Biodiversity Conservation.

In December 2020, WCS signed a 20-year Co-management Agreement with the Government of Mozambique, through the Ministry of Land and Environment, for the Niassa Special Reserve with the following goals:

- Strengthening the Management capacity of the Niassa Special Reserve (NSR);
- Financial support for NSR development;
- Reinforcing and building the technical capacity of the management team;
- NSR sustainability by promoting tourism;
- Strengthening Enforcement and Education operations;
- Promoting good practices for the sustainable use of resources by local communities; and
- Promoting Human Development.



The agreement foresees an initial investment of USD 8,000.000 for the first five years, and states that all revenues generated in NSR will be reinvested in the area in accordance with the law, and that WCS will have to raise additional funds for various development activities of the communities living within NSR.

In May 2021, WCS, in partnership with the Ministry of Land and Environment, launched the mapping of Mozambique's 29 Key Biodiversity Areas (KBAs), totaling approximately 139,947.00 km<sup>2</sup>, which includes 4 marine areas and 9 coastal areas covering an area of 5,600.00 km<sup>2</sup>. This KBAs clearly shows the need for a more careful assessment, which will certainly allow other key areas to be identified along the Exclusive Economic Zone as more information is generated.

In June 2021, WCS Mozambique signed a Memorandum of Understanding with the Ministry of the Sea, Inland Waters and Fisheries (MIMAIP) as a result of increased collaboration that has yielded significant results. From 2018 to 2020, WCS worked with the Mozambique Oceanographic Institute (InOM – former Fisheries Research Institute) to develop information to support decision-making. Together with other conservation partners, WCS supported MIMAIP in revising the Marine Fisheries Regulations and drafting the list of marine protected species, focusing on 14 species of sharks and rays. WCS and InOM developed a marine ecosystem map and scenarios to identify and define options for achieving national targets for expanding the National Network of Marine Protected Areas.

Working closely with the Government of Mozambique, WCS projects include wildlife conservation by addressing the threats posed by overexploitation of natural resources, advocacy at the national policy level, support for anti-poaching efforts, and support for protected area management. The main goals are as follows:

- a) Increasing protection and co-managing the Niassa Special Reserve, a vast landscape in the north of the country and the largest conservation area in Mozambique, and improving the conservation status of its elephants;
- b) Reinforcing the management of protected areas at nationwide and biodiversity in general by helping to improve policies to reinforce the development of an environment favorable to effective and efficient conservation;

- c) Strengthening ANAC’s management capacity; and
- d) Improving the adoption of the mitigation hierarchy in Mozambique.



Image 2: part of the infrastructure built at the Mabeco gate as part of the improvement and construction of support infrastructures

### 3. SUB-PROGRAM TO SUPPORT THE DEVELOPMENT OF THE NIASSA SPECIAL RESERVE

In Mozambique, protected areas are managed by the National Administration of Conservation Areas (ANAC), an entity under the supervision of the Minister of Land and Environment (MTA).

WCS is a co-manager of the Niassa Special Reserve (NSR or Reserve), in partnership with the National Administration of Conservation Areas (ANAC), through a Co-Management Agreement<sup>2</sup> signed with the Government of Mozambique, through the MTA.



Image 3: Luthando Dziba (Regional Director of WCS) and Ivete Maibaze (Minister of Land and Environment) met in Maputo to discuss the implementation of the co-management agreement of the Niassa Special Reserve

### 3.1 NSR Background

The Niassa Special Reserve (NSR), which covers 42,000 km<sup>2</sup>, housing 8 districts located in the provinces of Niassa and Cabo Delgado (Mecula, Mavago, Majune, Muembe, Marrupa, Sanga Mueda and Montepuez). The headquarters of NSR is Mbatamila, in Mecula District, being the district that geographically is entirely within the limits of NSR and the one is hometo the largest number of inhabitants, more that 60,000, according to data from the National Statistical Institute.

The Reserve supports the largest populations of lions, leopards, *mabecos* [wild dogs], Sables *palancas* [Hippotragus], kudus, gnus [wildebeest], zebras and elephants in the country, despite suffering some of the worst ivory poaching on the African Continent between 2012 and 2016. Over the past five years, WCS has significantly expanded its anti-poaching and monitoring efforts, and since May 2018, elephant poaching for ivory in Niassa has significantly decreased among communities who in turn develop strategies with the support of 20% of dividend income.



Picture 4: Sable Antelope photographed in the Niassa Special Reserve (photo: Natalie Ingle)

This year, NSR has continued to restructure itself by continuing the process of hiring senior staff to fill key positions such as Field Operations Manager, Monitoring, Learning and Evaluation Coordinators, Tourism Officer, Community Engagement Coordinator, Camps Manager, Stock Management Coordinators. These persons, since August 2023, are already working in their positions. The following staff was engaged in late November: Sub-Grants

Manager, Program Manager, Conservation Manager and Section Manager, the latter three will be based in Niassa-Mbatamila in early 2024.

The reporting year also witnessed the start of the Baseline Study, which was conducted by the Department of Community Conservation (CoCo) and recorded illegal activities such as illegal mining, illegal logging, illegal fishing and poaching whereby the offenders were duly referred to competent bodies and authorities. As a way of improving the activities in this Co-Management, General Management Plan (GMP) was developed and submitted to the Ministry of Land and Environment for approvals.

In order to control, discipline and guide the activities of protection, conservation and management of natural resources, a number of activities were carried out in the reporting period, including training of rangers in human rights issues and other applicable laws, long and short patrols, access control, among others, by NSR joint enforcement force (consisting of State rangers, FDS officers—UIR battalion, which is directly deployed to support NSR enforcement force, and rangers of Private Operators).

### 3.2 Forest and wildlife surveillance

This year's Enforcement activities began in January, although they were of low intensity due to the rain. During this period, a total of 1,467 patrols were carried out, covering 113,939 km and 67 ambushes.

These efforts resulted in the removal of 2,927 traps of various types, the confiscation of vehicles, 2 tractors, 8 motorcycles, 19 bicycles and various items used for illegal mining, in particular 6 metal detectors. A total of 63 suspects were arrested for committing the above crimes, of which 53 were Mozambican nationals and 10 were Tanzanian nationals.

The NSR continued to monitor the processing of suspicious cases for subsequent steps with the organs of administration of justice. A total of 33 Crime Notices were issued. The most notable were 18 cases of illegal mining, 2 cases of logging, one of which was a case against unknown person (as per defined by the Conservation

<sup>2</sup> Co-Management Agreement attached herein.

Law), 11 cases of poaching and 1 case of illegal fishing with two defendants. NSR's Legal Sector also assisted in the trial of 29 cases involving 48 defendants on charges of poaching, illegal mining and illegal fishing. These trials resulted in 47 of the defendants being sentenced to between 1 and 16 years in prison, all with fines, with the exception of 01 case in which the defendant was

acquitted due to insufficient evidence. In order to ensure that the cases filed with the organs of administration of justice are received and the perpetrators are tried and sentenced within the limits of the law and justice, training on Human Rights issues was provided during the reporting period, attended by 60 rangers, 44 from NSR and 16 from 4 concessionaires (tour operators).



Image 5: Groups of rangers trained in Human Rights issues

### 3.3 Biodiversity monitoring

Biodiversity monitoring has continued to be an essential activity at NSR and has focused on all species of flora and fauna, with a greater emphasis on monitoring collared animals, namely elephants and lions. It should be noted that NSR has been using EarthRanger (EarthRanger is a real-time monitoring system for various elements based on remotely installed devices and complemented by the use of devices such as Garmin Inreach, Delorme and Cedar). It is a new technology for biodiversity monitoring that reflects in real time the status of activities of the collared animals, the movement of rangers during patrols, burning, thinning or felling of the forest and it includes the monitoring of the use of vehicles.

During this period, 12 collars were replaced and placed on elephants. Lion tracking data continues to be collected by the Niassa Carnivores Project in close partnership with NSR management. The elephant collars allow for real-time animal monitoring by integrating radio signals from the collars into EarthRanger system.

Earth Ranger stores all historical data on an online server, thus allowing management decisions to be made based on historical trends for both Human-Wildlife Conflict management and Enforcement. No damage to the elephant collars was reported during this period.



The movement of collared elephants was concentrated in regions with abundant water resources, especially the Rovuma and Lugenda rivers. It should be noted that in areas where elephants are seen, a lot of patrolling is needed to prevent poachers from getting close to the elephants. During the period under review, nearly 80 elephants were monitored with radio collars.

### 3.4 Community conservation management

The insurgent attacks that Mecula District faced in late 2021 had a significant impact on the communities' ability to remain in the villages, with the majority still afraid to use the corridors where they previously lived. In 2023, regular monitoring meetings were held with the Mecula District Government to discuss the return of communities who fled to safe areas after the insurgent attacks.

#### Natural Resources Management Committees and Community Fisheries Councils

During the reporting period, as a way of developing appropriate Community-Based Natural Resource Management (CBNRM) strategies, and in collaboration with Mariri and Luwire operators, NSR draft specific regulations were disseminated to the local communities, thus resulting in greater awareness and understanding on their part.

