



2022

ANNUAL REPORT

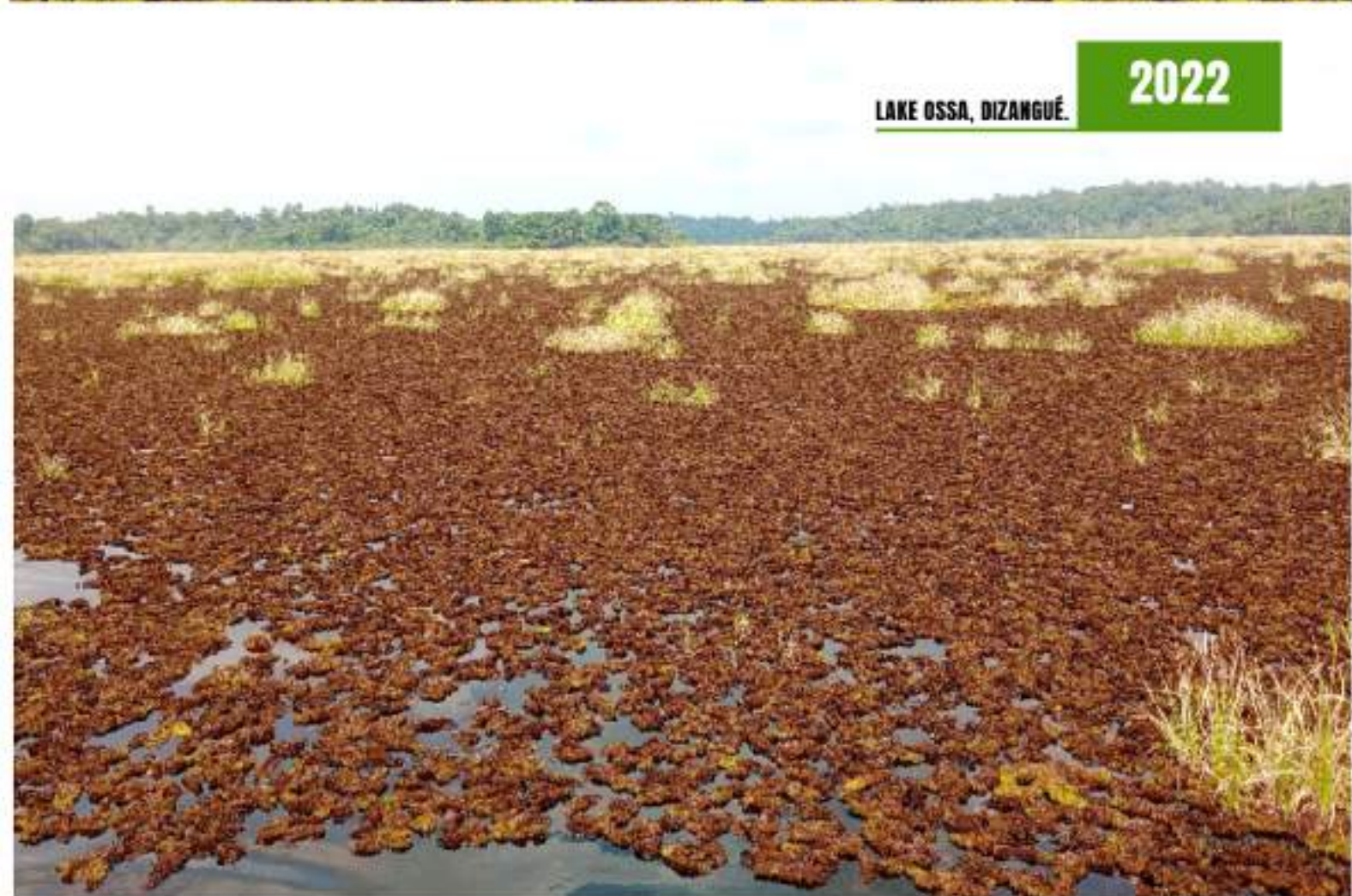
LAKE OSSA, DIZANGUÉ.

2020



LAKE OSSA, DIZANGUÉ.

2022





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ACRONYMS AND ABBREVIATIONS

AMMCO	African Marine Mammal Conservation Organization
MPA	Marine Protected Areas
CAMNET	Cameroon Marine and Coastal Network
CDPM	Maritime Fishing Development Fund
EJF	Environmental Justice Foundation
GFW	Global Fishing Watch
MoU	Memorandum of Understanding
NGO	Non-Governmental Organization
PSMNR	Programme for the Sustainable Management of Natural Resources in Southwest Cameroon
LOWR	Lake Ossa Wildlife Reserve
CMS	Control and Monitoring System
IUCN	International Union for the Conservation of Nature
NGS	National Geographic Society
IUU	Illegal, unreported and unregulated fishing ou IUU,
LWC	Limbe Wildlife Centre
MINEPIA	Ministry of Livestock Fisheries and Animal Industries
MINFOF	Ministry Of Forestry And Wildlife
MINRESI	Ministry of scientific research and innovation
CSO	Civil Society Organization
PAK	Port Authority of Kribi
NDS	National Development Strategy
TRAFFIC	Wildlife Trade Monitoring Network
UICN	Union Internationale pour la Conservation de la Nature
WWF	World Wild Fund for Nature
NEWF	Nature, Environment, Wildlife, Filmmaking
MNECMP	Manynague na elombo Campo Marine Park
PNDE	Douala-Édéa Marine Park



African Marine Mammal Conservation Organization (AMMCO) is a non-profit organization under Cameroonian law, created in 2012 and legalized in 2014. (Declaration N° 086/RDA/C18/SAJJP, prefecture of Sanaga Maritime). Its aim is not only to contribute sustainably to the conservation of aquatic megafauna and its habitats, but also to improve the living conditions of communities bordering the said habitats. To achieve this objective, AMMCO's intervention strategy is based on 4 main axes:

- Developing synergies for the conservation of marine fauna ;
- Improving knowledge of marine flora and fauna;
- Reducing the economic vulnerability of fishing communities;
- Advocacy for the enforcement of marine wildlife laws and regulations.

