

# WOMEN WORKING IN BIODIVERSITY NOW!

Transforming approaches to conservation



**Women for  
Biodiversity**

**ANNUAL REPORT 2022**

**"Last year  
we learned with more  
clarity than ever how  
interconnected are  
the conservation of  
biodiversity with women"**

**On the cover:** QUECHUA indigenous woman leading a training committee for the conservation of primate populations in Tibú, Norte de Santander-COLOMBIA. Along with co-workers, she addresses issues of sustainable forest management, integrated water management, and promotion of conservation-based sustainable livelihoods © CarlaMendez

## **Building a future with women for nature**

IN MARCH 2022 I joined WOMEN FOR BIODIVERSITY CORP as Executive Director. It was one of the happiest days of my 8-year career in conservation, and also one of my proudest. Obviously, the first few weeks were not as I expected. Not the first months. It was precisely when the COVID-19 pandemic finally began to recede, wreaking havoc on families, healthcare systems and economies around the world. Nearly a year later, many of us are still working and continuing to maintain physical distance from our friends, colleagues, and loved ones.

Despite the challenges that this initial stint at the helm of WOMEN FOR BIODIVERSITY CORP—an organization I had admired for a long time and hoped to one day work with—presented for me, we were able to forge connections and make remarkable progress. I met thousands of colleagues and hundreds of collaborators and volunteer leaders. My colleagues and I obtained the information from our collaborations with indigenous QUECHUA communities that use fire as a tool to restore the health of the forests through conversations and photographs, without ever being able to feel the heat of a controlled burn. We celebrate the creation of the new 8,094-hectare (20,000-acre) HERALDO Natural Park in Norte de Santander. And we learned how to plant cacao trees from Colombian planters through an application of ancestral knowledge, seeing seedlings in our hands and smelling the moist rainforest soil around us. On the next few pages, you can learn more about these and other WOMEN FOR BIODIVERSITY CORP projects.

Many of the challenges that marked 2022—a global pandemic, record temperatures, fires and hurricanes, as well as long-overdue accountability with racist systems and calls for equality—continue to impact our lives. But 2022 was also marked by a spirit of resilience, tenacity and creativity. The world came together to solve problems in a different way, with unprecedented speed and collaboration. Building a future for nature now Never before has the scientific community mobilized so many minds and resources, and so quickly. Protecting nature supports economies, provides clean air and water and healthy food, and can also reduce the risk of future outbreaks of zoonotic diseases, which science tells us are partly due to habitat loss and to climate change. All over the world, people rekindled their connection with nature and sought solace in nature. It is my hope that we will be able to harness the tenacity and resilience that we have all developed in this very difficult year to build a better future together.

**MARIA ANGÉLICA TOVAR BRAVO, General manager**

## PROJECTS STARTED AND COMPLETED DURING 2022

### DEVELOPMENT OF SUSTAINABLE PATTERNS OF INTERACTION WITH THE LARGE TOOTH SAWFISH (PRISTIS PRISTIS) ON THE COLOMBIAN ATLANTIC COAST

Primarily due to continued exploitation off the Colombian Atlantic coast, the Large tooth Sawfish (*Pristis pristis*) was listed as 'CRITICALLY ENDANGERED' on the IUCN Red List of Threatened Species in 2016. The species is also listed on Appendix I of the IUCN Red List of Threatened Species. CMS and CITES Appendix II.



The number of Large tooth Sawfish (*Pristis pristis*) identified to date in the Colombian Atlantic coast is significant, with photographic identification coincidences with the Gulf of Morrosquillo (approx. 150 km southeast of the target area) and with the Bahía de Santa Marta (approx. 500 km east of the target area). Large tooth Sawfish (*Pristis pristis*) have been identified

returning to the same site for more than a year and the reason needs to be established.

The objective of this project, implemented by the WOMEN FOR BIODIVERSITY CORP, was to establish baseline data on the use of the habitat of the Large tooth Sawfish (*Pristis pristis*) where tourism took place. The NGO worked with the Local Government Units and the indigenous Arahuac community, under whose administration the Large tooth Sawfish (*Pristis pristis*) is located, to approve an ordinance that regulates the interactions of the Large tooth Sawfish (*Pristis pristis*) in a sustainable manner. During previous surveys, the NGO also observed oceanic manta rays, bent-fin devil rays, and spinner dolphins. Currently there are no data on these species for Colombia, and there is no regulation for their tourist interactions. The ordinance also included recommendations that minimize disturbance to these endangered species. During this period, we conducted new surveys during which environmental parameters and prey samples were collected where possible. Upon sighting a Large tooth Sawfish (*Pristis pristis*), a researcher entered the water, collected photographic identification images, noted the waypoint location, and collected biopsies and parasite samples where possible. The behavior of the whale shark was also observed.