The 69 families engaged in agricultural activities along the Lugenda River in front of the Lucinge camp were sensitized by the Mariri Operator, resulting in the voluntary departure of 15 families who were relocated to other safer areas, and work is ongoing to sensitize the remaining families. During the reporting period, meetings were also held to strengthen, legalize and revitalize the Community Fisheries Councils (CFCs) in the communities of Mussoma and Mbamba, as part of the mapping and legalization of the Community Fisheries Councils.

A diagnosis was carried out on 10 of the 11 existing Natural Resource Management Committees (CGRNs) and 2 of the 2 existing Community Fisheries Councils (CFCs). The aim was to analyze the level of operation and the current model of benefit sharing and its challenges, as well as to identify the institutional strengthening needs of these community-based organizations.

Also noteworthy during this period was the meeting to publicize NSR specific internal regulations, aimed to inform communities about the zoning process that will

One of the most important components of the environmental monitoring process is communication. During the reporting period, specifically in August, the communication system was repaired with the technical assistance of a company hired for that purpose.

take place within NSR in 2024 as regards land use and territorial planning to establish legitimacy for tourism operators and resident communities (rights and property) in the Mbamba community, in partnership with Lugenda Wildlife Reserve (LUWIRE) and Niassa Carnivores Project.

On the other hand, tourism revenues were transferred to the communities by channeling 20% of the revenues for 2021 and 2022 to 6 CGRNs (Niassa) and 1 CGRN in Cabo Delgado:

- Mungano;
- Chama Cha Maendeleo-Matondovela;
- COGEMU-Mussoma;
- CGERNA-Naulala;
- Msawize;
- Main-Mavago);
- Xixano (in Cabo Delgado province).

The total amount was 3,700,558.92 MT (three million seven hundred thousand five hundred and fifty-eight meticais and ninety-two cents), of which 20% is still to be collected from 3 CGRNs (Nahavara, Ninga and Main-Negomano) in Cabo Delgado.



Image 6: Ceremony to hand over the 20% to Mecula CGRNs

The delivery of the community quota for the community of Mussoma was witnessed, as well as the delivery of the community quota for the committees of Mungano (60%), Matondovela (60%), Naulala (50%), Subcommittee—Utendele ni Mazengo Mbamba (100%), Mussoma (100%), Musawize (100%), Main-Mavago (100%), Nahavara 60%, Main-Negomano (60%), Xixano (50%). No delivery was made in Ninga due to the delay in requesting authorization to carry it out.

### Promoting Green Economy

A total of 58 smallholder farmers received training in basic Conservation Agriculture techniques, including Fire Management and Mulching (18 women). The

following activities were carried out during the reporting period:

#### a) Socio-Economic Survey of the Mecula-Marrupa Corridor

- 1 Basic Needs Survey (BNS) was conducted in 09 communities in the Marrupa-Mecula corridor (Main-Mecula, Lichengue, Nampequesso, Ntimbo 1, Alassima, Lisongole, Cuchiranga, Mucoria and Guebuza), which will serve as a baseline for analyzing the impact of NSR interventions in these communities; and
- 1 survey was conducted using the Natural Resource Governance Tool (NRGT) in Mecula District Main-village to assess the level of operation of natural resource management committees.



Image 7: survey of the basic needs of local communities in the Mecula-Marrupa corridor

#### b) Mapping of Agricultural Areas

- Agricultural land mapping was carried out in 06 communities, namely Main-Mecula (all neighborhoods), Macalange, Lichengue, Nampequesso, Ntimbo 1 and Ntimbo.

#### c) Financing Income Generation Initiatives

- A manual for the Design, Financing and Implementation of Income-Generating Initiatives has been developed, which will serve as a guide for all operations related to supporting the development of small businesses by local entrepreneurs;

- A total of 94 individual business ideas were also collected as part of income projects;
- 3 proposals for income-generating initiatives (small businesses) singled out from the 7 submitted by associations under the jurisdiction of the Mungano CGRN;
- 1 business plan (grocery store) was designed for a Main-Mecula association;
- The process of licensing 2 agricultural producers and enrolling them with simplified tax system was completed. It is hoped that these producers will now be able to supply vegetables and other agricultural products to NSR and other institutions that require proof (receipts and sales slips) of their expenses;
- The consultation process has begun to select the sites (proposed by two Main-Mecula associations) where two income-generating initiatives (buying and selling goats) will be implemented; and
- The process of identification and selection of individual small business ideas to be developed by members of Main-Mecula communities has been initiated.

**d) Promoting Food and Nutritional Security**

- Purchase and distribution of agricultural tools and inputs to 130 small producers in 8 communities: Macalange, Guebuza, Alássima, Ntimbo II, Lichengue, Cuchiranga-Ntalicaxão and the community of Main-Mecula;



Image 8: beneficiaries of agricultural instruments and inputs

- 3 producer groups trained in seed processing and conservation in Main-Mecula, Macalange and Lichengue communities; and
  - Distribution of goats to promote the breeding, reproduction and sales of goats and to develop a value chain.
- e) Celebrating biodiversity conservation dates**
- Two dates were commemorated: World Wildlife Day (March 3) and World Environment Day (June 5), with roughly 480 participants, 70% of whom were women;
  - 500 books on various environmental topics were

distributed to 11 schools and 10 books on “The Musicians of Mpamanda” distributed to schools in Main-Mecula and Naulala (Primary School of Ntimbo 2, Guebuza, Macalange, 16 June, Alassima, 5º Congresso, Naulala 1, Nalama, Revuca and Junta);

- 1 meeting with the President of the Mungano Committee, 1 meeting with community leaders from the neighborhoods of Guebuza, 5º Congresso and Junta were held, in order to get the views of the parties on the engagement program and to identify community groups that could be partners in environmental education;
- World Mabeco Day was celebrated with the participation of 22 students and 11 teachers from Main-Mecula Secondary School; and
- The 69<sup>th</sup> anniversary of Niassa Special Reserve was celebrated on October 9<sup>th</sup>.

#### **f) Setting up/revitalizing environmental clubs**

- An Environmental Club of friends of the environment from the António José Macamo General Secondary School of Main-Mavago was revived, made up of 14 individuals (6 women and 8 men).

#### **g) Community awareness program on rabies, its risks and the advantages of inoculating domestic dogs**

- Awareness-raising sessions were held in NSR’s main settlements, with a focus on the districts of Mavago and Mecula, and involved Mavago Environmental Clubs, Niassa Carnivore Project, and NSR’s wildlife guards.

### **Social and Gender Safeguards**

During this period, it was possible to hold a meeting with the community and the conservation team of the Chuilexi, Mariri and Luwire operators to raise awareness on the NSR’s Dialogue and Complaints Mechanism.

The aim was also to continue working on the Dialogue and Complaints Mechanism system (in coordination with Public Prosecutor’s Office) to provide focal points and a toll-free telephone number so that communities can present and resolve their concerns and suggestions regarding activities and sub-projects implemented by NSR. Wood was used to make complaints boxes, which were distributed to 08 communities (test communities/

pilot communities) along the Mecula-Mussoma corridor, namely Main-Mecula; Lichengue; Ntimbo 2; Cuchiranga; Manhur; Macalange; Matodovela and Mucoria.

#### **a) Development of Dialogue and Complaints Mechanism (MDR, in Portuguese acronym)**

- 2 Consultations were held with communities in the Mecula-Mussoma corridor (involving 404 people, 72 of whom were women) and the communities of Macalange, Naulala 2 and Matondovela, involving 142 people, 34 of whom were women;
- 1 protocol was drawn up for NSR’s Dialogue and Complaints Mechanism (Issue 1);
- 12 MDR focal points identified and trained in 8 pilot communities, 50% of whom are women;
- Distribution of Complaints Boxes to 26 points after the test period (piloting) and the system continues to operate in anticipation of improvements with greater dissemination along the Mecula Mucoria corridor;
- By Internal Resolution No. 62/CA/INCM/2023, NSR was awarded a Green Line (800 900 111) for MDR by the National Communications Institute of Mozambique, valid for 5 renewable years as from 2023; and
- MDR form was integrated into KoboToolBox and Asana platforms.

#### **b) Development of the Practical Guide to Free, Prior and Informed Consent (FPIC)**

- 11 consultations were held with communities in the Mecula-Mussoma and Matondovela corridors, involving 325 people, 78 of whom were women;
- Drafting of a practical guide on NSR’s FPIC is being finalized.

#### **c) Gender Inclusion in NSR Activities**

- 2 community consultations on Gender Analysis were held along the Mecula-Mucoria corridor, Naulala and Matondovela, involving 516 people, 307 of whom were women;
- 1 Rapid Report on NSR’s Gender Analysis and respective action plan (draft) were prepared;
- 1 Report on the Analysis of NSR’s Code of Conduct was prepared, focusing on aspects of Gender-Based Violence (GBV), still in a draft form; and
- A specific Code of Conduct for the Prevention of Gender-Based Violence (GBV) has been drawn up at NSR, along with statement of responsibilities.

### 3.5 Managing Human-Wildlife Conflict (HWC)

#### a) Mavago HWC Mitigation Unit (SDAE, CGRN, PRM, NSR and Wildlife Guardian):

- Logistical support was provided to the Mavago unit (delivery of scaring material — flares and flashlights), and the Milepa guardian has been responsible for scaring away animals;
- A team of rangers was assigned to Milepa to chase away elephants; and
- The movement of carnivores (hyenas, leopards and lions) was monitored at Main-Mavago and Msawise.