AMMCO has set itself the goal of contributing to a 10% reduction in the major threats to aquatic megafauna and its habitats, and a 10% improvement in the living conditions of local communities in Cameroon by 2025.

MISSION



Contribute to the protection of aquatic megafauna and their habitats in Central Africa, by improving scientific knowledge and involving fishermen and other stakeholders in sustainable fishing and the responsible use of watersheds.

VISION



To make Africa's coastal and aquatic environment a threat-free habitat for the African manatee and other marine species, while taking into account the interests of local populations.

VALUES



Integrity
Motivation
Discipline
Solidarity
Equality
Responsibility

OPERATING MODE

the intervention approach recommended by AMMCO is based on four axes:

- Scientific research;
- Awareness
- Training;
- Conducting advocacy.

These intervention approaches aim to mobilize all stakeholders (the broader public, extending beyond the local communities bordering marine megafauna habitats, political actors and the private sector) around the efforts deployed to contain the threats that weigh directly or indirectly on these species, to generate more commitment to this cause.

Since its creation, AMMCO has contributed to the protection of aquatic megafauna and their habitats in Central Africa in several ways:

- The organization of 02 editions of the "Street Whale";
- The fight against the invasion of Lake Ossa by the *Salvinia molesta*;
- Publication and support for the publication of several research works on aquatic megafauna and their habitats;
- Conducting several environmental education campaigns;
- Identifying and sharing responsible and innovative conservation practices.

During 2022, AMMCO continued its action to protect aquatic megafauna and their habitats in Central Africa by acting in various areas. This report describes the main achievements of the period under review, the difficulties encountered, and the mitigation measures, as well as presenting the main challenges.



AMMCO
African Marine Mammal
Conservation Organization

"Together to save our aquatic wildlife"



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African Marine Mammal Conservation Organization (AMMCO)

AMMCO benefits from the trust of the Cameroonian Government. This is reflected in the collaboration with state institutions and decentralized local authorities.



CHAIRMAN'S STATEMENT



Dr Aristide TAKOUKAM KAMLA

Founder and President of AMMCO

After the global health crisis linked to the coronavirus pandemic, our activities have resumed with renewed enthusiasm. The pandemic presents unprecedented challenges for our organization, our partners, and the communities we serve, but we but we have been able to adapt and overcome these obstacles by supporting each other. During this challenging time, we have continued to work tirelessly to protect marine wildlife species and their habitats. Our teams demonstrate remarkable resilience in the face of the challenges. As they continue their research in the field, conduct online educational programs, and keep collaborating virtually with all of our partners.

Over the past years, our efforts have been focused on scientific research, environmental education, and the promotion of responsible conservation practices. Our innovative projects, have made it possible to expand knowledge on marine mammal populations and identify the threats facing them with the help of acoustic hydrophones. By capturing the sounds of the sea, we can learn more about the lives of these magnificent creatures and work to protect them for generations to come. Thanks to our collaboration with local communities and public authorities, we have contributed to improving the protection of most vulnerable species. In the same vein, the results of the biological control that we initiated at Lake Ossa are becoming more and more perceptible, with a considerable reduction in the areas occupied by the invasive plant *Salvinia Molesta*.

Despite these encouraging results, we know the task is far from complete. Indeed, the environmental challenges we face are both complex and important. Next year, efforts will need to be sustained. They must go in the direction of continuing public awareness, strengthening national and international cooperation, and mobilizing the resources necessary to finance our conservation projects.

I would like to express my gratitude to each member of the AMMCO team, volunteers, partners, and donors who contributed to our success this year. Your unwavering support has been essential in achieving our common mission. You have been the wind beneath our wings, and we couldn't have done it without you. Thank you for being the driving force behind our success.



AMMCO IN A FEW FIGURES



10 years
of activity



5 Projects
funded and in progress



Intervention
sites in
Cameroon

Douala
Dizangué
Limbé
Kribi
Ebodjé
Yaoundé



10 aquatic species
studied and protected

Collaboration with



2 Ministries
6 Universities



**1 mobile and
web application
created**

Siren Network



+17.000 Observations
reported through
Siren Network



24 Missions
at sea



17 sea turtles

rescued thanks to siren network



+50

partner researchers
worldwide



+25.000

local residents assisted



+100 KM

of beaches patrolled in search of
turtle nests and stranded animals

50 %

less *Salvinia molesta* cover on Lake
Ossa thanks to biological control



+ 5.000 students

trained in environmental education



+ 150.000
people
reached



+1000
weevils
released into Lake Ossa



2^{editions of}
Street Whale

Organized with resounding success in the town of Kribi



4 Alerts

of ships entering
unauthorized areas



**4 Scientific
publications**

OUR ACHIEVEMENTS IN 2022

1. Achievements by areas of intervention



a. Management of fisheries and the fight against illegal, unreported, and unregulated (IUU) fishing.

IUU fishing constitutes one of the greatest threats to both marine ecosystems, ocean health (including species targeted by AMMCO's actions such as sharks, rays, turtles, and dolphins) and the economy. Cameroon is among the countries most impacted by IUU fishing and is also the subject of a sanction from the European Union on the issue. Indeed, in February 2021, Cameroon was given a yellow card, followed by a red card in January 2023, making it a non-cooperative country in the fight against illegal fishing. IUU fishing in Cameroon is fueled by three major factors, including:

- Non-alignment of the legal and regulatory framework for fishing with relevant international standards and conventions;
- The insufficient collaboration of sectoral administrations responsible for registering fishing vessels and issuing fishing licenses;
- The weakness of its fishing fleet's monitoring, control, and surveillance (MCS) system.



Stop iuu fishing project launch workshop.

