Annual Report 2023

Activities of the Wild Chimpanzee Foundation for improved conservation of chimpanzees and their habitat in West Africa

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January 2024

Summary 2023 and Outlook for 2024

By the president of the Wild Chimpanzee Foundation, Christophe Boesch

Biodiversity loss and climate change are two of the most important challenges and risks for human societies. But the window of opportunity to address them is closing fast and international governments are acting too slowly. At least, in December 2023 the main outcomes of the United Nations Climate Change Conference (COP28) in Dubai, were moving into the right direction: for the first time, all nations formally agreed to move away from fossil fuels and rapidly ramp up renewable energy. A fossil fuel phase-out agreement was adopted, which commits the parties to transition away from fossil fuels in energy systems, in a just, orderly and equitable manner, so as to achieve net-zero emissions by 2050. In addition, COP28 negotiations resulted in an agreement signed by 18 countries to implement a Loss and Damage Fund, which will direct funding toward countries most vulnerable to the effects of extreme weather events, including droughts, flooding, and rising seas. Governments will need the help of Non-Governmental Organizations to move forward with their signed conservation commitments.

For this the Wild Chimpanzee Foundation is working in close collaboration with the government authorities in West Africa to create new protected areas such as **Grebo-Krahn National Park and Krahn-Bassa National Park in Liberia**, **Moyen-Bafing National Park and Pinselli-Soyah-Sabouyah National Park in Guinea**, **Cavally Nature Reserve in Côte d'Ivoire**. In these protected areas important critically endangered West African chimpanzee populations will be protected, besides many other endangered species such as elephants, leopards and pygmy hippos. The creation of new protected areas contributes to the national goal of Liberia to protect 30% of their remaining forest by 2030. The same holds for Guinea and their official goal to place 15% of the terrestrial surfaces under protection by 2020. The Ivorian Government adopts a comprehensive national strategy for the preservation, rehabilitation, and extension of forests from 2019, aiming to restore at least 20% of the country's forest cover.

The WCF vision to enhance the future of the critically endangered West African chimpanzee and its habitat throughout the countries from <u>Guinea to Sierra Leone, Liberia and Côte d'Ivoire</u> has been pursued in 2023.

<u>In Guinea and Sierra Leone</u>, we are working with several partners to create a transboundary forest landscape including the **National Parks of Outamba and Kilimi**, and the forests of **Pinselli-Soyah-Sabouyah**. This biodiversity-rich landscape is inhabited not only by the critically endangered West African chimpanzees, but also by one of the largest West African populations of forest elephants, sadly also critically endangered. In Guinea, where the largest population of West African chimpanzees is still found, WCF pursued our vision of a large forested corridor from the Niokolo-Koba National Park in Senegal, through the Foutah Djallon region with the Moyen-Bafing National Park to the Outamba National Park in Sierra Leone. With the help of different collaborations, partnerships and generous funding agencies such as EU Natura Guinée, we plan to expand in 2024 to new areas within this large corridor. The WCF signed an agreement with the Guinean government to help them to develop and manage 17 protected areas within the country. At the same time, WCF is confronted with some of the important drivers of the biodiversity crisis worldwide, and we are learning new approaches to address those threats. One of them is the degradation and fragmentation of habitat through the development of mining projects. Guinea has invested a lot in developing its mineral resources and has become the first world producer of bauxite, the raw material for aluminium. They also have an extremely ambitious project to develop the largest global iron ore mine in the Simandou Mountains. Luckily, the government of Guinea wants the environmental factor to be well considered, and so we have been working with the "Ministère de l'Environnement et du Développement Durable" to ensure that a realistic and concrete mitigation plan will be implemented where development projects might have important negative impacts on biodiversity rich areas. However, such an approach means that unescapable negative impacts will be incurred on nature, and well-planned and financially-supported offset projects somewhere else in the country should compensate for those negative impacts. According to the World Bank, they should actually reach a net gain, by which more chimpanzees will be protected than those negatively impacted. WCF is lobbying strongly with mining companies to reach such an outcome for its new landscape project.

<u>In Guinea,</u> the chimpanzee offset project in the **Moyen-Bafing National Park** was handed over to the Public Private Partnership process and we hope another qualified Non-Governmental Organisation will be found for managing the Moyen-Bafing National Park.

<u>In Liberia,</u> after completing the creation of the **Grebo-Krahn National Park** in the east of the country at the border of Côte d'Ivoire, we are working with the local and national authorities such as the Liberia Forestry Development Authority to create the **Kwa National Park**, previously known as Krahn-Bassa Proposed Protected Area. In May 2023, the completion of the draft gazettement package for Krahn-Bassa Proposed Protected Area, in order to establish the Kwa National Park, was a major achievement. This followed after all the steps required by the legal framework for protected area establishment in Liberia were completed in full compliance with the Free Prior and Informed Consent. Regional and national consultations for the validation of the gazettement package were held in June 2023, and the 60-days public notice of intent period for the creation of the national park was completed in August 2023. While other activities, including the extension of the beekeeping program to train and mentor 100 beekeepers, in addition to the 84 previously trained, set up conservation enterprises, and environmental education activities with wildlife clubs at local schools are ongoing, the gazettement process was put on hold after August 2023, partly due to the presidential elections. A few tasks to be completed by FDA, the Liberia Land Authority, and other conservation partners working in the landscape are still pending before the gazettement package can reach the presidential office and parliament in 2024.

In 2023, <u>WCF Liberia and Côte d'Ivoire</u> continued a large transboundary multi-year project with West Africa Biodiversity and Low Emissions Development (WABiLED) from USAID. The aim of the project is to reduce deforestation and biodiversity loss in the **Taï-Grebo-Krahn-Sapo forest landscape** through community ecoguards, community-based ecotourism, biomonitoring, and other targeted actions.

<u>In Côte d'Ivoire,</u> the Ivorian Government announced the official transformation of Cavally Classified Forest into a protected area now known as the **Cavally Nature Reserve** in September 2023. The Cavally forest, stretching across a vast expanse of 67,500 hectares, occupies a central position within the transboundary **Taï-Grebo-Krahn-Sapo forest complex** - the largest remaining forest block in West Africa, renowned for its exceptional and endemic wildlife species. Since many years the WCF team was advising the Ivorian Government to do this upgrading of Cavally forest and we are very happy about this monumental move to conserve one of West Africa's last bastions of biodiversity. WCF also continued conservation activities in **Taï National Park** in collaboration with "Office Ivoirien des Parcs et Réserves".

Outlook for 2024

The biodiversity crisis continues, and therefore WCF's efforts to create protected areas are desperately needed. New sources of funding and new protected areas will help WCF to continue in 2024 to implement our successful conservation model. Collaborations have been established with RainForest Trust, USAID – WABiLED, EU PROBIO Liberia and EU Natura Guinée to implement more protected areas in West Africa. This will come with the need to increase our field staff in those countries and expand our areas of work. The work with the private sector, mainly mining companies such as Rio Tinto in Guinea, will remain strictly focused on enforcing the mitigation hierarchy, based on the four principles, avoidance, mitigation, restoration and compensation, so that in the end, the balance remains positive for nature. This requires some revolution in the way the private sector has been thinking and working, but luckily the worldwide move towards more care for the environment will enhance our aim to reach some positive results in the mid-term. The WCF is committed to achieve this goal.