Simultaneously, the NGO also participated in school activities and complemented the local educational curriculum with special emphasis on marine megafauna and marine ecosystems. Finally, a public event, the 'Large tooth Sawfish Festival', engaged the general public about the presence of whale sharks in the region and their importance.

<b>Date</b>	<b>January 2022 – December 2022</b>
<b>Beneficiary</b>	<b>300 Arahuac indigenous families</b>
<b>Amount</b>	<b>USD 10,000</b>
<b>Partner</b>	<b>University of Magdalena, CORPOMAGDALENA</b>
<b>State</b>	<b>Completed</b>

## STATUS AND CONSERVATION OF THE GIANT OTTER IN THE COLOMBIAN AMAZON

The giant otter is classified as 'Endangered' by the IUCN and listed on CITES Annex 1. Males and females measure between 1.50 m and 1.70 m. It is a territorial and social animal (groups of 2-15 individuals) known to be found in large, slow moving rivers, streams, lakes and swamps. They feed mainly on fish (occasionally reptiles such as alligators, snakes, and turtles).



During the 1990s, the giant otter population severely declined in the Amazon Wildlife National Reserve (southwestern Colombia) due to hunting for fur. Following the listing of the species in CITES Appendix I and the consequent restrictions on international trade, commercial hunting ceased. The populations managed to recover at a very slow rate, but studies revealed high conflicts between people and the giant otter in the area's surroundings. It also appears to be the case within the Ticuna indigenous territory.

The main objective of this project was to design a participatory action plan for the giant otter in the reserve. Several activities are planned by the Colombian Ministry of Environment and Conservation of Andean Amazon Ecosystems), WOMEN FOR BIODIVERSITY CORP, which implements the project.

Determine the status of the population. Three censuses of 20 days were carried out to record the observations and signals of the otters. Camera traps were placed in newly used burrows to estimate the number of individuals in the family group.

Identify the main threats to the giant otter in the region and assess people's attitudes, perceptions and behavior towards the species through in-depth interviews with institutional staff and local communities.

We develop educational/informative material to reduce the conflict between people and the giant otter by demystifying some misbeliefs. A comic was designed to address the main problems/threats of the species detected in previous activities and also to correct some doubts that may arise during the interviews with children and adults.

We designed a participatory action plan for the giant otter in CORPOAMAZONAS. All the information collected in all the previous activities was presented and discussed in a joint workshop with the reserve staff, the Ticuna indigenous trinal council and researchers from the University of AMAZONAS.

<b>Date</b>	January 2021 – october 2022
<b>Beneficiary</b>	300 Ticuna indigenous families
<b>Amount</b>	USD 10,000
<b>Partner</b>	University of Amazonas, CORPOAMAZONAS
<b>State</b>	Completed

**IDENTIFY THE PRESENCE, HABITAT USE, AND CONNECTIVITY OF  
THE SPECTACLED BEAR AND MOUNTAIN TAPIR**

The Amazon River basin in northern Colombia has undergone a series of territorial transformations since the 1980s as a result of the illegal occupation of territories for land trafficking and drug laundering. Large tracts of forested and agricultural land were destroyed and then sold or abandoned. In recent years, however, these lands are being reclaimed by local villagers for agriculture and ranching. Consequently, the Amazon River Basin, from the lowest elevation to the highest, has become extremely fragmented.



WOMEN FOR BIODIVERSITY ORG has been working in the lower Amazon River Basin since 2010 using a community-based approach to address the threats facing spectacled bears in the lower region. As a result of their work, this region has become a designated regional protected area. However, more than 75% of the spectacled bears in the basin live outside the park in the high mountain and moorland ecosystem where the mountain tapir also resides.

Therefore, it is vital to gain a better understanding of the presence of bears and tapirs in these upper regions and to assess the connectivity between upper and lower habitat within the watershed.

The primary objective of this project was to determine if (and how) the spectacled bear and montane tapir survive in a highly fragmented high-altitude moorland habitat and if there is connectivity between this area and the lower elevation wildlife refuge, with the ultimate goal of conservation and long-term survival of the species.

For this, secondary objectives were set:

Determine spectacled bear population and presence of mountain tapir for permanent monitoring

Train local citizen scientists to participate in a long-term population monitoring program

Determine high-priority conservation areas that include high-quality foraging areas and corridors connecting low-lying montane habitat with the high-elevation moorland ecosystem for spectacled bears and montane tapir.

Restore connectivity that is essential for bear movement between and within moorland and montane ecosystems and create a regional protected area

Improve the survival of spectacled bears and tapirs by reducing illegal activities, such as land trafficking, deforestation, and poaching. A site-specific action plan will be developed and meetings will be held with local and regional governments, community members and officials from the adjacent national wildlife refuge to discuss potential sites for the creation of a regional protected area.