In order to contribute to the preservation of Cameroon's marine biodiversity and the well-being of the local communities that depend on it, AMMCO invested in the fight against IUU fishing at the beginning of 2022 through the project entitled "Stop IUU Fishing in Cameroon" with the financial support of the NGO OCEANS 5. The project partners include the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA) as well as NGOs such as the Environmental Justice Foundation (EJF) and Global Fishing Watch (GFW). Through this project, which ends in 2025, AMMCO aims to:

- Support the Cameroonian authorities in their efforts to meet international requirements in terms of fisheries transparency and governance;
- Contribute to strengthening the fisheries surveillance and control system and develop a proposal for a fisheries management plan.
- The activities that were carried out under this project in 2022 are as follows:
- The official launch of the project in the presence of MINEPIA represented by its SG;
- The launch of the review of the legal and regulatory framework for fishing in support of MINEPIA. This activity made it possible to propose elements of transparency and dissuasion to the practice of IUU fishing;
- Capacity building of MINEPIA staff on the principles of transparency and the fight against IUU fishing in partnership with the NGO EJF;
- Beginning steps to establish a collaboration platform with the Ministry of Transport in order to combat flags of convenience;

For the year 2023, a major revision of the legal framework for fisheries will be written And deposited in the National Assembly. It will enable Cameroon to align itself with international standards in this area and will integrate harsher penalties for offenders.



Achievements by areas of intervention

b. Participatory science and the SIREN Mobile Application contribute to improving knowledge of Cameroon's aquatic megafauna

The marine fauna of Cameroon is still very little known. This situation arises from both the high financial and logistical costs of research at sea and the scarcity of marine biologists capable of collecting such data. This data gap limits the effectiveness in the design and implementation of strategies for the preservation and sustainable management of marine species threatened with extinction.

In response to this constraint, in 2015 AMMCO developed the SIREN Network application which is at the center of the citizen science program, allowing scientists, fishermen, and anyone interested in marine life to report and record observations of marine animals via their phone. SIREN Network allows you to record photos, locations, dates, and descriptions of animals or threats observed. The data thus collected can be easily shared with the scientific community, government agencies, fishermen, and conservation organizations to improve the understanding of marine animal populations and their migratory dynamics to take appropriate conservation measures.

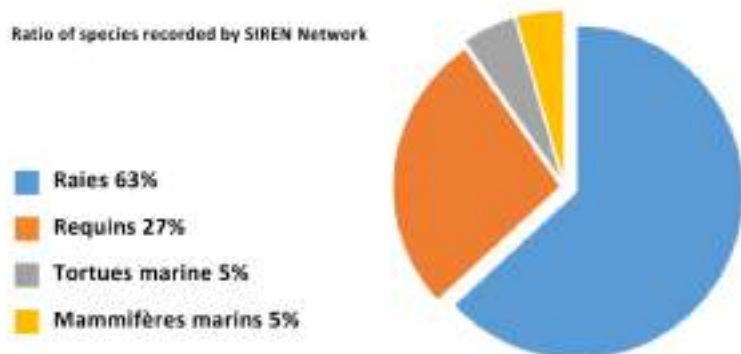
The SIREN application, initially designed for observing manatees only in Cameroon, has to date more than 18,000 observations and more than 350 species of aquatic animals and plants reported.

During the year 2022:

- The SIREN Network application helped contribute to the protection of marine mammals through the collection of information on turtles and encouraged observations of dolphins and whales. Among the reported sightings, 4078 occurrences represent marine megafauna animals, representing sea turtles, rays, and sharks, as well as manatees, whales, and dolphins. Sea turtles were observed both in feeding areas and during egg laying. However, they were also found stranded on the beaches or captured accidentally.
- The data collected thanks to the SIREN Network served as a basis for the administration (MINFOP) to define the legal protection of four species of cetaceans in Cameroon, notably the Atlantic humpback dolphin, the common bottlenose dolphin, the sperm whale, and the humpback whale which have been classified as a class A animal species, benefiting from a full protection regime. According to Law No. 94-01 of January 20, 1994, governing forests, wildlife, and fishing, class A animals cannot be slaughtered (except in self-defense cases) or captured (except for scientific reasons and under authorization from the Minister responsible for wildlife).
- Monitoring and recording observations using the app.

In the coming months, AMMCO plans to extend the SIREN network beyond the borders of Cameroon, particularly in the countries of the Gulf of Guinea.

Ratio of species recorded by SIREN Network



SCAN THE QR CODE TO DOWNLOAD THE SIREN NETWORK APPLICATION.

iOS



ANDROID





Achievements by areas of intervention

C. Focus on monitoring elasmobranchs: Protection of sharks and rays, our new priority.

Data from the SIREN program showed that sharks and rays are the most captured species of marine megafauna in Cameroon. This alarming situation has pushed us to make the conservation of elasmobranchs a priority. We have, therefore, launched a scientific research and monitoring program for sharks and rays landed in artisanal fisheries on the northern, central, and southern coasts of Cameroon. This program aims to meet the conservation needs of sharks and rays in Cameroon in collaboration with the government, fishermen, the coastal community, and the scientific community.

Here are some of the results achieved in 2022 thanks to the support of **Save our Seas Foundation (SOSF)**:

- **1500** specimens of elasmobranchs of **40** different species have been recorded. Among these **40** species, **11** are considered critically endangered and included on the **IUCN Red List of Threatened Species**. This is particularly the case of the burrowing guitar ray, *Glaucostegus cemiculus* (**17%**) and the scalloped hammerhead shark *Sphyrna lewini* (**11%**), which, according to the data collected, constitute the species most landed daily on several fishing sites along the Cameroonian coast.
- Implementation of the socio-economic study phase with the completion of around **300** interviews with fishermen and coastal communities. The data collected constitute the first scientific database on the specific composition of sharks and rays, their status, and their exploitation in Cameroon.
- Fabric samples were collected and preserved. In 2023, we will conduct genetic analyses to understand the structure of populations better and confirm the identity of certain species.



Monitoring elasmobranchs in Kribi.

Let us note that **no species of elasmobranch benefits from legal protection status in Cameroon** despite the serious threats they face. Our future actions, in addition to research, will focus on raising awareness and advocacy for the legal protection of the most threatened species of sharks and rays and the creation of marine protected areas to ensure their safety.



Monitoring elasmobranchs in Limbe.