To achieve WCF's goals in favour of biodiversity there is a dire need for efficient and rapid tools to monitor wild animal populations. To that end, we are not only implementing systematic biomonitoring in all the areas we help to manage, we are also at the forefront of improving automated methods to be able to rapidly analyse the many thousands of videos we collect in the areas. Our WCF biomonitoring team collaborates with different organisations worldwide to improve some open source tools to make the monitoring precise and efficient through the Zamba Cloud platform (www.zambacloud.org).
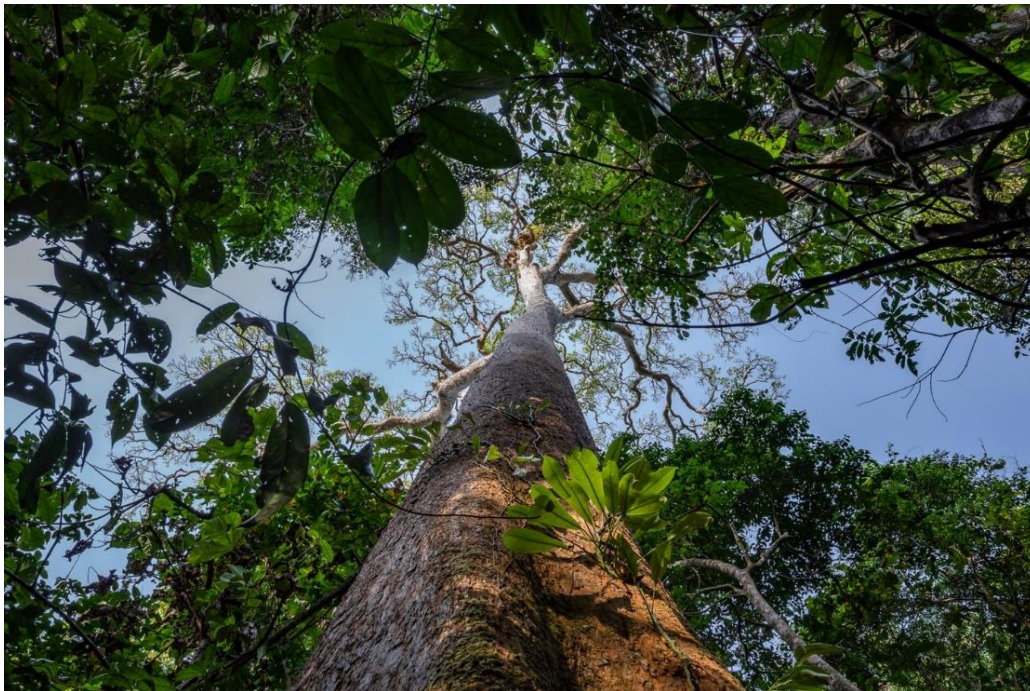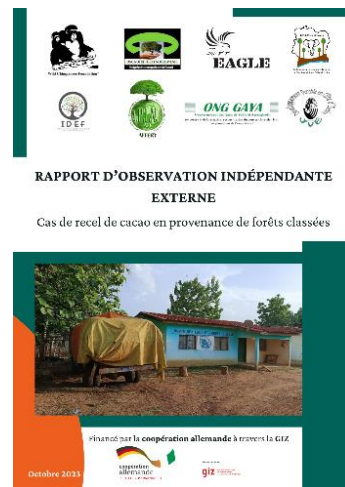
WCF will support chimpanzee research projects, urgently needed to ensure the conservation of the important chimpanzee populations in the Taï National Park, Côte d'Ivoire, in Loango National Park, Gabon, and in the Moyen-Bafing National Park, Guinea.

See below the detailed annual activity reports of **Côte d'Ivoire**, **Liberia** and **Guinea** including our work in **Sierra Leone**.

Wild Chimpanzee Foundation

West African Representation –

WCF Côte d'Ivoire

23 BP 238 Abidjan 23

Tel: +225 07-87-42-49-99

Email: abidjan@wildchimps.org

Annual Report 2023 – WCF Côte d'Ivoire

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Acronyms

AI – Artificial Intelligence
CCF – Cavally Classified Forest
CNR – Cavally Nature Reserve
CTDS – Camera trap distance sampling
CV – Coefficient of variation
EU – European Union
GKNP – Grebo-Krahn National Park in Liberia
IDW - Inverse distance weighting
IFEF – Institut de formation et d'éducation feminine – Women training institute
IM – Independent Monitoring
KBPPA – Krahn-Bassa Proposed Protected Area in Liberia
LTDS – Line transect distance sampling
NGO – Non-Governmental Organization
OIPR – Office Ivoirien des Parcs et Réserves
OKNP – Outamba-Kilimi National Park in Sierra Leone
PPSSNP – Proposed Pinselli-Soyah-Sabouyah National Park in Guinea
SODEFOR – Société de Développement des Forêts
TNP – Taï National Park in Côte d'Ivoire
WCF – Wild Chimpanzee Foundation

Executive summary

In Côte d'Ivoire, activities in 2023 included biomonitoring, the ecoguard program, awareness raising, and ecotourism with new projects being developed towards the end of the year. Currently, the WCF biomonitoring team is supporting data analyses from Guinea, Sierra Leone, Liberia and Côte d'Ivoire. We also tested the Zamba application, which uses artificial intelligence to accelerate the analyses and reduce human bias. We confirmed that the application produced the same results for Maxwell's duikers as the manual analysis, but in just 3 hours compared with the 768 hours required by the video analysis team. This year, Adiko Noël Houa successfully defended his PhD-thesis on "Ecological monitoring of conservation target species in the Taï National Park, south-west Côte d'Ivoire: Effects of automatic camera response on density and abundance estimates".

One hundred days of patrols were carried out in the Cavally Classified Forest during the year 2023. Eleven ecoguards patrolled the southern conservation area travelling 1,644 km. We observed an increase of the abandoned farms (abandoned for more than 3 years). In 2017, 1.95% of the detected cocoa farms were abandoned and this increased to 29.40% in 2023. In Taï National Park, ten ecoguards patrolled extensively over 93% of the research and ecotourism area, representing 1,073 km of patrols. Encounter rates of poaching signs remained below 0.5 signs/km.

In 2023, 246 tourists booked a tour at Taï Ecotourism. These visits generated more than 34,060,000 FCFA (51,924 €) which, after deducting community benefits and taxes paid to the municipality of Taï and fees paid to "Office Ivoirien des Parcs et Réserves" (OIPR), represents 33% of the annual operational costs of the project, a promising step towards self-financing.

In 2023 the WCF worked with the Ivorian civil society to publish an external independent monitoring report on illegal cocoa from classified forests being bought by cocoa cooperatives and international buyers. During the period of revision of the report by the Ministry of Eaux et Forêt, the government decided to increase the protection status of Cavally Classified Forest to a Nature Reserve. This information was communicated on the 13th of September 2023 after adoption of the decree in the Ministry Council. From this point, WCF started working with OIPR, in charge now of this forest and a first patrol was supported in December 2023.

1. **Biomonitoring**

   1.1. **Biomonitoring unit specialized in video analyses in Abidjan**

A biomonitoring unit constituted of six video analysts, two program managers, one biomonitoring expert and the country director of WCF Côte d'Ivoire is currently analysing line transect (LTDS – line transect distance sampling) and camera trap data (CTDS – camera trap distance sampling) from Guinea (Proposed Pinselli-Soyah-Sabouyah National Park - PPSSNP), Sierra Leone (Outamba-Kilimi National Park - OKNP), Liberia (Grebo-Krahn National Park - GKNP and Krahn-Bassa Proposed Protected Area - KBPPA) and Côte d'Ivoire (Taï National Park - TNP and Cavally National Reserve - CNR). The CTDS method is relatively recent and data are quite complex to analyze because of the variability that exists in nature. Although CTDS can be used to estimate the abundance and density of multiple species from multiple sizes and behaviors with data from one unique design, the coefficients of variation (CVs) of the estimates are still relatively high (>30%) for most species and trends over time are quite difficult to evaluate. The WCF biomonitoring unit is meeting weekly to discuss the data, their analyses and how to ensure better quality data, from field data collection to data processing. We are also developing tools and for instance a video in French with English subtitles was developed on how to set up camera traps and how to record radial distance, as a tool for the field teams.

Manual analyses to identify the species and estimate the radial distances are time-consuming and create human bias. We are also testing a software called Zamba that integrates Artificial Intelligence (AI), to accelerate the analyses and reduce human bias. For the distance estimation, we are focusing on species that move mainly alone and do not react to the camera traps. Some preliminary results on automatic distance estimation are promising (Table 1.) For the Maxwell's duikers in the Taï National Park, the distance estimation with Zamba can increase the speed of the analysis time by 256, while giving similar density and abundance estimates (3 hours with Zamba versus 768 hours with human analysts).