<b>Date</b>	<b>January 2022 – october 2022</b>
<b>Beneficiary</b>	<b>300 Ticuna indigenous families</b>
<b>Amount</b>	<b>USD 10,000</b>
<b>Partner</b>	<b>University of Amazonas, CORPOAMAZONAS</b>
<b>State</b>	<b>Completed</b>

## PROTECTION OF GREEN AND HAWKSBILL TURTLES AND CREATION OF A MARINE PROTECTED AREA ON THE COLOMBIAN ATLANTIC COAST

WOMEN FOR BIODIVERSITY CORP is an NGO that carries out sea turtle conservation activities on the 30 km stretch of beach between the indigenous Arahuc peoples, the northern coastal region of Colombia most frequented by turtles.



Sea turtles are threatened on many fronts: illegal fishing, both industrial and artisanal, often carried out a few tens of meters from the coast with inappropriate methods (incorrect mesh size, prohibited products, etc.);

<b>Date</b>	January 2022 – December 2022
<b>Beneficiary</b>	100 Arahuc indigenous families
<b>Amount</b>	USD 8,000
<b>Partner</b>	University of Magdalena, CORPOMAGDALENA
<b>State</b>	Completed

uncontrolled exploitation of natural resources; deforestation for agriculture; charcoal production; poaching; construction of hotels facing the sea; and weak law enforcement.

Each year, the NGO teams manage to protect between 30 and 50 green turtle nests and 2 to 10 hawksbill nests on the beach. But their habitats include marine areas that contain feeding and nursery areas (rocks, corals, etc.) that are critical to the species.

This project had the objective of safeguarding the marine habitat of these two species of turtles through the creation of a Marine Protected Area. To achieve this, we set two secondary objectives:

Studies of marine ecosystems were carried out. Details of the current fishing situation were collected through interviews with artisanal fishermen. Ten artisanal fishing boats were equipped with GPS tracking systems to monitor their fishing areas, and fishing data was also collected at Morrosquillo Gulf ports.

Initiatives were launched to protect the two species in the marine area. **WOMEN FOR BIODIVERSITY CORP** staff, in collaboration with local communities, provided a description of the green and hawksbill turtle habitats. It is planned to draw up a map of the different types of habitats and carry out an inventory of marine biodiversity in the area. In addition, the behavior of turtles in known feeding and resting areas was observed. Finally, bycatch data was also collected.

## UNRAVELING THE ECOLOGY OF THE ARAHUAC LIZARD (ALOPOGLOSSUS LEHMANNI), AN ENDEMIC SPECIES OF COLOMBIA

The Sierra Nevada de Santa Marta is classified as Integral Natural Reserves and they are currently uninhabited. These areas are home to important endemic species, but little studied due to the remoteness of the area and the harsh logistical conditions (lack of airport and port, without sources of drinking water and without permanent human infrastructure).



The Arahua lizard (*Alopoglossus lehmanni*) is one of the smallest in the world and is found in each of these ecosystems. Little information is known about population size (expected to fluctuate widely), diet, and behavior. It has been classified as CRITICALLY ENDANGERED mainly due to its reduced redistribution.

It is vital to understand how important these links are so that future conservation actions can have an overall positive impact on the survival of these species. The WOMEN FOR BIODIVERSITY CORP team focused this project primarily on the Sierra Nevada de Santa Marta where at least five different lizard colonies are present and where the species is easiest to study.

To do this, several objectives were set:

Define the distribution range and population sizes of the species. The WOMEN FOR BIODIVERSITY CORP team will develop a capture-mark-recapture method in two different habitats: rocky and flat. After this first approach, they replicated the method in five different zones around the islet to find out the density and distribution in each zone using transects. The WOMEN FOR BIODIVERSITY CORP team collected biometric data, sex-ratio as well as feces and tail samples for further laboratory analysis using next-generation sequencing.

We identify the main prey of the species and quantify the trophic relationships with bird and arthropod species. A comprehensive analysis of the gecko diet was performed using meta-barcoding of fecal pellets. This technique maximizes resolution, detection of rare events, detection of soft, small, and invisible prey, and ultimately can correct for biases in ecological models.

This information is essential to guide the management plans required by the National Environment Directorate (DNA). It will allow BIOSFERA, a Colombia-based NGO, to establish the most important areas and habitats for the species in order to better manage access to the islets by fishermen, to obtain baseline population size estimates for monitoring long-term. We also provide critical data to assess the possibility of reintroduction, confirming if the same prey items are available in both areas) in Santa Marta, where the population went extinct due to human pressure and climate change to increase its chances of survival.

<b>Date</b>	<b>January 2022 – August 2022</b>
<b>Beneficiary</b>	<b>100 Arahua indigenous families</b>
<b>Amount</b>	<b>USD 5,000</b>
<b>Partner</b>	<b>University of Magdalena, CORPOMAGDALENA</b>
<b>State</b>	<b>Completed</b>





**CLIMATE CHANGE is the biggest  
challenge of our time.**

**The solution is GLOBAL,  
it is LOCAL and start NOW.**