Achievements by areas of intervention

d. The Street Whale: when science and art meet to raise awareness about the protection of our oceans.

The challenges posed by overfishing, pollution, and habitat destruction are significant yet often misunderstood or underestimated by both fisheries management officials and the populations. This situation results in the adoption of inappropriate solutions for sustainable fisheries management.

To reverse this trend, AMMCO has been organizing the **Street Whale**. This is an event combining art, sport, and science to raise awareness among the public and give more visibility to the dangers that threaten marine and coastal ecosystems in Cameroon. This interdisciplinary event brings together actors from diverse backgrounds to discuss and explore innovative solutions for managing the marine and coastal environment and its resources.

In honor of World Oceans Day, the second edition of the **Street Whale** was held in Kribi fluent from **June (8-11) 2022**. It saw the participation of approximately **115 participants** in the scientific symposium and more than **1000 people** in artistic activities. Six ministerial departments (**MINFOF, MINEPDED, MINEPIA, MINRESI, MINESUP, and MINTRANSPORT**), and several partners such as the **French Embassy, the United States Embassy in Cameroon, Total Énergies, and the Municipality of Kribi** took part.

As a result, this event allowed:

- The holding of several scientific activities organized around debates, round tables and a symposium on coastal development methods and the conservation of Cameroonian marine and coastal resources.
- The construction of a whale monument made from marine waste and its exhibition on Ngoye beach;
- The organization of sporting activities furnished by a canoe race, a tug-of-war competition, and games of beach Volley;



- The formulation of 11 recommendations intended to improve the management of marine and coastal resources in Cameroon.
- The creation of Cameroon Marine and Coastal Network (CAMNET), which is a conservation network allowing the exchange of ideas and to permanent monitor the implementation of the recommendations made during Street Whale 2021.

The countries of the Gulf of Guinea share the same problems in managing marine and coastal resources. In the coming year, our event will broaden its scope to address these issues at a sub-regional level. Additionally, we aim to enhance the quality of artistic creations, including the event's monument, to raise awareness effectively and ensure lasting impact.

For more details on Street Whale 2022, please consult its report by scanning the QR code.





Achievements by areas of intervention

e. Environmental education: For a new generation in tune with the challenges of conserving marine biodiversity.

Environmental education is crucial for securing humanity's future on Earth. As stewards of our planet, we inherit from nature and bear the responsibility to preserve it for generations to come. Just as it is important to know the road rules to drive, it is also important to understand our environment to protect it. This is why AMMCO is committed to training communities in the principles of environmental education. This program aims to raise awareness among communities about the causes of environmental degradation and to help them develop sustainable behaviors towards the sensitive habitats they come into contact with daily.

The strategy adopted by AMMCO is to organize training seminars for adults and to partner with educational establishments to work with students. As part of these training courses, AMMCO has created an environmental education manual that serves as a framework for the lessons taught.

The results achieved by the environmental education program in 2022 are as follows:

- The creation of 4 environment clubs in the localities of Campo and Dizangué;
- 10 primary schools and 5 secondary schools in Limbe benefited from environmental education courses;
- +2000 student-initiated environmental education;
- 4 awareness campaigns organized along the coasts of Cameroon;



Réunion de planification des activités d'éducation environnementale entre AMMCO et LWC.

- +500 adults trained in good fishing practices and sustainable actions.

In 2023, AMMCO plans to expand its network of partner schools in the environmental education program and to publish a new manual that is attuned to current environmental issues.

2020

2022

Achievements by areas of intervention

f. Protection of sensitive aquatic habitats.

Freshwater habitats.

For several years now, **Lake Ossa** has been the natural habitat of the African manatee. *Salvinia Molesta*. This invasive plant has covered almost **50% of the lake surface in 2021**, this rapid spread disrupts the natural environment for aquatic mammals and significantly impacts the livelihoods of fishermen in the town of Dizangue... The invasion resulted in the obstruction of shipping lanes and reduction of fish catches, thus creating competition around the main source of nutrition of the African manatee, which is an endangered specie. In partnership with Louisiana State University, IUCN, Save Our Species, and PBNF, we've introduced the **Salvinia weevil**, a specialized biological control agent, which feeds exclusively on the plant. In **2022**, weevils of *Salvinia Molesta*, who were raised, were released and dispersed in Lake Ossa in several waves. Studies have not yet been carried out to assess the level of results produced by this release.

"Graph illustrating the change in *Salvinia molesta* coverage on Lake Ossa over time."



Marine and coastal habitats.

AMMCO also works to protect marine and coastal habitats (still very poorly known today) along the Cameroonian coast. This activity of the Organization consists of the conservation and observation of the evolution of these habitats to understand their dynamics and constitute a reliable database. These data will be made available to decision-makers to serve as a basis for decision-making and the organization of public policies adapted to the challenges of Cameroon's marine and coastal habitats. These activities are:

- Monitoring at sea for the characterization of different benthic bottoms (already 8000ha in Kribi, 2000ha in Limbe) and observation of cetaceans (whales and dolphins);
- Monitoring of sea turtle nesting beaches; with the discovery of 5 nesting sites;
- Physical characterization of the sandy substrate of the nesting beaches;
- Beach cleaning campaigns, in particular very busy beaches like that of Ngoye in Kribi or that of Batoke in Limbe, where we removed approximately 500kg non-biodegradable debris.



Achievements by areas of intervention

g. Collaboration with public authorities for an effective and lasting impact.

On **February 24, 2022**, AMMCO received in Dizangué the visit of the regional and departmental delegation of the Ministry of Forests and Wildlife (MINFOF) to evaluate the proposed Memorandum of Understanding (MoU) relating to research and the conservation of aquatic megafauna and their habitat. This delegation led by the Regional Delegate of MINFOF for the Coast was made up of the Departmental Delegate of MINFOF for Sanaga-Maritime, the Head of the Coastal Wildlife Post, as well as the Curator of the Lake Ossa Wildlife Reserve (RFLO). At the end of this meeting, recommendations were made to improve collaboration between the two parties as follows:

- Strengthen direct cooperation with MINFOF delegations to intervene in a more targeted manner;
- Focus on activities that can generate political interest, such as ecotourism;
- Improve the sharing of research work.