Table 1: Preliminary results on automatic distance estimation

Dataset	Time to estimate radial distances	Category	Estimate	LCI	UCI	CV (%)
Zamba distances	~ 3 hours	Density	22,1	17,9	27,3	10
		Abundance	118354	96166	146103	10
Manual distances	96 working days = 768 hours	Density	21,2	17,8	25	10
		Abundance	113604	91248	131674	10

   1.2. **Biomonitoring in Grebo-Krahn National Park, Liberia**

The biomonitoring report from the Greko-Krahn National Park (GKNP)/Liberia survey carried out in 2020 was finalized. The survey was done using a combination of two methods: line transect and camera trap distance sampling.

The teams walked a total of 230.34 km along line transects throughout the park and camera traps were deployed for around six weeks at 447 points, for a total of 18,089 camera trap-days and capturing 22,624 videos. We produced interpolation maps (using the inverse distance weighting – IDW method) to study the spatial distribution of mammal species using encounter rates (indices/km from LTDS data) and indices of relative abundance (events/100 camera-days from CTDS data). We also produced a spatial distribution map of the illegal human activities from LTDS data. We estimated the abundance and density of 16 species from CTDS. For the chimpanzees, we compared estimates with those from LTDS data based on the detected nests. Among these results, a density of 0.19 chimpanzees/km² for a population of 175 and 177 individuals (CV= 26 and 35 for LTDS and CTDS, resp.) has been estimated from LTDS and CTDS. Results show that there is a negative trend in chimpanzee abundance compared to 2014, although the difference is not significant. Among other important results, a relatively high density for the area of Brooke's duikers has been estimated (2,557 individuals at a density of 2.66 individuals/km² and a CV of 17).

Table 2. Chimpanzee abundance and density estimates from line transect (LTDS) and camera trap (CTDS) distance sampling data from Grebo-Krahn National Park, Liberia.

Method	Year	Abundance		Density	CV	95% CI
LTDS	2014	257		0.24	29	0.166-0.434
	2015	259		0.24	26	0.164-0.446
	2019	175		0.19	26	0.112-0.298
CTDS	2019	177		0.19	35	0.111-0.306

Of the two biomonitoring methods, only the LTDS method can be used to detect illegal human activities. Encounter rates for illegal human activities are similar to those of the 2014 study (4.75 signs/km).

Although we estimated the abundance and density of 16 species that can serve as a baseline for studying trends over time, a second phase of CTDS will be necessary to confirm and refine the estimates.

1.3. <u>Biomonitoring in Taï National Park, Côte d'Ivoire</u>

The second phase of biomonitoring in the Taï National Park (TNP) using camera traps and led by OIPR took place in 2021-2022. The WCF biomonitoring unit in Abidjan analyzed the videos of phase 2 and completed the analysis of phase 1 (2019-2020). The abundance and density of twenty nocturnal, diurnal and cathemeral species, from white-breasted guineafowls to forest elephants, were estimated. Chimpanzee population size was estimated to be 1,236 individuals at a density of 0.23 individuals/km² (CV=43%). Phase 2 was supposed to serve as a phase to validate and fine tune the results of phase 1. However, the quality of the data collected in phase 2 is low: part of the points were not sampled or part of the data was not usable (Fig.1). Only 143 of the 291 camera points (49%) planned in the design had usable data. This problem is mainly due to the lack of supervision and material because 37% of the cameras were not set up in the forest, 6% of the points had incomplete data, 4% of the cameras were stolen and 3% of the cameras were not working properly.

A third biomonitoring phase, planned to start in early 2024, will be very important to confirm all results, and more so to avoid all the mistakes made during phase 2. WCF will be strongly involved in this phase 3 to further build OIPR's capacity.
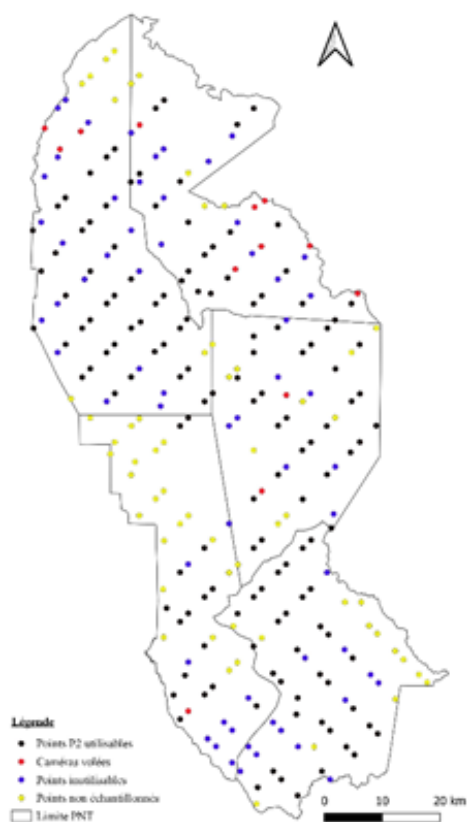

Figure 1. Camera trap deployment in phase 2 in the Taï National Park.

1.4. Community ecoguards in Taï National Park

At the beginning of 2023, a new WCF community ecoguard team (four men and two women) was trained by Claire Willaume during her civic service (Fig. 2A). This team is working together with the Taï Chimpanzee Project (TCP) team on a monitoring program launched since 2009 in the TNP ecotourism and research area. Both teams patrol this area while collecting information on illegal human activities, direct and indirect signs of wildlife presence (Table 3). The area of 500 km² was divided into of 132 cells of 4 km² to guide the ecoguards to entirely cover the area. During the 16th biomonitoring phase (October 2022 – June 2023), both teams conducted patrols in 123 cells and walked 1,072.7 km.

Table 3. Encounter rate of a few species and illegal activities during the annual monitoring.

Species/category	Chimpanzees	Monkeys	Elephants	Pygmy hippopotamus	Illegal human activities
Encounter rate (indices/km)	0,1	1,02	0,18	0,1	0,39

Despite a high abundance of chimpanzees in the area, chimpanzee nests remained highly undetected (only 13 nests detected). To understand the poaching patterns, we decided to start night patrols, as poaching is more frequent at night. Furthermore, we decided to combine transect and recces for the 17th phase of monitoring in the area (Fig. 2B). In September 2023, Adiko Houa trained both teams in the new protocol. This should allow us to record more detailed data and thus better understand poaching patterns (Fig. 2C).
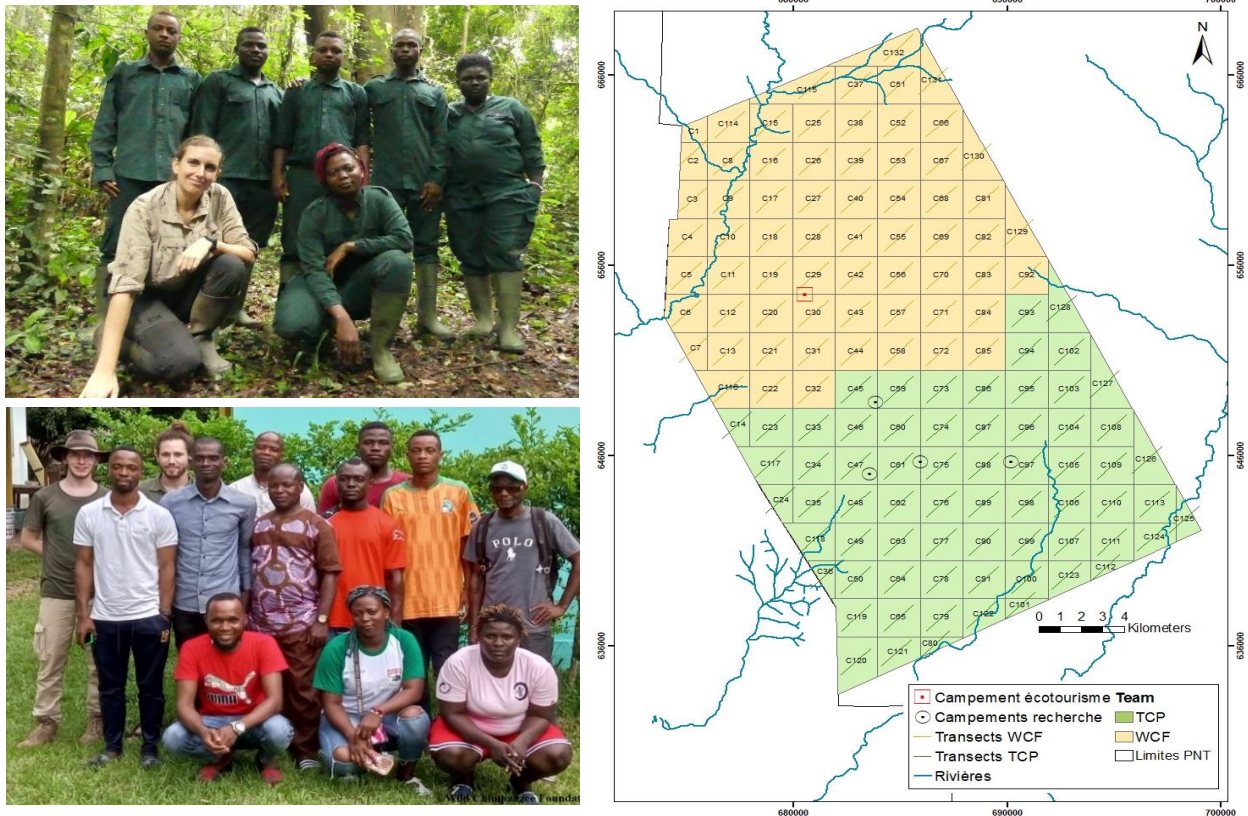