#### b) Marrupa HWC Mitigation Unit (SDAE, PRM and NSR)

Logistical support was supplied to the Marrupa unit (delivery of material to scare away wild animals — elephants) to protect agricultural fields.

#### c) Mecula HWC Mitigation Unit (SDAE, CGRN, NSR and PRM)

- 2 permanent posts were set up for scaring, namely in Macalange (NSR, PRM) and Main-Mecula (NSR);
- Mobile posts were set up for the communities of Junta (NSR and PRM), Lichengue (SDAE and NSR) and Ntimbo I and II (NSR and PRM);
- Logistical support (delivery of 96 flares) was provided

to Block L7 (Luwire); and

- A chasing team was deployed to respond to human-elephant conflict cases in the community of Xixano in Cabo Delegado, in the district of Montepuez (Block L8).

#### d) Electric fencing and crop protection program

- Four mobile electric fences were successfully installed in four communities (Main-Mecula, Nampequesso, Lichengue 2 and Cuchiranga - Ntalicachau); and
- The procedure of purchasing material for mobile electric fences to protect agricultural areas in the communities with the highest levels of conflict began.

#### e) Domestic dog control program in NSR human settlements

With the support of the Wildlife Guardians (MOMS/SMOG), the dog population in human settlements was registered. This activity is being carried out with local government partners through the District Services for Economic Activities of Mavago and Mecula, NSR Operators (Luwire Conservancy and Niassa Carnivore Project of Mariri Investments).



Image 9: canine vaccination campaign in the Niassa Special Reserve

A total of 1,309 dogs were registered in the districts of Mavago and Mecula with the aim of promoting vaccination against rabies and distemper and sterilization of males in order to stabilize the dog population. The main aim of this activity was to keep the dog population at a level where its presence would not pose a threat to the human population or to the wildlife population in NSR (e.g. felines and *mabecos*).

#### f) Designing HWC Mitigation Strategy

The terms of reference for hiring an independent consultant to draw up HWC Mitigation Strategy were successfully drafted.

#### g) Forensics on seized material

- Invited by the Lichinga City Prosecutor's Office, NSR conducted an expert examination of material seized by the Police in Lichinga. There were a total of six pieces that were suspected to be elephant ivory

tips. The expert examination concluded that these were fake tusks, i.e. elephant bones prepared to look like elephant ivory tusks; and

- A partial expert examination was also carried out on material seized with Niassa Provincial Prosecutor's Office. The work carried out revealed that these were ivory trophies belonging to an African elephant (African *Loxodonta*), approximately 22 years old, which was probably slaughtered in the Chipanje Chetu region.

### 3.6 Business management and tourism

The following is the description of the main activities of the Tourism Department in 2023, grouped according to the planned actions/goals set in the 2023 Annual Activity Plan:

#### Improving concessionaires' performance and accountability

During the first half of the year, the 2022 individual reports of NSR's tourism concessionaires were reviewed, thus leading to the preparation of a consolidated report (CR) on the activities of all tourism concessions. A concessionaire performance evaluation form, which is an integral part of the CR, was also tested and improved, thus allowing NSR Management to evaluate

concessionaires in terms of their contribution to biodiversity conservation, tourism management, local community development efforts, and compliance with contract terms. The evaluation sheets and the CR were shared with the concessionaires to improve their performance, enhance the quality of their reports, and contribute to greater transparency and cooperation among concessionaires in the management of NSR.

The CR and performance assessment were also presented at the annual meeting of NSR concessionaires and/or tour operators held in May. The main points for discussion at this meeting were the balance of the 2022 tourist season, restrictions in the game hunting license procedure, and the kill quotas allocated to NSR for 2023.



Image 10: NSR's management and operators gathered at the operators meeting 2023

## Improving the management of concession contracts

The concessionaires' database will be reviewed and updated during 2023 to include all relevant information on the concession area and the operating contract to facilitate the monitoring of compliance with the terms of contract.

In May, public tenders were launched for the operation of NSR's R1 and L9 blocks. Potential candidates for the blocks were identified, pending for contracts signing by ANAC or Ministry of Land & Environment.

Trophy inspections were carried out in all game hunting blocks between the end of November and the beginning of December, to verify compliance with national and international game hunting regulations (e.g. sex and age of the animal), proper licensing

(existence of hunting licenses and felling vouchers), and the general inspection of the condition of tourist camps and infrastructures. There were a few trophies found without felling vouchers in areas where tour operators claimed they had already applied for and paid ANAC and there had been a delay in issuing the relevant vouchers. In general, all trophies were of good quality and met international standards.

## Improving NSR visibility and promotion

NSR attended country fairs to promote tourism and community development programs, namely:

- Maputo International Fair (FACIM) held from August 28<sup>th</sup> to September 3<sup>rd</sup>. It is estimated that +200 people visited NSR stand.
- International Tourism Fair (FIKANI) held from November 30<sup>th</sup> to December 3<sup>th</sup>, with poor attendance compared to FACIM (~ 100 visitors).



Image 11: The Prime Minister of Mozambique, Adriano Maleiane, gets briefed by the NSR Warden Terêncio Tamele on NSR Exhibition held at FIKANI.

NSR's murals in Lichinga were refurbished with paintings of symbolic objects/images of the reserve, such as emblem located at the airport and on the outskirts of town.

With this in mind, a tender was also launched to select companies to produce NSR's website and

merchandising products. The procedure is in the final stages of shortlisting bidders.

Throughout the year, NSR constantly updates, manages, prepares and publishes content on its social networks (FACEBOOK and Instagram).

## Increase in NSR's tourism income

As part of the process of reviewing fees for the access to and use of natural resources in protected areas, NSR shared its proposal for entry tariffs and activity fees with ANAC. At the same time, NSR developed a proposal for a management model for game hunting licensing, aimed to ensure the inclusion of the Reserve in the licensing procedures for its concessionaires with ANAC and the sharing of revenues between NSR and ANAC. The proposal is still under internal analysis for later submission to the competent authority.

Alternative routes for tourist safaris have been established at NSR headquarters—Mbatamila, +40 km of road along which there are many mountain climbing points that offer pleasant views. One mountain in particular contains a cave with cave paintings. The routes and climbing points have already been signposted and it is hoped that the activity of opening routes will continue in 2024.

## 3.7 Infrastructure and construction management

Throughout the evaluation period, activities were carried out in relation to infrastructure maintenance and construction of new buildings at NSR. Technical and monitoring visits were also carried out to sites under construction and in use, both inside and outside Mbatamila, as well as document review of the files of the consultants and contractors proposed for Mabeco gate and the CoCo infrastructure presented for sites to be built. Highlights are as follow:

- **Fleet management centers:** completed and handed over to the camp Management;
- **Community Development Center** (Site for the development of CoCo activities on an area of 8.3 hectares): tender procedure completed and contract signed. Process already approved by Administrative Court. Request for the provision of a guarantee from the selected company. Construction is scheduled to begin in the first quarter of 2024;
- **6 SPA's** (Houses for Staff): Projects for houses for the staff who will be in the Maputo camp was finalized. The number of completed needs has been surveyed, and the construction process has begun for at least 5

## Other activities

- NSR's participation in the African Wildlife Consultative Forum (AWCF) conference in Namibia, represented therein by the Tourism Manager;
- Participation in the seminar to review the tariffs to be charged for access to and use of resources in conservation areas;
- Update and production of the main information boards for NSR's entrances and checkpoints (Mabeco, Kiboco, Mbatamila, Msawize, Catembe and Xixano);
- NSR's contact number has been created (+258 87 97 40 000), with WhatsApp operational for communication and assistance to visitors or partners. NSR commercial email requested. Also to this request was added the setting up of an email with information; and
- Providing general assistance to dealers in the issuance of transit notes and other technical documents.

SPA's depending on financial capacity;

- **Monitoring and research block** (Location for conservation activities): 100% complete. The room is waiting to be fitted out with equipment;
- **Catembe Section Camp** (checkpoint): project 100% complete. Electrical work and internet needed to complete and operate the camp;
- **Mabeco Gate** (inspection post): bidding procedure completed and contract entered into. Process already approved by the Administrative Court. Request for a guarantee from the selected company. Construction will begin in the first quarter of 2024;
- **Catembe Gate** (checkpoint): construction completed and the next step is to install water and power. Funds are needed to install water system;
- **Milepa Entrance Gate** (checkpoint): completed and under a warranty period;
- **About 25 km from Mecula** (area to reduce Human-Wildlife Conflict and improve agriculture): awaiting



the construction kickoff, which is scheduled for early 2024;

- **Irangué Section Camp** (inspection post): the budget and allocation of materials in progress;
- The opening of new fenced landfills was completed, thus preventing wildlife from accessing landfills;

### 3.8 Fleet management and maintenance

Since the beginning of the reporting period, various activities were carried out, from the maintenance of vehicles and subsequent allocation thereof to different departments and sectors for scheduled activities. On the other hand, NSR is restructuring its staff, including drivers and maintenance mechanics, to increase its capacity to respond to the increasing demands of the organic units. Highlights include:

- 228 trips were planned during 2023, including trips for activities to different locations and trips to support logistical, technical and administrative activities;

### 3.9 Camps management

To ensure effective logistics and camp management, an assessment of existing staff and facilities was conducted. We also ensured the supply of food to the camps/warehouses, carried out stock checks and uniforms for camp staff were ordered, which are awaiting delivery.