In **July 2022**, the **Memorandum of Understanding** between AMMCO and MINFOF was renewed for another three years. In addition, AMMCO has also created a partnership with MINEPIA in the fight against IUU fishing and the improvement of fisheries management in Cameroon. The two entities undertook a three-year project, the **"Stop IUU Fishing in Cameroon"** project, already mentioned above.



OUR ACHIEVEMENTS IN 2022

2. AMMCO activities by area of intervention.





2.1. On the central and north coasts

During 2022, AMMCO invested heavily in the north and central coasts. We carried out activities in several localities, including Limbé, Dizangué, Douala and Nkam.

a. The activities carried out in Nkam.

Protection of the manatee in the Nkam River

They are mainly part of the "Protection of the manatee in the Nkam River" project, which was initiated in 2021 with the support of Synchronicity Earth. The objective of this project is to reduce poaching of the Nkam River manatee. During 2022, we were able to carry out the following activities:

- **Training of former poachers** In February, eight poachers from the village Seeas make bonjo, brought their hunting tools and agreed to undergo training in the field of heliculture. At the end of the training, they were provided with snails and snail pots to start their business. The goal was to offer them an alternative means of livelihood to manatee hunting.
- **Community awareness:** It was done in three phases with precise objectives and targets. The awareness campaign highlighting the importance of the manatee for the environment was carried out among traditional authorities and fishermen, the emphasis was placed in the villages where the greatest number of poachers live.

► **Phase 1 Raising awareness among traditional authorities and fishermen:** During this meeting, 23 people were interviewed on the role of the African manatee in the balance of the Nkam ecosystems. Additionally, discussions centered around adopting responsible fishing practices to avoid harming this balance. It was an opportunity to indicate to traditional authorities and fishermen that they all have a role to play in the preservation of this species.

► **Phase 2 - Community awareness in areas with a high number of poachers:** This other activity took place between February and March 2022, in the 30 villages identified as hosting the largest community of poachers. During this campaign, 80 local residents learned why the manatee is useful, and how man could benefit from its presence in the river. They also learned that the manatee has legal status as a protected species in Cameroon. Particular emphasis was placed on the criminal consequences of the illegal killing of this species. Many community members were unaware of the sanctions incurred in the event of manatee poaching.

► **Phase 3 - Mass Awareness Campaign:** As part of this initiative, approximately ten eye-catching posters were strategically placed in markets and schools across the Nkam department. Due to the remarkable footfall at these locations, we confidently estimate that our messages have reached over 5,000 individuals through the powerful medium of these posters.





b. Activities carried out in Douala

The main activities carried out in Douala as part of the execution of AMMCO's strategic plan are: monitoring of landing stages, application intelligence Siren, and public awareness.

Landings monitoring:

Monitoring of landing stages constituted one of AMMCO's main activities during the year 2022. Indeed, for **11 months** (from February to December 2022), AMMCO carried out monitoring on **4 landing stages (Youpwe, Essengue, Bandole, and Fishing port)** and **2 markets (Saker and Akwa-Nord)**. All these aquatic species (fish and other aquatic species) have been recorded and documented. Subsequently, weekly monitoring was carried out to report the possible presence of manatee meat in the markets.

This activity was made possible thanks to the creation of a network of **11 fishermen** trained in the use of the application Siren and distributed as follows: **06 fishermen** in Manoka, **04 in Youpwe**, and **01 in Essengue**. Thanks to the action of this network, **4,500 species** of fish and aquatic mammal species have been documented over the period.

Sample collection

The monitoring of landing stages in Douala also enabled the collection of samples of sharks and rays classified in the IUCN Red List of Threatened Species.

As part of the SOSF project, more than 100 samples of several shark and ray species were collected.

Douala market monitoring.



Raising awareness among the populations of the commune of Douala 6th

As part of the project called "Information, education and communication campaign on the sustainable management of fishery resources in the Douala 6th district" Led by the Caisse de Développement de la Pêche Maritime (CDPM) of which AMMCO is the technical partner, a survey on the evaluation of the perception of fishermen in Douala 6^e on the fishery resource was carried out on April 21 and 22, 2022 in the camps from Manoka. This survey carried out among 40 fishermen was intended to prepare the awareness campaign for fishermen in the Manoka camp.

The results of the survey among fishermen made it possible to prepare the awareness campaign by identifying the appropriate messages, taking into account the issues linked to the protection of the manatee. The information, education, and communication campaign on the sustainable management of fishery resources took place from April 27 to 30, 2022, in the camps of Manoka and Cap Cameroun, two strategic points in Douala 6th in matters of fishing. The campaign reached more than 700 people in the Douala 6 districts who were made aware of the importance of the manatee for the environment, the legal status of the manatee and the resulting criminal consequences of poaching manatees, as well as the attitudes to adapt to stem the endangerment of the species.

Public awareness meeting.





C. Activities carried out in Limbé

Activities in the Limbé area in 2022 were strongly oriented towards scientific research and the protection of marine mammals and their habitats. These are research and monitoring of threatened species and their habitat, development of synergies with other actors, capacity building, and awareness raising through awareness and education.