Figure 2. (A) The new WCF community ecoguard team trained by Claire Willaume, (B) the new biomonitoring design, (C) WCF and TCP ecoguard teams training on line transect data collection by Adiko Houa.

1.5. <u>Community ecoguards in Cavally Nature Reserve</u>

Cavally Nature Reserve (CNR), previously Cavally Classified Forest (CCF), is one of the last remaining forests in Côte d'Ivoire with continuous forest cover and the presence of chimpanzees. However, threats to wildlife and forest are huge: cocoa farming, gold mining and poaching are difficult to tackle because of human and financial resource lacks and the location of the forest bordering Liberia. In response to the huge threats of deforestation and degradation of the Cavally Classified Forest (CCF), the monitoring activities of the ecoguards were concentrated in the South protection zone of the forest, 130 km² to protect a refuge area for wildlife. The area was divided in 134 cells of 1 km² to ensure the ecoguards' presence all over the area. Phase 1 ran from December 2022 to June 2023 in this southern protection zone. 100% of the cells were patrolled by the ecoguards and this represented a total patrol effort of 1,653.39 km, including 64 km of transects completed. The forest status has been analyzed and is presented in Table 4.

Table 4: State of vegetation in the Cavally Classified Forest southern protection zone	
Type de vegetation	Percentage (%)
Secondary Forest	56,08
Abandoned cocoa farms	29,40
Plantation	14,41
Land clearing	0,11
Total	100,00

As part of our Cavally Classified Forest monitoring program, we distinguish between different categories of vegetation depending on land use:

- **Secondary forest**: Natural vegetation without cultivation or clearing.
- **Plantation**: Extent of illegal crops created by infiltrating farmers.
- **Clearing**: Forest area newly cleared by planters.
- **Abandoned farm**: Former cultivated area colonized by a secondary vegetation formation dominated by parasol wildflowers, cheese trees, etc. over 2 meters tall and herbaceous plants.

The collected data shows that the southern protection area of the Cavally Classified Forest consists of more than 56% secondary forest.
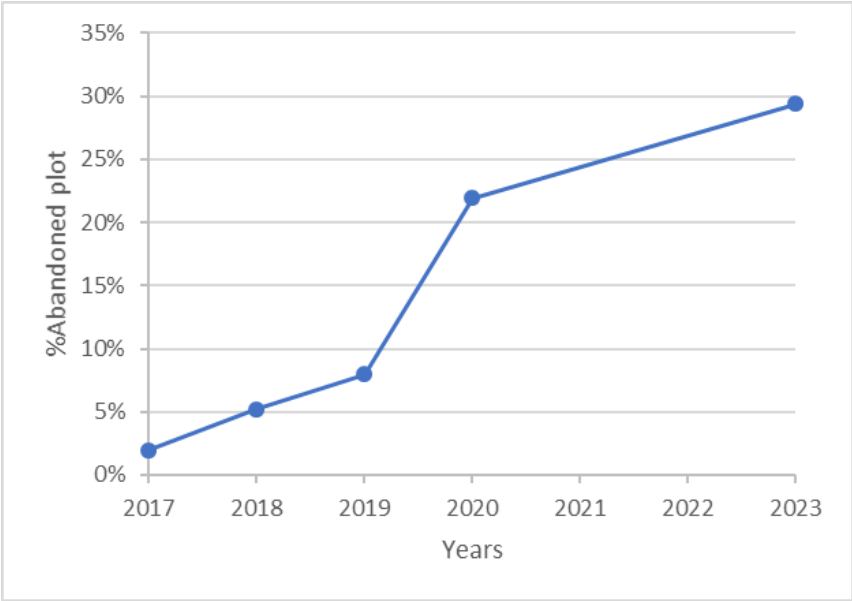

Figure 3: Increase of abandoned plots in the southern protection area of the Cavally Classified Forest.

We noted an increase of abandoned farms from 1.95% in 2017 to 29.40% in 2023. The vegetation type of an abandoned farm corresponds to fallow land that has been growing for around three years. This is a positive result revealing the impact of efforts and patrols organized during the last six years. However, the situation has not yet been stabilized for 14.52% of the area, with illegal plantations and new clearings.

The map below (Figure 4) shows the current agricultural occupation in the monitored areas, generated from the phase 1 patrols. Over 98% of these crops are dominated by cocoa, most of them were established after 2020. 87.44% of these plantations are open (at least 50% of the trees on the plot have been felled or burnt by the farmers). The areas where the plantations are maintained by the farmers are mainly South and next to the border of the forest. This could mean that in a few years' time, areas where farmers do not come back could become abandoned plots and secondary forests through natural regeneration will grow.

Poaching was assessed through recces (reconnaissance walks) and transects (Table 5). We encountered 0.48 signs of poaching per kilometer walked. Poaching is higher close to the Liberian boarder and also to the Ivorian villages. We collected in total 393 empty cartridges and destroyed 52 poaching traps revealing the intensity of poaching in the area.
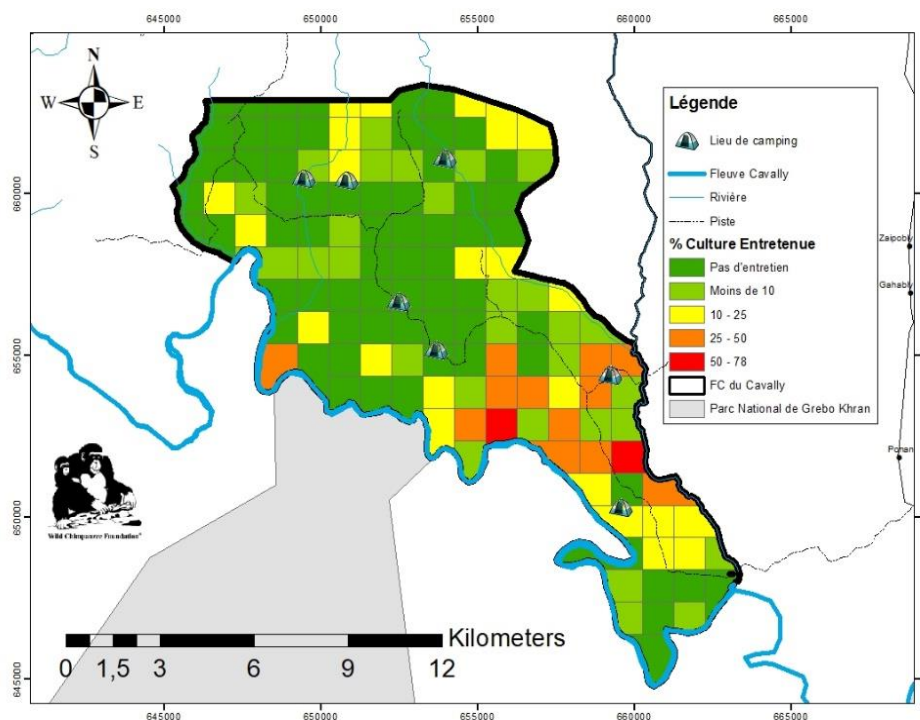