Throughout 2023, food suppliers were visited to understand food storage and preservation process. Daily checks on the operation and skill development for kitchen, waiters and cleaning staff continued.

A new task management system has been adopted and a proposed rotation is being finalized to reduce working hours. A manual inventory system was also developed for items, food, equipment and other items in the existing camps.

Local contracts for the supply of vegetables and food supplies were implemented with a focus on improving community development and providing for the green economy. NSR has also been involved in:

- Road repairs in Mbatamila-12 and Lichengue were completed;

- Mbatamila firebreak was completed, 40 km away.

- Various spare parts were purchased for the vehicles and equipment, such as lawnmower blades; and
- One of the three new vehicles, a Toyota Land Cruiser, purchased with compensation from the insurer of a damaged vehicle, is already in Mbatamila;
- In 2023, around 58,650 liters of diesel were purchased, in addition to the 10,421 liters carried over from 2022; and
- A total of 11,866 liters of petrol were also purchased, in addition to 1,456 liters carried over from 2022.

- Training for hotel waiters and maids;
- Training cooks in mise-en-place techniques and food control;
- Daily checks on the operation and skills development of the cooks, waiters and cleaning staff;
- Recruitment and induction of 14 new employees, 10 cooks and 4 people for the support team;
- The relocation of the CoCo team in Mecula District was completed; and
- The main public and staff areas were signposted to improve user instructions, such as toilets and canteens.

## 4. MARINE SUB-PROGRAM

The implementation of the marine component is governed by the Memorandum of Understanding entered into with the Ministry of the Sea, Inland Waters and Fisheries (MIMAIP), and Memorandum of Understanding (MoU) with the Ministry of Land and Environment (MTA) through which the COMBO program has been implemented in the country. The rationale behind this program was to promote a best practice approach to reconcile economic development with the conservation of biodiversity and ecosystem services, including a very wide range of activities grouped under the following themes::

- COMBO + program

- Priority Areas for Biodiversity Conservation
- Shark and ray conservation;
- Coral reef conservation;
- Support for the management of sustainable artisanal fisheries in Mozambique;
- Support for the expansion of Marine Conservation Areas (MCAs) in Mozambique; and
- Blue Future for Ecosystems and People on the East African Coast — Blue Future.

### 4.1 COMBO+ project: conservation, impact mitigation and biodiversity offsets

The first phase ran from 2016-2020 and resulted in the introduction or improvement of measures, legislation, policies, technical tools, capacity building and institutional restructuring to properly implement the mitigation hierarchy, including biodiversity offsets, in the four African countries covered by the project.

As a result of the first phase, WCS successfully negotiated with AFD and FFEM, who in turn decided to fund a second phase, now called the COMBO+ program, which began in July 2021 and will be running until 2025.

In Mozambique, the COMBO+ program is implemented through a partnership between WCS, the Biodiversity Conservation Foundation (BIOFUND) and the National Directorate of the Environment (DINAB) of the Ministry of Land and Environment (MTA). Its main goal is to ensure the correct application of the mitigation hierarchy in the country and the operationalization of the new Ministerial Decree on Biodiversity Offsets (Ministerial Decree 55/2022 dated May 19), which includes the development of additional tools, the strengthening of institutional capacity and the implementation of pilot-projects, while contributing to the achievement of the country's conservation and climate goals.

#### Activities developed in 2023:

- A training course to strengthen the capacity of

members of relevant civil society platforms on mitigating the impacts of development projects on biodiversity in Mozambique was held in Maputo City on 27-28 February, attended by 45 participants from different civil society platforms, such as PIE, FOSCAMC, FOFABRAVIA, FNF, AJOCOM, among others;

- Support provided for the organization of public debate on “Climate Change and the Water Cycle: Flowing Rivers—the Backbone of Conservation Areas,” sponsored by the University Foundation for the Development of Education (FUNDE) and partners in Maputo City on April 27, 2023, with more than 60 participants (in person and virtually) representing various institutions from academics to government and civil society;
- In partnership with the company Portucel Mozambique, a visit was organized to share experiences with government agencies, academics, research institutions and civil society, with the main objective of demonstrating on the ground the implementation of the best practices of the Mitigation Hierarchy, following the procedures described in Ministerial Decree no. 55/2022. The experience-sharing mission lasted five days (from May 2 to 6) and took place in Portucel Mozambique's operating areas in Zambézia Province, with a total of 45 participants. It included the making and publication of a video summarizing the mission;



Image 12: Visit to exchange experiences with Portucel Mozambique, May 2<sup>nd</sup> to 6<sup>th</sup>

- On June 29 and 30, a training course on Monitoring and Post-Evaluation Plans under Environmental Management and Biodiversity Offset Management Plans (PGCB) was held in Maputo City for technicians from the Biodiversity Offset Evaluation and Monitoring Unit (RAACB) and the Technical Commission (CTA) for Environmental Impact Assessment. The training was given by Dr. Rita Fernandes from the Portuguese Environment Agency (APA) and was attended by 28 participants;
- From July 2 to 9 2023, a multi-sectoral field visit was carried out by technicians from BIOFUND, WCS, PNC, FNDS/MozBio 2, IIAM and EDEN Reforestation in Chimanimani National Park (PNC) to validate viable or priority areas for restoration, including setting the types of interventions and implementation mechanisms for restoration activities.
- Participation in the 31st International Congress of Conservation Biology (ICCB 2023), held in Kigali, Rwanda, from 23 to 27 July 2023, where Mozambique's experience in integrating biodiversity into spatial planning and decision-making processes in the country was shared, with emphasis on recent efforts to reconcile economic development and biodiversity conservation through best practices in the application of the mitigation hierarchy;
- On September 12, 2023, a technical seminar was held in Maputo City, partnered with Fauna & Flora (FF), with the aim of selecting the priority components of coastal and marine biodiversity of the Northern Mozambique Channel, in order to develop adapted technical guidelines with best practices for their protection against activities related to oil and gas sector initiatives. The seminar was attended by 41 technicians from different sectors, including government, academics, local NGOs and the private sector;
- The first meeting to establish the Technical-Scientific Unit to Support Biodiversity Offsets was held in Maputo City on October 5, with 19 participants from various sectors. The objective of the Technical-

Scientific Unit is to support the Environmental Impact Assessment Authority in making strategic and integrated decisions regarding the design, approval, implementation, evaluation and monitoring of Biodiversity Offset Management Plans;

- From 7 to 11 November, the mid-term evaluation meeting of the COMBO+ program was held in Macaneta (Marracuane district) and concluded with a field visit to Maputo National Park (Matutuine district). The event was attended by about 60

participants representing the program’s technical teams, host governments, donors, conservation trust funds, and other relevant partners in the program’s implementation. The main objective of the meeting was to take stock of the progress made till then, share experiences and knowledge on the implementation of the program, including the lessons learned by each of the member countries, by identifying problems, discussing solutions and planning the necessary activities until the end of the program;



Image 13: Participants at the Mid-Term Evaluation of the COMBO+ program from November 7 to 11, 2023

- Development, review and validation of the first edition of the Manual for the Implementation of the Directive on Biodiversity Offsets in Mozambique: Ministerial Decree No. 55/2022 dated May 19, showing details through diagrams, illustrative images and, where possible, concrete examples;
- Preparation of a summary diagnosis with the main updates over the last 4 years (2019-2023) in terms of policies, international commitments, platforms and internal capacities that are relevant or critical to making development projects compatible with environmental issues, particularly biodiversity.
- 3 pre-professional internships were conducted as part of the Mozambique Conservation Leadership Program (PLCM) and integrated into DINAB to provide ongoing support to the RAACB on issues related to the mitigation hierarchy, and into Maputo National Park (PNAM) to provide ongoing support to the Habitat Improvement Pilot-Project;
- In partnership with the BIOFIN project, an online module was developed to allow the registration of Biodiversity Offset Management Plans (BAMPs) in Mozambique from the Environmental Licensing Management System (SGLA); and
- In partnership with Impacto Ltd., a study was conducted to assess the potential of coastal and Marine

Protected Areas (CAs) and key biodiversity areas (KBAs) as recipients of biodiversity offset projects in Mozambique, in accordance with the criteria established in Ministerial Decree No. 55/2022 of

May 19, allowing for the effective application of the Mitigation Hierarchy, including Biodiversity Offsets, in the country

## 4.2 Priority areas for biodiversity conservation

In partnership with the Ministry of Land and Environment (MTA), through the National Directorate for the Environment (DINAB), WCS implemented the Priority Areas for Biodiversity Conservation mapping project since 2019. This project is funded by USAID through USAID/SPEED. This initiative enables the assessment of threatened species according to the International Union for Conservation of Nature (IUCN) Red List and the mapping of Key Biodiversity Areas (KBAs) in Mozambique.

The project was one of the first global initiatives to conduct a comprehensive national assessment of KBAs, by applying the IUCN Global Standard (2016) to a full range of biological groups and elements (insects, freshwater fish, amphibians, reptiles, birds, mammals, plants, ecosystems and marine biodiversity).

The identification of KBAs and the assessment of the Red List of Threatened Species were done on the basis of internationally accepted scientific criteria with the aim of: i) supporting conservation planning and priority setting, ii) strategically expanding the network of protected areas, iii) informing environmental safeguarding policies for the private sector, iv) providing opportunities for local communities, and v) being indicators of targets 11 and 12 of the Convention on Biological Diversity Convention (CBD) and Sustainable Development Goals (SDGs) 14 and 15.