Research and monitoring

The citizen science program has been extended to monitoring artisanal fishing areas and areas where artisanal fishing and industrial fishing meet. Using Mini GPS onboard fishing boats, AMMCO collected data on the areas used by fishermen. The information thus obtained is supplemented by additional data on the species caught and the intrusions of industrial fishing vessels into sectors that are prohibited to them. The main products are:

- 20 fishermen from the Cote Southwest have collected data from timely sightings of whales, dolphins, sea turtles, rays, sharks, and other marine species;
- More than 2000 sightings have been reported by the West Coast (South West region);
- More than 5,000 observations reported by our network of 80 fishermen established throughout the Cameroonian coast. They also contributed to the documentation of seagrass meadows and the collection of information on water transparency;
- 25 sea trips aboard artisanal and semi-industrial fishing canoes conducted to identify elasmobranch capture sites, characterize the species captured, identify accidental captures of turtles and thus facilitate their rescue. This activity also makes it possible to document IUU fishing, study water transparency, and map corals and seagrass beds.
- 50 visits were conducted to landing stages and fish markets to characterize the catches of rays and, sharks, and other threatened marine megafauna. More than 100 elasmobranch samples were collected to serve as a basis for genetic studies;
- 17 sea turtles were rescued by network fishermen Siren. A sea turtle injured by the nets was treated in collaboration with the Limbe Wildlife Center before being released into the ocean;
- 04 intrusions de navires de pêche industrielle dans la zone de pêche artisanale ont été documentées près de Down Beach ;
- 2,500 young people trained in 10 primary schools and 5 middle and high schools on the dangers that threaten the ocean and its biodiversity thanks to our environmental education program;
- 2000 students under the age of 15 raised awareness during a festival celebrating marine wildlife organized at the end of the school year. They participated in classroom beach clean-up activities;
- 15 awareness sessions were carried out, and 50 fishermen were met directly. Furthermore, we estimate that we have reached around 500 fishermen through our regular presence on the landing stages and the various communication relays.



Monitoring of the landing stage at Down beach, Limbé.

All this information will be used, among other things, to improve the marine space management policy in Cameroon.



C. Activities carried out in Limbé

The development of synergies

All along the year, we have multiplied initiatives with the aim of rallying a greater number of key players in the field of aquatic megafauna conservation or whose activities have an impact on these species and their natural habitat. This strengthening of synergies took place at various levels.

First, AMMCO worked to strengthen its relationships with fishermen on the West Coast through collaboration with several groups, notably the Atlantic Fishermen Association (which is the Down Beach fishermen's Association). In the same vein, since October 2022, AMMCO has started a partnership with Manta Trust, an international organization working for the conservation of manta rays, mobulids, and their relatives. This partnership aims to establish a national and regional strategy for conserving sharks and rays in Cameroon and the Gulf of Guinea region.

Then, during a visit to an oil platform of the Borr Drilling Company, AMMCO initiated discussions on joint strategies to develop to protect marine turtles and cetaceans. The opportunity of this visit was taken to raise awareness among 50 platform workers of the need to protect marine turtles and cetaceans. To contribute to this, they were trained in using the application Siren to participate in the documentation of observations of these species.

In addition, we have carried out joint activities with the decentralized services of MINFOP (Programme for the Sustainable Management of Natural Resources in Southwest Cameroon and Limbe Wildlife Centre). These include environmental education and rehabilitation of injured animals.



Visit to Borr Drilling's oil platform.





d. Activities carried out in Dizangué.

Development of income-generating activities (IGA)

AMMCO's deployment strategy includes protecting the interests of local populations by providing them with alternative ways of meeting their needs. These income-generating activities are of various kinds, depending on the environment and the immediate needs of local people.

In Dizangué, as part of the fight against *Salvinia molesta*, we trained a group of 5 young people in a club (Club charbon écologique de Dizangué) and other local volunteers to transform the biomass of the plant extracted from the lake into ecological charcoal. There are 4 main stages in the process:

- Extraction of the plant from the lake,
- Drying, which can take from 5 to 10 days,
- Grinding and carbonization in specialized tanks,
- Mixing with a binding agent such as clay, and compacting to obtain a usable form.



Process for making charcoal from *salvinia molesta*.

During the training course, which lasted from February to April, we manually removed *salvinia* from the lake and cleaned the banks covered in it. More than **50 kg** of charcoal was produced this year; according to a study carried out in 2021, this quantity of charcoal is equivalent to around **2 tonnes** of fresh *salvinia*, bearing in mind that **1 kg** of charred *salvinia* is equivalent to **38.77 kg** of fresh *salvinia* when harvested. One challenge remains for the development of this activity: optimising the manufacturing process to obtain a better ratio between the quantity of raw material used and the quantity and quality of the charcoal produced, in order to obtain a better selling price.

Capacity building

On **17 February 2022** AMMCO held a capacity-building workshop for 6 eco-guards from the RFLO's conservation department, on the management of protected areas using new technologies. The aim of the training was to facilitate the work of these staff by introducing them to the piloting of aerial drones, which will enable them to monitor the islands of the RFLO effectively and at a lower cost. It is no longer necessary for them to mobilise a boat and travel physically to inspect dangerous or difficult-to-access areas. At the end of the training, the eco-guards expressed their satisfaction and their desire to acquire more modern equipment to support them in their daily work.



An eco-guard working on Lake Ossa.



d. Activities carried out in Dizangué

The development of ecotourism in Dizangué.

As part of the implementation of our strategy for reducing the economic vulnerability of the local community, we started an ecotourism program a few years ago centered on the observation of fauna and flora in this serene setting offered by Lake Ossa. This program contributes to the protection of the African manatee that lives in the lake and the safeguarding of its habitat. Its aim is to enable local populations to exploit the lake's riches differently. Thus, a value chain can be developed with a restaurant highlighting Cameroonian dishes based on fishing or livestock products, the mobilization of people from the local community to serve as tourist guides, and the organization of artistic services to promote local culture.

A first outing was organized in July for a group of around twenty tourists from Spain and Cameroon. They traveled the lake, and the Sanaga River to Pongo Songo to meet the chimpanzees. This was followed by a meal of local dishes during a stopover on Warnmann Island. The visit ended with Mbolé dance steps performed by young people from the community, to the great pleasure of the tourists.

This year, around 30 people experienced the ecotourism route offered by AMMCO on Lake Ossa. Nevertheless, we continue to work to improve the catalog of activities and the circuits to offer to visitors.

For the year 2023, we plan to deepen the experience offered to visitors by building a wooden bungalow on the banks of the lake to welcome visitors and offer them shelter day and night. We also want to train and involve women from the community in preparing meals and fishermen in guiding tourists for canoe trips. Once the teams are ready, we will be able to communicate more fully about this tourist destination by offering varied offers at affordable prices.