Figure 4: Map showing crop maintenance areas in the Cavally Classified Forest southern protection area

Table 5: Encounter rate poaching in the Cavally Classified Forest southern protection area

Description	Recce + Transect		Transect	
	No	Encounter rate (signs/km)	No	Encounter rate (signs/km)
Empty gun cartridge	372	0.22	21	0.33
Full gun cartridge	5	0.00	3	0.05
Poaching trails	57	0.03	5	0.08
Poacher traps	50	0.03	2	0.03
Gun Shot	19	0.01	0	0.00
Poaching camp	8	0.01	0	0.00
Total	**511**	**0.31**	**31**	**0.48**

Additionally, during their patrols, "Société de Développement des Forêts" (SODEFOR) agents destroyed 66 farmer shelters for cocoa storage or rest, four cocoa tree nurseries and 35.49 ha of illegal crops.

Despite this high human pressure on Cavally Classified Forest, 18 species of mammals have been observed, such as forest buffalo, western chimpanzee, Campbell's monkey, red colobus, sooty mangabey, lesser spot-nosed monkey, Diana monkey, pygmy hippopotamus and bongo. We started to set up camera traps in the southern protection area in June 2023 to estimate the abundance of wildlife.

The program has been put on hold between October and November 2023 and has restarted differently in December. The reason is the governement's decision on the 13th of September 2023 to fully protect the forest by creating the Cavally Nature Rerserve (CNR). The main changes are that OIPR is now in charge of the forest management and the forest is not a wood production forest anymore, thus logging has been stopped. These are great news for conservation and it will be very interesting to document how this will help to improve the conservation of chimpanzees in this forest in the next years. In the meantime, the community ecoguards executed two missions in TNP to support chimpanzee habituation in the ecotourism area in November 2023. In December 2023, they started patrolling the Cavally Nature Rerserve with OIPR for a recognition mission and they were able to restart the monitoring in the south of the forest, collect and replace camera traps.

1.6. <u>**Independent monitoring of cocoa trafficking from classified forests**</u>

To complement the monitoring activities in the Cavally Classified Forest, an independent monitoring (IM) project has been set up in collaboration with the Ivorian civil society. The aim of this project is to improve law enforcement in order to reduce illegal activities in the Cavally forest, mainly cocoa farming, poaching and gold mining. This project started in January 2023 and enabled the observation of a case of concealment of cocoa coming out of the Cavally forest and the procedural shortcomings that hampered the smooth handling of the court case.
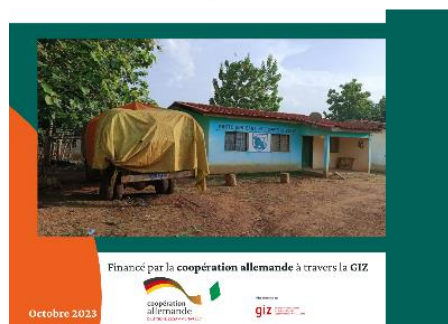
In April 2023, civil society observers witnessed cocoa farmers transporting their cocoa to the Goin-Débé Classified Forest. The cocoa was loaded onto a lorry in the Goin-Débé Classified Forest and stopped at Zagné following information given to the Eaux et Forêts officers. The case was dismissed by the Guiglo court a week later. We decided to analyze this case to underline the weakness of the procedures in place, the non-application of the law on Goin-Débé Classified Forest, where cocoa is freely taken out of the forest, "tolerated by state agents" even though this is prohibited by Ivorian law, and finally present the risk of this situation for cocoa

economy in the light of the new European Union (EU) legislation on deforestation adopted in June 2023. With this new legislation the EU forbids illegal cocoa and cocoa from deforestation into the European Market.

The report developed by eight NGOs and Civil Society Organizations was submitted to the Ministry of Eaux et Forêts, World Cocoa Foundation, Cocoa-Coffee Council, and various stakeholders in the cocoa industry in Côte d'Ivoire. After a legal deadline of 45 days, the forestry administration, through the Minister of Eaux et Forêts of Côte d'Ivoire, issued its opinion on the report, which was integrated in the final version, that was made public in November 2023. The civil society recommends strengthening law enforcement in classified forests to improve forest preservation and wildlife conservation. It also points out that if radical measures are not taken, Ivorian cocoa could be classified as "high risk" under new EU regulations, which would make it much more difficult to import cocoa into the European market. Indeed, under the new restrictive regulations, the fact that cocoa produced in protected areas finds its way into the cocoa supply chain constitutes a real risk that should not be overlooked.

In 2024, the project will continue on the same path through field surveys, while stepping up awareness-raising activities aimed at local populations, particularly on the new status of the Cavally forest as Cavally Nature Reserve, and supporting the new administration in charge of it (Office Ivoirien des Parcs et Réserves - OIPR).

2. **Alternative Livelihoods**
2.1. **Taï Ecotourism**

2023 has been a good year for the progress of the Taï Ecotourism project, with an increase of 38% of the number of tourists from 178 persons in 2022 to 246 in 2023. Maintaining the quality of the project has enabled us to achieve this result, with a tourist satisfaction rate of 95%.
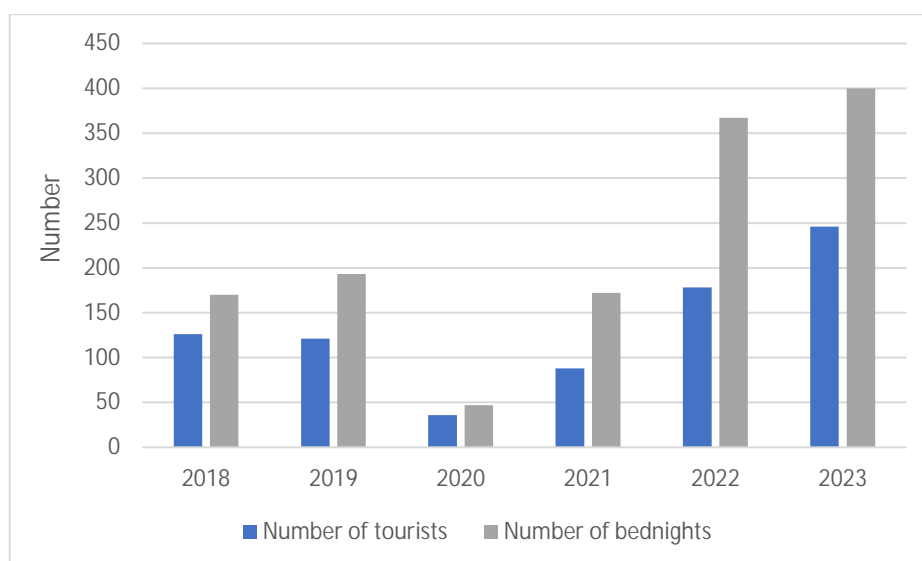

Figure 5: Development of tourists and bed night numbers from 2018 to 2023

The ecoguides are working daily in the forest following the sooty mangabeys to ensure that tourists can see them when they come. At the campsite in the forest the ecotourism team stayed focused and put everything in place for the comfort of the visitors, from the cleanliness of the camp to the preparation of the meals and the good accommodation in the safari tents. The team in Taï is working to welcome and organize the logistics to offer the best experience to the tourists, from their arrival to their departure. A total of 246 tourists visited Taï National Park in 2023, corresponding to 400 nights (367 bed-nights in 2022), generating more than 34,060,000 FCFA (51,924 €). The touristic activities support the community project in Daobly, which welcomed 105 tourists who came to the village after one or two nights in the park, generating 2,960,000 FCFA/ (4,515 €). In 2022, 30 tourists came to Daobly, generating an amount of 1,024,000 FCFA/ (1,562 €).