### Activities developed in 2023:

WCS conducted fieldwork in three priority areas (Memba-Nacala-Mossuril, Pemba Bay and Maputo North) to collect primary biodiversity data to support the identification of new coastal KBAs:

- In Memba and Mossuril, expeditions were conducted between March and April 2023, which led to the collection of terrestrial and aquatic biodiversity data, by pinpointing species composition, including those potentially new to science, and species with the potential to trigger a KBA. In particular, such

expeditions included the first ecological survey of an anchialine system in the coastal strip of the Mossuril district. Anchialine systems had never been discovered and studied in the country and are a series of underground holes and caves, some of which are connected to each other and to the sea by underground networks. These systems are characterized by brackish water and often contain highly specialized and unique fauna and flora due to their isolation, which means a high potential for the discovery of rare or new species for science and therefore a high ecological value for conservation.

- In Pemba Bay, the work was carried out between January and March 2023, in collaboration with the Faculty of Natural Sciences (FCN) of the University of Lúrio (UniLúrio), with the aim of obtaining quantitative data on six flora species with the potential to trigger KBAs, previously identified in the first phase of the project.
- In Northern Maputo, the work was carried out from January to March 2023, in collaboration with the Maputo Natural History Museum, aimed at obtaining quantitative data on two bird species and four plant species with the potential to trigger KBA.
- In partnership with the Foundation for the Conservation of Biodiversity (BIOFUND), through the Mozambique Conservation Leadership Program (PLCM), a training course on the use of iNaturalist (a citizen science platform used to monitor biodiversity by sharing their observations) was held for 61 young trainees on February 16.
- From May 22 to 26, 22 people from research institutions, universities and Non-Governmental Organizations attended a training session on how to use the International Union for Conservation of Nature (IUCN) Red List methodology to assess the conservation status of species.
- A training on the KBAs for the members of the

National Coordination Group for the KBAs, Red List of Ecosystems was held on June 15-16, 2023 with the aim of improving their knowledge and strengthening

their skills to apply the KBA criteria for species and ecosystems consistently, in an event attended by 24 people.



Image 14: members of the KBAs National Coordination Group, Red List of ecosystems during the training

- In partnership with DINAB, a seminar was held on 18-19 May with 35 participants from various relevant sectors (environment, agriculture, forests, land, tourism, conservation, climate change, science and technology, marine and fisheries, mineral resources and energy, economy and finance, academia and civil society) to disseminate and share the major results of COP 15 and discuss the implementation thereof, starting with the update of the NBSAP (2015-2035), thus ensuring its alignment with the objectives and priorities of each of the sectors, taking into account sectoral policies, strategies and plans.
- In partnership with MTA, through DINAB, a workshop to disseminate information products to provincial stakeholders (provinces in the South and North, including Zambézia) was held so that they are aware of what KBAs are, which ones exist in the province, and to raise awareness of the importance of including KBAs in land use plans as places to avoid for development projects that could affect key biodiversity. In the Southern Region, the training was held on June 20-21, 2023 and was attended by 33 people, and in the Northern Region, the training was held on August 8-11, 2023 and was attended by 38 people.
- In partnership with the MTA through DINAB, a seminar was organized to publicize the initiative (SBAPP), which took place on August 4, 2023 in Maputo City and was attended by 33 people, including 28 in person and 5 online via the Zoom platform, representing research institutions, universities, Non-Governmental Organizations, as well as project donors (AFD) and civil society.
- A seminar on the presentation of the KBA of the Matibane Forest Reserve was held in the district of Mossuril on August 11, 2023, with the aim of i) explaining KBA concept and how the Matibane RF fits into this context; ii) understanding the reasons for the existing threats (expansion of agriculture, charcoal production and logging) in the Matibane RF; and iii) drawing up possible proposals for solutions and means of action to reverse the current status in the Matibane RF.
- Six workshops were held between October 5, 2023

and November 9, 2023 to assess the conservation status of endemic and near-endemic plant species using the International Union for Conservation of Nature (IUCN) Red List criteria. A total of 9 people representing government agencies, research institutions and universities participated in the workshops.

- WCS, DINAB and National Land and Territorial Development Directorate (DNNDT) shared the country's experience in classifying and mapping the historical extent of ecosystem types at an event hosted by the South African National Biodiversity Institute (SANBI) in Pretoria, South Africa, 20-23 November 2023.

- On December 5-6, WCS participated (online) in the Biodiversity Planning Forum to share the country's experience in pinpointing and delimitation Key Biodiversity Areas. This event is organized annually by the South African National Biodiversity Board (SANB) and provides an opportunity for individuals, agencies and departments involved in biodiversity spatial planning to share valuable lessons learned from biodiversity planning projects.
- A feasibility study was conducted for a blue carbon project in the Memba-Nacala-Mossuril region of northern Mozambique, in combination with the Blue Future Project.

### 4.3 Shark and ray conservation

Activities related to sharks and rays began in the last quarter of 2018, with support from the Shark Conservation Fund. The goal of this program is to improve the conservation status of sharks and rays in Mozambique:

- Build capacity, advance scientific knowledge, and fill critical data gaps to enable informed decisions;
- Improve sustainability and control in the trade of shark and ray products through better implementation of CITES;
- Develop science-based policies and management, including species-specific regulations, to ensure best conservation practices and binding management commitments.

Since 2022, the shark and ray conservation sub-program has been strengthened with the support of another donor, IWT, with the aim of continuing the support given, in particular, to improve national capacity to control the illegal trade in sharks and rays listed in the CITES Convention and/or protected by national legislation.

#### Activities developed in 2023

- In partnership with InOM and with the support of Maputo National Park, WCS conducted the fifth BRUV (Bait-Based Underwater Video Remote Survey) sampling along the northern coast of the

park between Ponta Milibangalala and Inhaca Island in May.

- It took part in the World Oceans Day celebrations on the TVM program — “*Primeira Página*” [First Page], and it highlighted the main areas of cooperation agreed between the Government of Mozambique and WCS.
- WCS worked with the University of California Santa Cruz, and InOM on a project called “Supporting coastal communities in safeguarding their livelihoods and conserving shark and ray populations on Zalala Beach”. The final deliverables include (i) a report on sharks and rays recorded at artisanal fishing sites in six coastal provinces between 2018 and 2022, (ii) recommendations for potential solutions identified by the community for more sustainable artisanal fishing, and (iii) communication materials, including three infographics and one video.
- In partnership with the fisheries authorities (InOM and ADNAP, IP), the fishing community of Zalala Beach and the Coastal, Lake and River Police hosted a meeting to raise awareness and publicize the Maritime Fisheries Regulations (REPMAR) as for species protected and prohibited under this document.
- We participated in the Seventh Biennial Southern African Shark and Ray Symposium in Durban and gave an oral presentation “Involving fishing

communities in co-designing sustainable management solutions for elasmobranch populations on Zalala Beach, Mozambique” by Naseeba Sidat — winner of 2nd place for best presentation and the 2023 Save Our Seas Foundation (SOSF) Travel Grant Winner Award.

- We provided Mozambique with a portable rapid genetic sequencing tool for the identification of sharks and rays. The rapid genetic sequencer, known as the Magnetic Induction Cyclor (MIC), is a tool that will enable Mozambican authorities to confirm the presence of suspect CITES-listed shark and ray species in shipments destined for export, helping to reduce illegal trade in these products through better enforcement of CITES trade regulations. In addition, 10 specialized technicians from government and academia have been trained to use the tool.
- In partnership with CePTMar-UEM, 30 surveys were conducted on the shark and ray trade at Zalala Beach, Zambézia Province. And in partnership with the InOM office in Sofala, WCS conducted another 30 surveys to collect information on demographic, social, economic, biological and institutional aspects of the shark and ray trade in the country, as well as information on participation in the trade, resource use and trends in the orientation, the purchase and sale of shark and ray products.
- The sharks and rays project team participated in the first edition of the Marine Biodiversity Conference, on the panel “Monitoring coastal and marine biodiversity for the management of Marine Conservation Areas (MCAs)”, sharing their experience on “Science and innovative monitoring tools for effective and efficient management of MCAs”.
- In partnership with the Mozambique Oceanographic Institute, four BRUV surveys were conducted in Maputo National Park, Maputo Bay and Chizavane, Gaza Province, and two InOM technicians were trained in this sampling technique. The Mozambique Oceanographic Institute, the Wildlife Conservation Society, the Marine Megafauna Foundation and the University of Lúrio carried out a process to identify Important Shark and Ray Areas (ISRA), from which 8 areas were identified in the Country.



Image 15: An engagement session with the members of Zalala Beach fishing community, August 2023.