2.2. Activities implemented along the South Coast (Londji, Kribi, Ebodge, and Campo)

a. Towards the development of a management plan for the Marine National Park Manyange And Elombo-Campo" On the South Coast of Cameroon

AMMCO launched a project in 2021 entitled "Assessment of values, pressures, and threats in the Marine National Park Manyange And Elombo-Campo" to plan appropriate management of its biodiversity in collaboration with the partner CSO TubeAwu and funded by the UNDP GEF Small Grant Project. This project aims to improve knowledge of the marine park and establish a solid database that will be used by state institutions, businesses, and local communities in organizing better management of the resources of this very first Marine Area. Protected (MPA) of Cameroon. For the first phase of the project, from March to December 2022, the following activities were carried out:

The inventory of the marine megafauna of the MPA through 6 sea trips.

Between August and December, 3 trips to the marine park were carried out to identify the cetaceans present in the area. The method used to achieve this consisted of collecting information from fishermen before each trip, and then going to the areas indicated by them. During the outings organized for this 2022 campaign, AMMCO observed a total of 5 humpback whales. Collaboration in data collection with fishermen and the organisation "Tube Well" exercising in the zone, was achieved through the training of 08 patrol officers on the use of the mobile application Siren. Trained patrollers will participate in the intelligence of opportunistic observations on aquatic megafauna.

Characterization of the benthic bottom on the 5 km strip of the MPA:

characterization of artisanal fishing began with a questionnaire that made it possible to estimate fishing effort and catches in the area. Thus, it is estimated that more than 1,500 fishermen carry out their activity in and near the marine park. They mainly use surface drift gillnets with single-oxyal boats. After monitoring the landing stages, fishermen reportedly bring in an average of 10 kg of fish per trip. They specialize in catching pelagic species (bass, ethmalose and sardinella). In addition to the characterization of fishing through questionnaires and monitoring of landing stages, monitoring of fisheries was done with GPS embedded in the canoes to identify fishing zones in the Marine Park. After monitoring 89 tides, AMMCO finally identified two main fishing areas.

Characterization of the benthic bottom on the 5 km strip of the MPA:

The priority areas for this activity have been identified by the fishermen, and riverside at the marine park. These areas include Rocher du Loup, Rocher de la Tortue and the surroundings of Lake Piché... AMMCO identified and confirmed the presence of seagrass fields and reefs in these sites. As part of this activity, AMMCO teams were able to cover 50% of the 5 km strip of the MPA.

Environmental education of 500 students on MPA:

In the Campo district, 12 schools (primary and secondary) benefited from environmental education courses. The themes covered concerned sustainable development and sustainable fishing. In total, more than 500 students were affected.

Raising awareness about MPA:

Two awareness campaigns were organized as part of this activity:

- The first took place on June 8, World Oceans Day, during a reflection on the involvement of the local community in the management of the new marine protected area. In total, more than 1000 people, including students, fishermen, fish sellers, and administrative authorities, participated.
- The second campaign took place on October 1 during the celebration of World Tourism Week. An exhibition fair was organized in the presence of around fifty Cameroonian and foreign tourists. The event wanted to highlight the assets of the marine park, their role in the well-being of the local community, and the threats weighing on the MPA. The intervention concluded with questionnaires to check the visitors' level of understanding with prizes to be won.



b. The annual AMMCO Staff Retreat

The AMMCO staff retreat is an opportunity to bring together the entire team who work on several sites along the Cameroon coast. This year it was held from December 3 to 9, 2022, in Limbé. It was done in two phases: a team-building part with fun and discovery activities and a part dedicated to the evaluation workshop, planning, and capacity building of the team.

Team building activities:

During the initial two days of the retreat, our team seamlessly blended work and enjoyment through a series of activities. On day one, we kicked off by cleaning up Batoke beach. This endeavor piqued the curiosity of the local child fishermen, who eagerly joined forces with our team. In preparation for the night patrol to search for possible sea turtle nesting sites, the team set up camp on the beach and spent the night beneath the starry sky. Regrettably, no turtle sightings or egg-laying activities were documented.

The next day, after breaking camp, the team visited the Limbe Wildlife Center, a wildlife center that is a partner of AMMCO in the rehabilitation of certain species. The day ended with a big swim in the ocean. This program allowed AMMCO staff to strengthen their ties and develop their commitment to the conservation of the oceans and biodiversity.



The team assessment, planning, and capacity-building workshop.

The AMMCO office in Limbe served as the setting for this workshop. For 5 days, the entire staff participated in the work, which was carried out in three phases.

The first consisted of the presentation of internal documents such as the organization chart, the safeguarding policy, and the procedures manual by a facilitator who then strengthened the capacities of the staff for the optimal use of these documents.

The second phase took place in groups following AMMCO themes and projects to produce an action plan for the year 2023.

The last phase aimed to validate and adopt, in plenary, all the proposed activities.





THE CHALLENGES AND CONSTRAINTS ENCOUNTERED IN 2022

In addition to the positive results we have seen during this year, we have also faced major challenges and constraints in several aspects



Benthic marine habitats.

Research to improve knowledge of the typology of the seabed was limited by the lack of skills of the active team in diving and underwater photography. This constraint was reinforced by the absence of suitable equipment for this activity. Furthermore, logistical problems such as lack of fuel or the unavailability of sufficiently secure boats prevented us from exploring remote and landlocked sites like Bamusso. Nevertheless, we requested the support of the National Geographic Society (NGS) to benefit from their experience and obtain the appropriate equipment for exploring the seabed.

Protection of sea turtles.

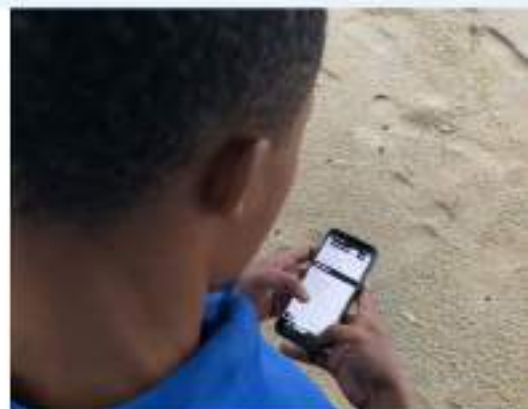
Despite recording marine turtles nesting on the beaches of Limbe, we have rarely been able to collect evidence of the hatching of spotted nests. Testimonies from local residents attest to the sight of juvenile turtles on certain beaches, but none of the nests duly documented has shown signs of an outbreak. Even though we are certain of cases of outbreaks in natural conditions, the question of mastering monitoring techniques for the hatching of endangered eggs deported to secure areas remains a challenge for the conservation of sea turtles.