Figure 6: Top left, Donald in the forest observing the sooty mangabeys, bottom left, members of the Daobly community after a traditional evening and right Cynthia, Yolande and Franck working in the Taï Ecotourism camp

As mentioned, the tourist satisfaction rate of their vacation with Taï Ecotourism is of 95% this year. When we look at the satisfaction forms, we can see that the lower notes are still for the accommodation in the city of Taï (75%) followed by the project in Daobly (86%). The potentials for improvement have been identified and the members of the project in Daobly are starting to work on it (electricity, touristic welcoming etc.). They have built a fourth traditional hut in December and a fifth one is planned. Thanks to the support of Côte d'Ivoire Tourisme, we will help the project with furniture (bed, mattress, dishes etc.).

2.2. <u>Primate habituation for ecotourism</u>

The primary objective of the ecotourism project is to strengthen the protection of wildlife in the Taï National Park. The constant presence of the tourist ecoguides who ensure constant following of the primate groups that are habituated, or in the process of habituation to human presence, ensures that individuals in these groups will not be hunted by poachers. Globally, over the last six years, the habituated sooty mangabey group has increased from 40 individuals to 63, with fluctuations linked to incoming of males, birth, and individuals disappearing (male migration, poaching, diseases, predation).
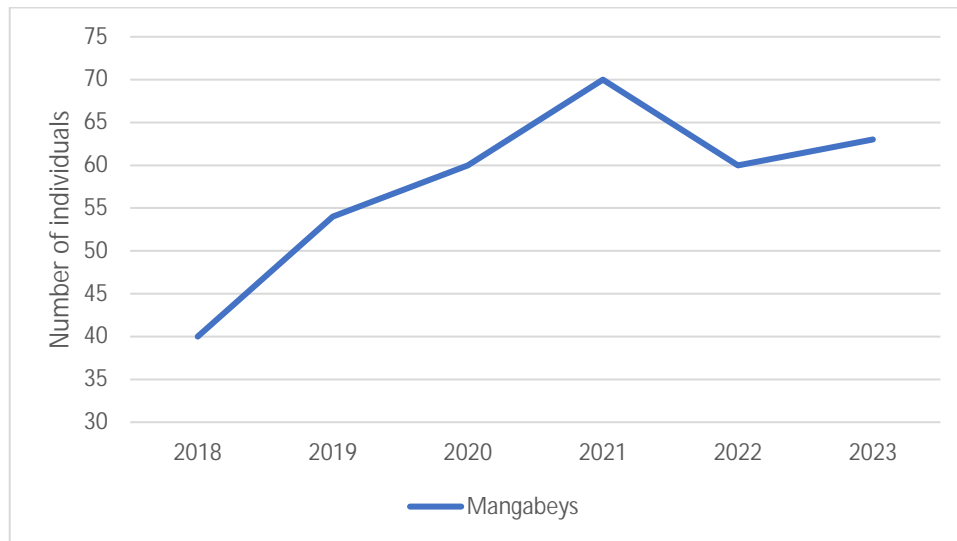

Figure 7: Number of sooty mangabeys observed in the habituated group in the Taï National Park between 2018 and 2023.

The sooty mangabeys are followed the full day from the time they wake up until they sleep. On average the group is successfully followed 29 days/month. The ecoguides work together every day, and at the end of the day to explain to each other what happens in the forest and they also meet when they leave the forest with the new team entering, to explain what happened during the previous days. 63 individuals were followed this year. It seems that a few females have disappeared in the last three months of the year, and this will be monitoring closely in 2024.

For the western red colobus monkeys, the evolution of the number of individuals is difficult to determine, because the ecoguides are not able to distinguish individuals and are not following them every day. Additionally, it seems that there are two groups of red colobus around the ecotourism camp, one with 40 individuals and another one with 60 individuals, approximately. The ecoguides will try to confirm this next year. The red colobuses are followed on average 4 days/month. In 2023, 60 individuals at maximum were counted during the year. We do not need to follow them every day as their territory is small and next to the ecotourism camp, but the regular visit is nevertheless important to have information about the group and also to guide the tourists to observe them.
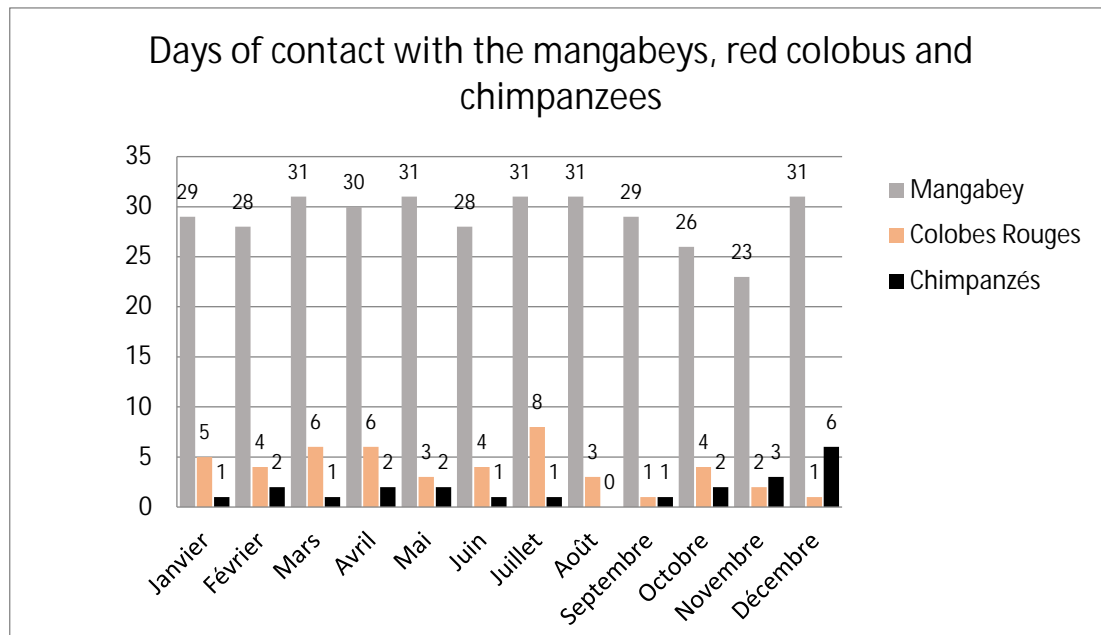
Figure 8: Days of contact with the sooty mangabeys, red colobus et chimpanzees per month

In 2023, the habituation of chimpanzees was not fully successful. Indeed, the search goes on with an average of 26 days per month, which led to only 16 observations. However, there was some improvement towards the end of the year. In October, the chimpanzees were followed once until the group prepared their nest in the trees and the ecoguides found them again in the morning. Chimpanzees are often very silent and elusive, as poaching seemed to have increased in the area where we encounter them. Generally, the encounter rate remains low according to the annual monitoring results, but the ecoguides have the feeling to hear more gunshots in the area. To ensure a better protection of the area, we took different measures in order to collect more precise data on poaching, to increase patrolling in the area with the community ecoguards, to more quickly pass on any information on signs of poaching to OIPR, and then send a summary after each mission. Additionally, we started increasing patrols in the area in November with 20 days patrols of the ecoguards from Cavally, and a special program has been developed for the TNP ecoguards to reinforce their presence in the areas where poaching signs were higher. OIPR is expecting and planning to recruit more agents to be able to increase patrols, as well in the ecotourism and research areas. This will happen in 2024.

2.3. <u>Community-based tourism initiatives</u>

To increase the number of beneficiaries of the ecotourism project we are supporting initiatives to sell craft products to tourists at the ecomuseum in Taï or to supply the forest camp with fresh fruits and vegetables purchased from the local communities.