## 4.4 Coral reef conservation

Coral reefs are highly biodiverse ecosystems and, due to the ecosystem services they provide, are of great socio-economic importance to coastal communities and the country's economy, and are recognized at global and national levels as critical and priority ecosystems. To support the protection and management of coral reef ecosystems and contribute to their continued resilience, biodiversity and richness, as well as the provision of ecosystem services to local communities in Mozambique, WCS has been working with the Government of Mozambique (GoM), through MIMAIP and InOM, on several projects with the following goals:

- Support the GoM in achieving national and international targets and commitments for the protection of coral reef biodiversity;
  - Provide technical and financial support for the development of the National Strategy for the Management and Conservation of Coral Reefs (ECOR 2022-2032) to establish a policy-legal framework that promotes integrated and effective management of coral ecosystems in Mozambique. The ECOR (2022-2032) aims to increase technical capacity for coral reef research and conservation, protection and monitoring of critical coral reef areas, mobilization of financial resources for reef conservation, and institutional coordination for their effective management at the national level, among others;
  - Identify indicators and develop a coral reef health assessment index to guide the implementation of offset programs and help assess the health of Mozambique's coral reefs over time;
  - Re-establish and update the national coral reef monitoring program, which will include standardized methodologies and solutions for the storage and analysis of data resulting from coral reef monitoring;
  - Identify and map Key Biodiversity Areas (KBAs) overlapping coral reefs;
  - Foster potential MCAs in important coral reef areas, involving the systematic and in-depth assessment of poorly studied areas, such as the reef complex in Nampula Province in the districts of Memba and Mossuril; and
- Advise the GoM on the review of coral reef relocation/restoration plans proposed by oil and gas companies.

### Activities developed in 2023:

- The implementation of the Strategy for the Management and Conservation of Coral Reefs and its action plan, approved by Resolution No. 51/2022 dated December 28, was continued.
- An institutional dissemination plan was carried out throughout the year to make relevant institutions aware of ECOR (22-32).
- On the occasion of World Fisheries Day, the Strategy was officially launched by Her Excellency the Minister for the Sea, Inland Waters and Fisheries.
- A version of ECOR (22-32) was created in images and color for widespread dissemination.
- An intervention was made on national television to talk about ECOR and its implementation.
- On December 18 and 19, a technical meeting was held, bringing together key stakeholders and scientists from government institutions and NGOs to draw up the Strategy Implementation Guide, a document that will govern and guide the implementation of the actions in the Action Plan.
- More funds were raised for the implementation of ECOR's priority actions (22-32), namely the revision of the Legal Framework applicable to coral reefs in the country (with a view to updating and improving it), as well as for the development of the National Coral Reef Monitoring Program.
- WCS-MZ has also collaborated with the consultants developing the Global Fund for Coral Reefs Country Program, a mechanism for raising and capitalizing private sector funds through blended finance to improve the financing of coral reef conservation. The GFCR is an important opportunity for financing the implementation of ECOR (22-32).

### Under the Blue Future Project:

- Another ecological survey of the Memba and Mossuril coral reefs was conducted, namely in the south of Mozambique Island and in the southern part of Fernão Veloso Bay. In this campaign, eight coral reef sites were sampled and field validations were carried out to generate habitat maps at 113 additional points, leading to a total of 53 dives at coral reef sites and 247 habitat validation sites for mapping;
- The fieldwork included an InOM technician, who was provided with scientific diving training;
- The data collected was analyzed and the final report prepared (an update of the report is scheduled for February 2024);
- Such studies will assist in the development of a proposal for a new Sustainable Use Marine Protected Area and the identification of areas for the establishment of Resource Recovery Areas (RRAs, i.e. temporary or permanent closed areas) under REPMAR. The studies will also serve as a baseline against which future changes and the performance of conservation measures to be implemented can be monitored;



Image 16: Underwater sampling team on a coral reef in Fernão Veloso Bay, July 2023.

- Progress was made in developing standard guidelines for socio-economic and ecological monitoring of coral reefs to assess the success of community-managed reserves, in particular to align this monitoring with WCS regional standards. This socio-ecological monitoring framework has been presented to InOM and the ECOR Working Group (22-32) and, after some refinement, it will be widely disseminated for national adoption; and
- A modeling study was conducted to determine where the most biodiverse areas for corals and reef fishes (biodiversity hotspots) are located. The aim was to identify important areas for coral reefs in Mozambique, assess how these overlap with existing and proposed marine protected areas, and

identify areas with high potential for triggering Key Biodiversity Areas. This tool will serve to refine the knowledge of priority areas for conservation and the

understanding of their spatial distribution in order to support the improvement of the marine protected area network.

## 4.5 Program to support the management of sustainable artisanal fisheries in Mozambique

WCS Mozambique is committed to assisting the Government in improving artisanal fisheries and making them more environmentally sustainable in two ways:

- Assist the Government in developing clear guidelines and procedures on the step-by-step process for the establishment and legalization of local community co-managed fishing areas in accordance with national legislation, and establish clear communication and understanding between national, provincial and district authorities on the approved guidelines and procedures for the legalization and development of management plans and law enforcement in marine resources; and
- Support the government through on-the-ground projects to strengthen Community Fishery Councils and local authorities, assist them in establishing Community-Managed Fishery Areas, and promote and support alternative sources of income to fishing. This is done through direct implementation of specific projects.

### Activities developed in 2023:

- WCS contributed to the drafting and financed the publication of Ministerial Decree no. 83/2023 passing the legal regime for the establishment of Community Management Fishing Areas (APGCs).

- WCS and ADNAP, IP, Nampula Branch, as part of the Blue Future Project, held a meeting in Nacala with the aim of increasing the involvement of Community Fisheries Councils (CFCs) in their own revitalization processes as well as in the creation of APGCs. The meeting also provided an opportunity for cooperation partners and government institutions to coordinate actions to increase their impact on coastal communities.
- The WCS Mozambique Marine Program team developed activities on good fishing practices, specifically shark fishing, with fisheries sector institutions and the fishing community of Zalala Beach, Zambézia Province. Three meetings were held on the subject matter, namely a workshop with representatives of different stakeholders; a meeting with members of the fishing community of Zalala Beach; and five meetings through focus groups with community representatives (women, line fishermen, gillnetters, trawlers and fish traders) to discuss about shark fishing, with a greater focus on the capture of juvenile sharks. This activity was part of the project “Promotion of shark and ray conservation in Mozambique”, implemented by WCS in partnership with InOM. It was also part of Naseeba Sidat’s Master’s Degree’s thesis project, Marine Program Assistant and a Master’s Degree student at the University of California at Santa Cruz (UCSC).

## 4.6 Support for the expansion of marine conservation areas (MCAs) in Mozambique

In recognizing the importance of marine ecosystems for the survival and well-being of the population, the Government of Mozambique is committed to expanding the national network of Marine Conservation Areas (MCAs) under international conventions and treaties. In 2019, the National Fisheries Research Institute (IIP), now the Oceanographic Institute of Mozambique (InOM), an institution under the Ministry of the Sea,

Inland Waters and Fisheries (MIMAIP), in partnership with the Wildlife Conservation Society (WCS), prepared a technical study with the overall objective of developing scenarios to support the government in expanding MCAs in Mozambique. Three scenarios were set. In light of the results and challenges identified, MIMAIP proposed the development of a strategy and action plan for the expansion of the national MCA

network and submitted this proposal to the Council of Ministers for consideration. On August 2, 2022, the Council of Ministers, in its 26th Ordinary Session, reviewed the information on the MCAs expansion scenarios and selected the 10-12% scenario as the one on which the strategy should focus in order to achieve this goal by 2030.

WCS is assisting the government in developing a national strategy and action plan to expand the national network of marine protected areas. InOM has established a technical task force composed of a representative from the National Administration of Protected Areas (ANAC), the National Fisheries Administration (ADNAP), the National Directorate of Maritime Policies (DIPOL), the National Directorate of the Environment (DINAB), the National Marine Institute (INAMAR) and the International Union for Conservation. The program is being implemented through a joint partnership between the Mozambique Oceanographic Institute (InOM) and WCS, with funding from the WCS Marine Conservation Areas Fund (MPA Fund).

#### **Activities developed in 2023:**

A Technical Report on the Current Diagnosis of Marine Conservation Areas in Mozambique was prepared with the aim of summarizing the current form of management of MCAs and identifying critical aspects that should be taken into account in the development of a strategy and action plan for the expansion of MCAs in Mozambique. Eight marine and coastal protected areas were considered (Quirimbas National Park, Bazaruto Archipelago, Maputo, *First* and *Seconds* Islands Environmental Protection Area, Maputo APA, Cabo

de São Sebastião Total Protection Zone, Marrromeu National Reserve and Pomene National Reserve).

- A detailed survey of ongoing Marine Conservation Area (MCA) designation projects was conducted. According to the survey, a total of seven projects are underway, of which six aim to create new Marine Conservation Areas for Sustainable Use and one project aims to resize an existing MCA (three projects in the Northern Zone, two in the Central Zone and two in the Southern Zone). The declaration of all the proposed areas plus the existing areas could represent a total of 7.32% of the EEZ. InOM and WCS held meetings, online consultations and targeted meetings with strategic sectors (oil and gas, coastal mining, tourism, industrial, semi-industrial and artisanal fisheries, maritime transport and ports) to gather information and map priority areas for each sector to identify opportunities and potential challenges for the expansion of MCAs in Mozambique. One meeting was held with the fisheries sector, one with the coastal mining and oil and gas sectors, 35 private sector entities were contacted through online consultation, and five meetings were held with government institutions (National Fisheries Administration - ADNAP, IP, National Tourism Directorate - DNATUR, National Tourism Institute - INATUR, National Mining Institute - INAMI, Maritime Transport Institute - ITRASMAR); and
- A spatial prioritization analysis was carried out for the scenario of protecting 10% to 12% of the EEZ, based on the new information obtained on the priority areas of the strategic sectors (oil and gas, coastal mining, tourism, industrial, semi-industrial and artisanal fishing, maritime transport and ports).