Furthermore, we deplore the absence of sea turtle rehabilitation centers. Many turtles injured or victims of accidental capture lose their lives due to lack of appropriate care. We are discussing with the Limbe Wildlife Center to propose solutions to this problem.



Participatory Science.

This year we noticed a multitude of bugs on the SIREN Network application. The origin was a rapid development of the volume of data to be stored, which led to slowdowns and loss of certain data lines in the database. This problem required a redesign of the web and mobile application and the addition of new features. To carry out this work, the developer team was strengthened with the recruitment of a new Frontend to work on improving the interfaces. For several months, we observed numerous periods of service interruption. The limitation of access to the application during these maintenance periods led to the disruption of the continuity of user data collection work in the field. The new version of the application will require user capacity building.



Manatee poaching in Nkam.

In certain localities of the country, such as Nkam, manatee meat is very appreciated and considered as a delicacy of choice. Residents who consume them are always ready to pay a high price to have them, which pushes certain fishermen to continue to hunt and sell manatees by malicious means in this area and even as far as Douala. Despite awareness raising and the development of alternative activities to fishing and hunting, the difficulty still persists. We are committed to strengthening these conservation approaches and continuing to plead with the authorities for greater monitoring and enforcement of the law in this area.



AMMCO'S OUTLOOK FOR 2023

In 2023, AMMCO plans to continue its missions by supporting activities that could not be finalized in 2022 and by developing new others.



The continuation of the fight against IUU fishing.

AMMCO will continue the implementation of the "Stop IUU Fishing in Cameroon" project. And the activities to be implemented within this framework are as follows:

- Conducting exchanges aimed at improving fishing legislation. To do this, AMMCO and its partners will organize inclusive workshops, bringing together the various stakeholders to gather their opinions on the draft law developed internally by MINEPIA. The conclusions of these workshops will be consolidated in the form of a preliminary draft law and transferred to the Minister of Fisheries with a view to its transmission in the legislative circuit, hoping to obtain a reform of the fishing legislation in Cameroon.
- Continuing to strengthen MINEPIA's capacities: In 2023, efforts to improve MINEPIA's capacities to combat IUU fishing will be supported. Training will be provided and support provided to MINEPIA agents in terms of monitoring, control and surveillance of fishing activities at sea.



The organization of a 3rd edition of the Street Whale.

Recognizing the importance of engaging all relevant stakeholders in the conservation of fishery resources and natural marine habitats, AMMCO is excited to announce the upcoming 3rd edition of the Street Whale event in 2023. In upcoming editions, our focus will be on enhancing communication around the event and inviting international experts who can offer practical solutions for safeguarding aquatic megafauna and their habitats. This initiative extends not only within Cameroon but also across the broader sub-region.



Strengthening environmental education.

In 2023, AMMCO will continue its efforts and sustain its commitment to establish environmental clubs in schools within the city of Limbé. These clubs are already benefiting from Environmental Education courses... To adapt environmental education to evolving knowledge of aquatic megafauna and local specificities, AMMCO will work throughout 2023 to improve and update environmental education manuals.



1. Continuing to raise community awareness of the dangers faced by aquatic megafauna.

Raising awareness is a lifelong activity. This is justified by several social factors (the installation of new people in local markets targeted by AMMCO's activities) and scientific (awareness must be supported by up-to-date messages of scientific knowledge on the theme of aquatic megafauna and their natural environment). In 2023, as part of its various projects, AMMCO will continue to carry out community awareness campaigns both in villages and target markets.



The fight against *Salvinia molesta* on Lake Ossa.

The fight against *Salvinia molesta* undertaken on Lake Ossa produced encouraging results, observed in 2022. However, no scientific study has been carried out to assess the extent of the results and adopt any corrective measures that may be necessary... Furthermore, the biological control only makes it possible to compensate for the visible effects of *Salvinia* without acting on the real source of the problem.

So, in 2023, AMMCO plans to carry out a study to analyze and understand the source of *salvinia* nutrients in Lake Ossa. This study will make it possible to conduct advocacy and propose concrete actions for better integrated water resource management (IWRM) in the Sanaga watershed in the short or medium term.



FORECASTS FOR THE CONTINUATION OF THE PROJECT IMPLEMENTATION

« Assessment of values, pressures, and threats in the Marine National Park Manyange And Elombo-Campo to plan appropriate management of its biodiversity »

In 2023, the project will enter its second phase, which aims to evaluate and manage the MPA. The activities planned as part of this project for the first 6 months of 2023 essentially include:



- Carrying out six other sea trips to inventory marine megafauna;
- Characterization of the benthic bottom on the 3 nautical mile strip of the MPA;
- Monitoring of marine turtle nesting on land;
- Characterization of artisanal fishing;
- Raising awareness among local communities on the importance of MPAs;
- Environmental education of students;
- Assessing the values and assets of the MPA to plan adaptive management;
- The organization of a participatory workshop to assess the effectiveness of MPA management;
- The development of maps to assess land use and the tourism potential of the MPA.



Acknowledgments.

At the end of this exceptional year, we would like to express our deep gratitude to all our partners. Thanks to your support, we have been able to make extraordinary progress in our ongoing fight to preserve and sustainably manage our aquatic biodiversity in Africa. The results we produce year after year are the barometer that defines the starting point for the years to come. All this is only possible thanks to your support.

We would like to thank you most sincerely and look forward to continuing this fruitful collaboration over the coming years.

OUR PARTNERS



WITH THE SUPPORT OF THE NATIONAL GEOGRAPHIC SOCIETY



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