- **Cocoa processing project (zero deforestation cocoa)**

During the year 2023, Rachelle Guehi from Gouléako has sold 122 bags of chocolate chips of 100g, 93 of 250g, 48 bags of chocolate bars of 100g and 170 bags of 250g at the ecomuseum, making a total of 433 products sold. Our expectations were largely exceeded: tourists bought more than expected (90% of them bought at least one product, compared with the 80%

estimated in the business plan) and other visitors - with a direct or indirect link to the WCF - bought a large number of products. In particular, WCF employees were responsible for 27% of purchases, and tourists for 42%. The entire production and sale represent a gross profit of 839,500 FCFA (1,280 €). We only followed what has been sold at the ecomuseum, but Rachelle has also extended her activity outside the ecomuseum.

- **Evaluating beekeeping project**

The three beekeepers from the G80 group in Keibly were able to carry out a single harvest in March, collecting around 12 liters of honey, which was then sold at 8,000 CFA francs per liter in jars of various sizes. The income was 97,000 CFA francs (148 €). They are limited to develop the activities in the area, as it is not possible to find wood to build new beehives. We therefore are preparing a project to develop alternative beehives to support them in 2024.

- **Permaculture project**

After the training organized in 2020, the Daobly group maintained their production, but not without challenges. In 2023, we tried to accompany them weekly to follow up on the different problems. This helped to reorganize the group with now two people representing the main group and between five and eight people to support them, when needed. The Taï Ecotourism project has been able to buy eggplants, radishes and cucumbers directly from the garden for tourists. Currently, the gross income is around 20,000 FCFA for the year, but many crops are being grown (carrots, lettuce, cabbage, eggplants) to be available beginning of 2024.

- **Collaboration with artists**

Three statuettes made by Cédric were sold for a total of 15,000CFA (23 €). Smaller sculptures and carved wooden necklaces are planned.

- **Collaboration with the women institute of training and education (IFEF)**

"Institut de Formation et d'Education Féminine" (IFEF) is a specialized school to support young out-of-school girls and provide them with professional training. Since September, we developed a new collaboration with the school. They proposed to develop loincloth bags and produced the first 15 samples. Eleven have already been sold at the end of the year for a total income of 33,500CFA (53 €). Other loincloth items (scrunchies, headbands, purses) are currently being produced.

2.4. <u>Environmental education at the Taï Ecomuseum</u>

The Taï Ecomuseum is mainly visited by children aged between 4 and 16 years. The educational and stimulating activities carried out (drawings, team games, readings, film screenings) have resulted in an average of at least 12 visitors per working day. On Wednesday afternoons in March and May, CM1 and CM2 pupils (4th and 5th grade in French speaking countries) from primary school Taï 2, 3 and 6 took part in programmed activities, while in October and November (and for the following months) an environmental education program was set up with classes of 6ème from the Collège "New Leader".

Awareness-raising activities on the protection of the Taï National Park and environmental education at the ecomuseum have reached an average of 276 persons per month, and we have worked with three public primary schools and one private secondary school, with a total of 233 pupils in 2023.

Figure 9 : Various awareness and environmental education activities conducted at the Taï Ecomuseum in 2023.

3. <u>Acknowledgements</u>

The WCF Côte d'Ivoire team is grateful to its partners in Côte d'Ivoire, in particular "Office Ivoirien des Parcs et Réserves" (OIPR) and "Société pour le Développement des Forêts" (SODEFOR), who have worked alongside WCF to implement all projects. Other partners with whom projects were implemented and we would like to thank, in no particular order, are: NOFNA - Notre forêt Notre Avenir, Mairie de Taï, EAGLE - EcoActivists for Governance and Law Enforcement, IDEF - Initiatives pour le Développement Communautaire et la conservation de la Forêt, GAYA – Gouvernement des Amis Yadio et Assangbadji, JVE – Jeunes Volontaires pour l'Environnement, APFNP – Association des propriétaires de Forêts Naturelles et Plantations, Green Answers, Ministère des Affaires étrangères, Ministère des Eaux et Forêts and Ministère de l'Environnement, IDH – the Sustainable Trade Initiative.

We send special thanks to all community members supporting chimpanzee protection, especially to the community ecoguards and ecoguides.

We would like to thank our donors, without whom none of our projects would be possible: GIZ, Arcus Foundation, Côte d'Ivoire Tourisme, Ambassade de France en Côte d'Ivoire, Tusk Ranger Fund, and WABiLED - West Africa Biodiversity and Low Emissions Development from USAID.

**WILD CHIMPANZEE FOUNDATION
LIBERIA REPRESENTATION**
Opposite German Embassy, Congo Town,
Monrovia, Montserrado County
Tel: +231 (0) 881497339
Email: liberia@wildchimps.org

Web: www.wildchimps.org

ACTIVITY REPORT 2023 - WCF LIBERIA

JANUARY – DECEMBER 2023

*World Chimpanzee Day celebration led by Community Volunteers in Saclepea,
Nima County, in July 2023*

Table of contents

Acronyms

CENFOR	Center for Environment, Forest Conservation and Research
CSO	Civil Society Organization
FDA	Forestry Development Authority (Liberia)
FTI	Forestry Training Institute
FPPA	Foya Proposed Protected Area
GFNP	Gola Forest National Park
GKNP	Grebo-Krahn National Park
KBPPA	Krahn-Bassa Proposed Protected Area
LPSMUR	Lake Piso Sustainable Multiple Use Reserve
LiWiSa	Libassa Wildlife Sanctuary
LLA	Liberia Land Authority
LMA	Liberia Marketing Association
MIA	Ministry of Internal Affairs
MoU	Memorandum of Understanding
NGO	Non-Governmental Organization
NTFP	Non-timber forest product
PADEV	Partners in Development
PKNP	Proposed Kwa National Park
RSPB	Royal Society for the Protection of Birds
SNP	Sapo National Park
SCNL	Society for the Conservation of Nature of Liberia
SMART	Spatial Monitoring and Reporting Tool
UOF	Universal Outreach Foundation
WCF	Wild Chimpanzee Foundation

Executive summary

In 2023, WCF in Liberia continued to support the community ecoguard programs at Grebo-Krahn National Park (GKNP) and Proposed Kwa National Park (PKNP), previously known as Krahn-Bassa Proposed Protected Area (KBPPA), in southeastern Liberia, as well as in collaboration with partners at Lake Piso Sustainable Multiple Use Reserve, Gola Forest National Park and Foya Proposed Protected Area in northwestern Liberia. Furthermore, regular tourism zone patrols were conducted by tourist guides and ecoguards in the tourism zone in Sapo National Park (SNP). In total, 174 community members, incl. 73 women, as well as 38 team leaders (rangers or auxiliaries of the Liberian Forestry Development Authority (FDA), are active in the community ecoguard and tourism zone patrol programs in these areas. Besides three recruitment sessions to include new team members for GKNP, SNP, and PKNP, intense refresher and Spatial Monitoring and Reporting Tool (SMART) training sessions were conducted at all sites, to ensure continuously correct data collection and to improve the skills in digital data collection.

As a new element supporting law enforcement at GKNP, and also serving as a pilot program for other protected areas in Liberia, a new auxiliary program with 12 community auxiliaries, including one woman, was established in August 2023, to support FDA rangers in conducting law enforcement patrols. These patrols are targeting priority areas identified during the community ecoguard surveillance patrols.

In September 2023, eight biomonitoring teams were trained at PKNP to perform standardized camera trap distance sampling in combination with line transect throughout the area. Thirty-two local community members, including seven women are part of the teams who go on monthly field missions. The aim of the survey is to get updated information on population sizes and distribution of key species.

In the framework of the national community volunteer program in collaboration with FDA and the Liberia Marketing Association (LMA), 250 female bushmeat sellers were trained in eight bushmeat trade hotspots across Liberia. They are helping to raise awareness in their local markets and are participating in awareness events, while changing to legal businesses. So far, 198 female bushmeat sellers stopped selling bushmeat and are now involved in legal businesses thanks to this program.