## **4.7 Building a blue future for ecosystems and people on the East African Coast - Blue Future**

WCS and a number of partners (InOM - Oceanographic Institute of Mozambique; ProAzul - Development Fund of the Blue Economy; ADPP - Development Aid from People to People; AMA - Environmental Association; UEM – Eduardo Mondlane University and BIOFUND - Foundation for the Conservation of Biodiversity) are developing the Blue Future project to work with the Government of Mozambique to establish a sustainable use MCA (Marine Conservation Area) in the coastal

zone of the Memba and Mossuril districts—covering an area of at least 1,000 km<sup>2</sup>, including a network of well-managed community fisheries areas.

The project area suffers from overfishing and overexploitation of local ecosystems, but still has extensive areas of mangroves, seagrass and coral reefs, which will be improved through ecosystem-based adaptation and management measures, restoration and/

or protection, depending on the ecosystem. The project will develop a business and financial plan to ensure the sustainable management of MCAs while improving the economic conditions of local communities.

In addition, the project will enhance priority ecosystem services through adaptation measures that reduce the vulnerability and increase the resilience of local communities to the impacts of climate change, contribute to coastal protection, and support resource-based livelihoods, including fisheries, thereby contributing to national climate and conservation goals. The proposed approach will also support local fishing communities to sustainably establish, legalize, manage and monitor community-managed fisheries.

Specific project deliverables include: (1) increased resilience of climate-relevant ecosystems through improved protection and management; and (2) improved resilience and livelihoods of the most vulnerable communities.

### **Activities developed in 2023:**

- A socio-economic baseline study was conducted to measure the level of results indicators of the project's logical framework and to describe the socio-economic situation and climate vulnerability of coastal communities in the districts of Memba, Mussoril and *Nacala-a-Velha* ["The Old Nacala"].
- A feasibility study was carried out on alternative business and income-generating strategies.
- Ecosystem modeling and mapping of the study area was carried out, including the development of a mangrove change analysis, which was essential for understanding the extent of mangroves lost over a 10-year interval, and identifying potential areas for restoration.
- The methodology for fisheries assessment and biological assessments on the target species selected by the Community Fisheries Councils (CFCs) was developed to assess the exploitation status of the main species fished (base and final).
- The mapping and baseline assessment of the ecological condition of coral reefs, shark and ray communities in the Blue Future project area was completed, including additional sites such as Island of Mozambique.

- Ecological assessments of mangroves, seagrass, fauna and terrestrial flora were carried out, including the identification of degraded areas, the main threats and areas of mangroves and seagrass with potential for restoration.
- The protocols for restoring mangrove and seagrass forests were prepared, including coordination between the project partners involved and preparation of the workshop to train technical staff from ADPP, AMA and communities in restoration and monitoring techniques.
- A diagnosis was made of the existing Community Fisheries Councils in the Memba, Mossuril and *Nacala-a-Velha* districts, and the results of this diagnosis and proposed groupings for the development of new CFCs were shared through community meetings to disseminate the results, a workshop with partners and a round table with stakeholders.
- A Natural Resource Governance (NRGT) assessment was carried out in the project area, involving key governance groups (local government, CFCs and CGRNs) and resource user groups and rights holders (community in general).
- Four (4) new Community Fisheries Councils were set up in the districts of Memba and Mossuril.
- The Protocol for the establishment of Community Savings and Loans Associations (ACPEs) was developed;
- Mapping of fishing patterns in the Blue Future Project area was carried out.
- Regular biological surveys were carried out for production statistics, with special emphasis on sharks and rays, including species of socio-economic importance identified by local communities with the support of InOM.
- The first edition of the annual Technical-Scientific Conference on Marine Biodiversity was held on July 27-28, 2023, in Maputo, involving various stakeholders, including government, academia, non-governmental organizations (NGOs) and the private sector.



Image 17: participants in the Marine Biodiversity Conference (photo: BIOFUND)

- The Concept Note for the Second Annual Technical-Scientific Conference on Marine Biodiversity was developed, with proposed dates for the week of June 17-21, 2024, in the city of Nacala-Porto, Nampula Province.
- Start of “Vibrant Reefs”, a multi-country project funded by Bloomberg Philanthropies, aimed to:
  - i) work with government partners to approve at least 7 new national programs and local policies to improve reef protection in the face of climate change;
  - ii) support the creation of at least 130. 000 square miles (336,698 km<sup>2</sup>) of new marine protected areas (MPAs) for reefs, mangroves and seagrasses;
  - iii) support seven countries with coral reefs to fulfill their national commitments to the 30x30 initiative; and
  - iv) improve the protection of at least 32 reefs resilient to climate change.
- 27 Livelihoods Clubs were developed, reaching 1,392 members. Of these, 944 women and 448 men, inclusive of their management committees and agricultural demonstration fields were identified by each club.
- The Gender Study and Gender Action Plan (GAP) for the Blue Future Project were developed.
- Gender strategy integration training was carried out, including updating the gender action plan for project staff and partners.
- Three of the six instruments of the Environmental and Social Management System have been updated, which include the environmental and social management plan, stakeholder engagement plan and complaints mechanism.
- A documentary assessment of land ownership was carried out to feed into the proposal for a future Marine Conservation Area for sustainable use.
- The Terms of Reference and Contracting of the company to develop the Blue Future Project Website were prepared.
- The Blue Future Advisory Committee (CAFA) meeting was held to share the progress of the first year of the project and plan for the following year, mainly through recommendations from the committee members to the Blue Future project management team.

## 5. TOTAL PROGRAM AMOUNT IN 2023

NGO Contribution	Initial Forecast	Actual Spending
Year 2023	USD 5,566,540	USD 4,475,975

## 6. FUNDING SOURCES

The sources of funding for the project in this period were as follow:

- a) USAID;
- b) French Development Agency,
- c) French Global Environment Facility;
- d) USDA, Forest Service International Programs;
- e) CITES-MIKES;
- f) European Union;
- g) Fondation Segre;
- h) Marine Area Protected Fund;
- i) United Nations Development Programme;
- j) Bureau of International Narcotics and Law Enforcement Affairs;
- k) SPEED
- l) Shark Conservation Fund
- m) Margaret A. Cargill Foundation;
- n) Rockefeller Philanthropy Foundation;
- o) Tiffany Foundation;
- p) Fondation Ensemble;
- q) Resources Legacy Fund;
- r) Oceans 5;
- s) Blue Action Fund;
- t) Norwegian Agency for Development Cooperation (NORAD); and
- u) WWF.

WCS has participated in each of these grants through Leverage Funds, contributing between 10% and 20% of the total grant amount.

## 7. COUNTRY'S COUNTERPARTS

The major national counterparts of WCS are the following, among others:

### 7.1 Government Bodies

- a) **Ministry of Land and Environment (MTA), which includes:**
  - a. National Administration of Conservation Areas (ANAC);
  - b. National Environment Directorate (DINAB);
  - c. National Forestry Directorate (DINAF);
  - d. Directorate for Planning and Cooperation (DNPC);
  - e. National Directorate for Land and Territorial Development (DNDT);

- f. Agency for Environmental Quality Control (AQUA); and
- b) Ministry of Agriculture & Rural Development**
- a. National Fund for Sustainable Development (FNDS)
- c) Ministry of the Sea, Inland Waters and Fisheries**
- a. Mozambique Oceanographic Institute (InOM);
- b. National Fisheries Administration (ADNAP);
- c. National Policy Directorate (DIPOL);
- d. National Marine Institute (INAMAR); and
- e. ProAzul.
- d) Ministry of Economy and Finance**
- a. National Directorate for Planning and Budgeting (DNPO)
- b. National Monitoring Board
- e) Ministry of the Interior (MINT)**
- a. General Command of the Police of the Republic of Mozambique (PRM) — Weapons and Explosives Department;
- b. General Command of the PRM - Police for the Protection of Natural Resources and the Environment; and
- c. Niassa and Cabo Delgado PRM Provincial Command.
- f) The Attorney General's Office**
- a. Environment and Diffuse Affairs Office; and
- b. Provincial Prosecutor's Offices.
- g) Ministry of National Defense (MDN)**
- a. National Directorate for Policy and Defense (DNPD)
- h) Ministry of Industry and Commerce (MIC)**
- a. National Directorate of Commerce (DNC)
- i) Ministry of Public Works, Housing and Water Resources (MOPHRH)**
- a) National Directorate for Water Management (DNGRH)
- j) Ministry of Mineral Resources and Energy (MIREME)**
- a. National Directorate of Geology and Mines (DNGM)
- b. National Mining Institute (INAMI);
- c. National Petroleum Institute (INP);
- d. National Directorate of Hydrocarbons and Fuels (DNHC); and
- e. National Hydrocarbons Company (ENH).
- k) Ministry of Transport and Communications (MTC)**
- a. Civil Aviation Institute of Mozambique (IACM);
- b. National Communication Institute of Mozambique (INCM); and
- c. National Directorate for Studies and Projects (DNEP).
- l) Ministry of Agriculture and Rural Development (MADER)**
- a. National Directorate of Agriculture and Forestry (DINAS); and
- b. Agricultural Research Institute of Mozambique (IIA).
- m) Ministry of Health**
- a. Niassa Provincial Directorate of Health
- n) Eduardo Mondlane University (UEM)**



- o) University of Lúrio (UniLúrio)
- p) Agency for the Promotion of Investment and Exports (APIEX)
- q) Provincial Governments of Niassa, Cabo Delgado, Nampula & Maputo City
- r) District Governments of Mecula, Mavago, Sanga, Muembe, Marrupa, Majune, Mueda, Montepuez, Memba and Mossuril.

## 7.2 NSR's Tourism Operators

- a) Luwire;
- b) Mariri Investments;
- c) Chuilexi Conservancy;
- d) Kambako Safaris;
- e) Metapiri Safaris;
- f) Johan Calitz Safaris;
- g) Safrique Limited;
- h) Niassa Hunter Safaris; and
- i) Luambeze Safaris.

## 7.3 Other

- a) BIOFUND;
- b) Centro Terra Viva [Terra Viva Center] (CTV);
- c) WWF Mozambique;
- d) International Union for Conservation of Nature (IUCN);
- e) RARE;
- f) People to People Development Aid (PPDA)
- g) Environment Association (AMA);
- h) Ocean Revolution Mozambique (ORM);
- i) Mozambican Association for Environmental Impact Assessment (AMAIA); and
- j) United Nations Development Program (UNDP) — BIOFIN Project; and
- k) Marine Megafauna Association

## 8. AMOUNT OF IMPORTED GOODS FOR PROJECT IN 2022

The total amount of imported goods for the project was USD 55,000.00. It should be noted that WCS tries to order and purchase goods as locally as possible, such as construction supplies and materials from local NSR communities.

WCS has faced challenges as to importing equipment, particularly in obtaining tax exemptions. With the increase in funding sources, equipment imports are expected to be approximately \$500,000.00 by 2024.

## 9. JOBS CREATED IN 2023

In 2023, WCS hired 199 people, of whom 154 were seasonal workers. Of this total of 199 hires, 198 were Mozambicans and 1 foreigner.

## 10. TRAINING COURSES HELD IN 2023

Throughout 2023, WCS developed a series of trainings that benefited various public and private entities, as well as members of the local communities implementing the various projects. The following are the various trainings conducted by WCS throughout 2023, both at NSR level and at Marine Program level:

Training type	Site
Firearms assembly and disassembly	NSR
Preparation of patrol plans and reports	NSR
Performing inspections and access control	NSR
Fitness exercise	NSR
Fitness exercise	NSR
Crime notices	NSR
Wood cubing	NSR
Gender Norms and GBV for Area Managers	NSR
Human Rights Regulations and Ranger Action	NSR
Training on the WCS Code of Conduct	NSR
1 CGRN training script was drafted	NSR
1 training script for CFCs was drafted	NSR
Training in Community-Based Natural Resource Management strategy for block L4 and the design of logical framework.	NSR
Training in Leadership and Governance, Mechanisms for Monitoring the Activities of Guardians and Involving Communities in the Conservation of Natural Resources.	NSR
DIS training (USAID platform for submitting data)	Maputo
Two training sessions on the Blue Future Project complaints mechanism for ADPP and AMA staff	Nacala
Training on setting up Lifestyle Clubs	Nacala
Training for Trainers on Rights + Communities	Kigali, Rwanda
Environmental and Social Management System Training (ESMS)	Nacala
Sustainable businesses training	Nacala
Training on Gender Integration and Programming, Budget and Strategy that protect women's rights	Nacala
Training on the identification and delimitation of Key Biodiversity Areas for members of the National Coordination Group for KBAs, the Red List of Species and ecosystems	Maputo
Training on the application of the Red List Methodology of the International Union for the Conservation of Nature (IUCN) to assess the conservation status of species.	Maputo
Training on the use of the iNaturalist platform for trainees for Mozambique's Conservation Leadership Program	Maputo
Training in species-level identification of sharks and rays, including CITES-listed species, using barcode tools (DNA)	Stellenbosch, South Africa
Species awareness training protected and prohibited under REPMAR	Zalala Beach, Zambézia
Training in the use of the rapid genetic sequencer (MIC qPCR cycle) for the identification of CITES-listed shark and ray species	Maputo
Training in sampling using BRUVs	Maputo and Gaza
Training in shark and ray data collection at artisanal fishing landing sites	Quelimane

## 11. CONCLUSIONS

WCS has made every effort to ensure that its projects in the Republic of Mozambique have an effective impact on park and wildlife conservation, particularly in Niassa Special Reserve. Local communities play a key role in wildlife conservation and, as a consequence of this importance, the activities of the Community Sector are some of the most noteworthy among the projects developed by WCS in Mozambique's largest protected area.

WCS continues to focus on increasing the visibility of Niassa Special Reserve on social networks, through the bi-annual WCS Mozambique Newsletter and the weekly WCS Global Newsletter, as well as participating in television and radio programs that publicize WCS's biodiversity work in close coordination with the governance mechanisms established by the Government of Mozambique.

As you can see, WCS has significantly increased the size of the support team based in NSR, thus demonstrating the commitment and dedication that the organization continues to seek to achieve the conservation goals set by the Mozambican Government and donors.

The Niassa Reserve currently benefits from approximately US\$1 million in annual funding, which could increase in the coming years. We are pleased to note:

- A significant reduction in poaching;
- Greater community engagement in biodiversity conservation, despite the fact that channeling the 20% defined by law is still a major challenge;
- Growth of Management Infrastructure (access roads, Mbatamila already has 3 campsites, water supply and communications);
- Improved management of the Human-Wildlife Conflict, although the means of control are still scarce, but the use of wildlife monitoring technology has brought significant advances;
- Better communication between Niassa Reserve and the Local Administrative Authorities, with emphasis on the Mecula District; and

- Better integration of NSR development plan in the context of local economic development, although the approval of Niassa Special Reserve Management Plan is still pending, as a fundamental instrument, not only for guiding the activities to be carried out, but also as programming instruments for mobilizing multifaceted support for the development of NSR.

On the other hand, the COMBO+ program in Mozambique had a productive year in terms of assisting the government in conserving terrestrial biodiversity and making it compatible with economic development, as well as strengthening the capacity of civil society on biodiversity issues. Several trainings and seminars were held, as well as public debates on climate change and exchange visits with organizations such as Portucel Moçambique. Technicians were also trained in environmental management and biodiversity offsetting plans. In total, some 115 technicians from 55 institutions were trained. Several studies and tools were developed through various partnerships. The mid-term evaluation of the program and the validation of the implementation manual of the Ministerial Decree of Key Offsets were key elements that brought together a variety of stakeholders to strengthen biodiversity management in the country.

WCS focused on three priority areas in Mozambique to collect biodiversity data and support the identification of new coastal KBAs. Intensive fieldwork was carried out in Memba-Nacala-Mossuril, Pemba Bay and Northern Maputo Norte, in collaboration with various academic and research institutions. Specialized training was provided to young trainees in the use of the iNaturalist platform and IUCN Red List methodologies. WCS also hosted seminars and workshops in partnership with DINAB and other entities to share results and discuss conservation strategies. These efforts were aimed not only at research and data collection, but also at training and engaging various stakeholders in biodiversity conservation in Mozambique. A total of 173 technicians from 18 institutions were trained.

In the marine component, WCS had a year of significant accomplishments in Mozambique, consolidating its commitment to marine conservation. In terms of shark and ray conservation, WCS worked with various entities, including InOM and Maputo National Park. They carried out various sampling activities along the

coast and participated in important events such as the World Oceans Day celebrations. WCS also worked with the University of California Santa Cruz on a master's thesis to help coastal communities protect sharks and rays, including raising awareness of fishing regulations.

In addition, implementation of the Strategy for Coral Reef Management and Conservation continued, with a focus on institutional dissemination and technical meetings. WCS-MZ continued to raise funds to implement priority actions and worked with consultants to develop a proposal to the Global Fund for Coral Reefs.

The program also excelled in supporting the management of sustainable artisanal fisheries, contributing to the development of regulations and actively involving local communities. The “Blue Future for Ecosystems and People on the East African Coast” project developed socio-economic studies, ecological assessments and alternative business strategies, strengthened governance and created new Community Fisheries Councils. WCS supported the future establishment of Community Management Fishing Areas and conducted activities on good fishing practices, particularly in relation to the capture of juvenile sharks.

Finally, the expansion of Marine Conservation Areas (MCAs) in Mozambique was a major focus. WCS prepared technical reports, conducted detailed surveys,

and analyzed spatial prioritization for the protection of marine areas.

In short, at the marine level, WCS in Mozambique demonstrated a robust and multi-faceted commitment to marine conservation in 2023, addressing critical issues such as the protection of endangered species, sustainable resource management, and the expansion of protected areas. In total, WCS trained 29 national technicians (16 men and 13 women) from 10 public and private institutions in the marine component.

WCS has made every effort to ensure that its projects in the Republic of Mozambique have an effective impact on park and wildlife conservation, particularly in Niassa Special Reserve. Local communities play a key role in wildlife conservation and, as a consequence of this importance, the activities of the Community Sector are some of the most noteworthy among the projects developed by WCS in Mozambique's largest protected area.

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## DONORS AND PARTNERS