In May 2023, the completion of the draft gazettement package for KBPPA, in order to establish the Kwa National Park, was a major achievement. This followed after all the steps required by the legal framework for protected area establishment in Liberia were completed in full compliance with the Free Prior and Informed Consent. Regional and national consultations for the validation of the gazettement package were held in June 2023, and the 60-days public notice of intent period for the creation of the national park was completed in August 2023. While other activities, including the extension of the beekeeping program to train and mentor 100 beekeepers, in addition to the 84 previously trained, set up conservation enterprises, and environmental education activities with wildlife clubs at local schools are ongoing, the gazettement process was put on hold after August 2023, partly due to the presidential elections. A few tasks to be completed by FDA, the Liberia Land Authority, and other conservation partners working in the landscape are still pending before the gazettement package can reach the presidential office and parliament.

WCF's major activities in Liberia from January to December 2023 are outlined below:

1) <u>**Community Ecoguard Program in southeastern and northwestern Liberia**</u>
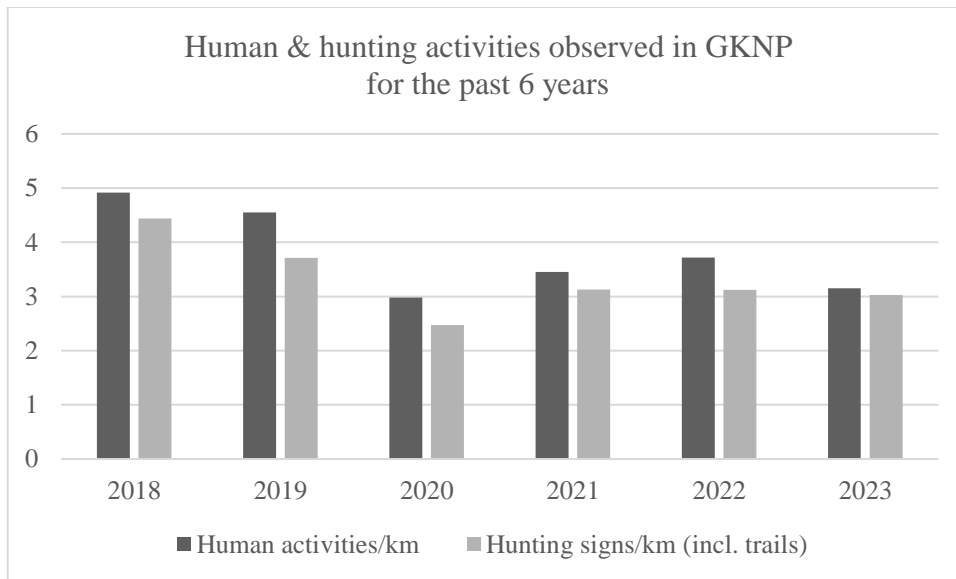
- *Grebo-Krahn National Park (GKNP)*

From January to December 2023, the eight community ecoguard teams at GKNP, composed of 32 community members (including 16 women) and led by eight team leaders, conducted **33 forest patrols**, covering a total number of 228 grid cells (each grid cell being 4x4km, some being visited repeatedly) and a total distance of 907.22 km. The number of days spent on forest patrol was 230, with a total of 1,059-person days.

During the 33 forest patrols conducted, the teams observed **2,858 signs of human activities**, **including 2,547 signs of hunting**, with an encounter rate of 3.15 signs of human activities per kilometer, and 3.03 signs of hunting per kilometer. By far the greatest threats observed by the teams was poaching, including trails potentially used by poachers, with comparatively few felled trees, illegal timber and chewing stick extraction, and very few mining observations. Compared to 2022, the observations in 2023 show an **overall decrease of observed human activities by 15.30%**, but only a 3.00% decrease in hunting signs. While generally it is a good sign that overall human activities have reduced, in particular illegal chewing stick and timber extraction, the hunting pressure remains very serious and effective law enforcement and clear action against poachers must be prioritized. To some extent, the interruption of patrols during the election period in October and November may have contributed to partly limited impact of the community ecoguard program on hunting. It is also important to understand the extent of the cross-border trafficking of bushmeat from GKNP to Côte d'Ivoire, where increased gold mining activities in the landscape, as well as more and more limited access to Ivorian bushmeat, have led to an increased demand and high prices for bushmeat coming from Liberia.

Spatial Monitoring and Reporting Tool (SMART) reports are produced every month and annually, and all reports are shared with the FDA Community Ecoguard Unit, which is also holding the national SMART database (with support from WCF). The SMART reports are also being shared with the local FDA team, in order to allow for the planning of law enforcement missions with the joint security. However, since 2020, FDA was not able to organize any joint security patrols for GKNP from 2020 to 2023, due to the lack of funding. In 2023, while funding was secured by WCF for this important activity, during the period from July to December 2023, the FDA Conservation Department was reluctant to support and plan this urgently needed law enforcement activity due to the presidential elections.

With regard to key threatened wildlife, the teams made **595 key wildlife observations**, including observations of the most threatened species, such as the critically endangered western chimpanzee and African forest elephant; the endangered Diana monkey, western red colobus, king colobus, Jentink's duiker, and pygmy hippopotamus; and the vulnerable sooty mangabey, olive colobus, Golden cat, Brooke's duiker, and Zebra duiker. No observations were made of leopards. However, this species is particularly inconspicuous.

Encounter rates (signs/km) of illegal human and hunting activities observed in Grebo-Krahn National Park (GKNP) from 2018 to 2023
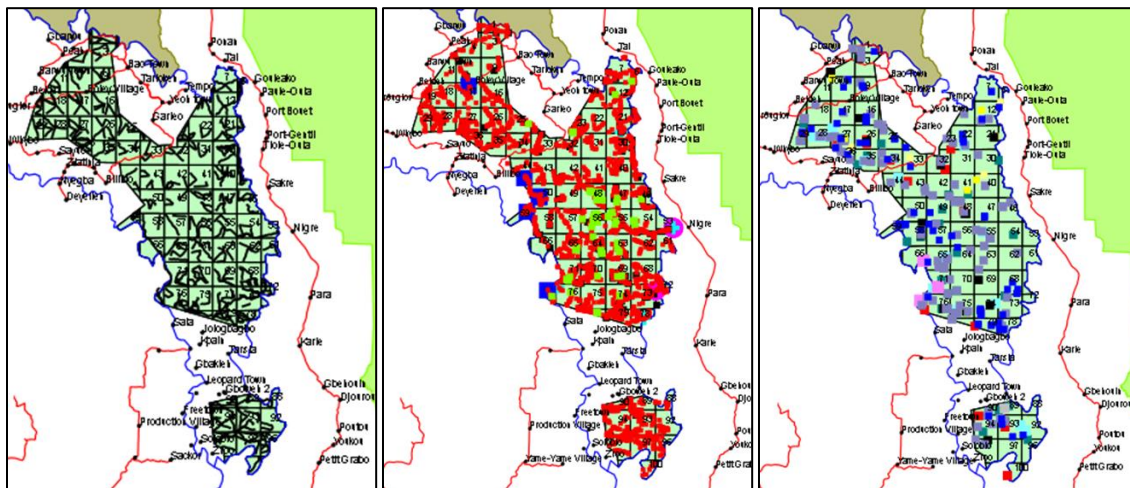
Map of community ecoguard patrol coverage in GKNP throughout 2023

Map of observed human activities in GKNP in 2023, with 89% of all observations being linked to hunting

Map showing the distribution of key wildlife species observations made during patrols in GKNP in 2023

Active hunting tents observed during patrols in Grebo-Krahn National Park (GKNP).

After the forest patrols, the community ecoguard teams held **57 awareness meetings** in the communities adjacent to GKNP. During these awareness meetings, a total of **626 community members** were sensitized. These awareness meetings allow for a dialogue between community ecoguards and local community members to discuss illegal encroachment within the park and strategize approaches to discourage future illegal activities.

Awareness raising in Kpain Town conducted by community ecoguard team members after a forest patrol in Grebo-Krahn National Park

In 2023, the community ecoguard program at GKNP has been supported by Rainforest Rescue, WABiLED/USAID, the Illegal Wildlife Trade Challenge Fund/UKAID, and John-Ball Zoo.

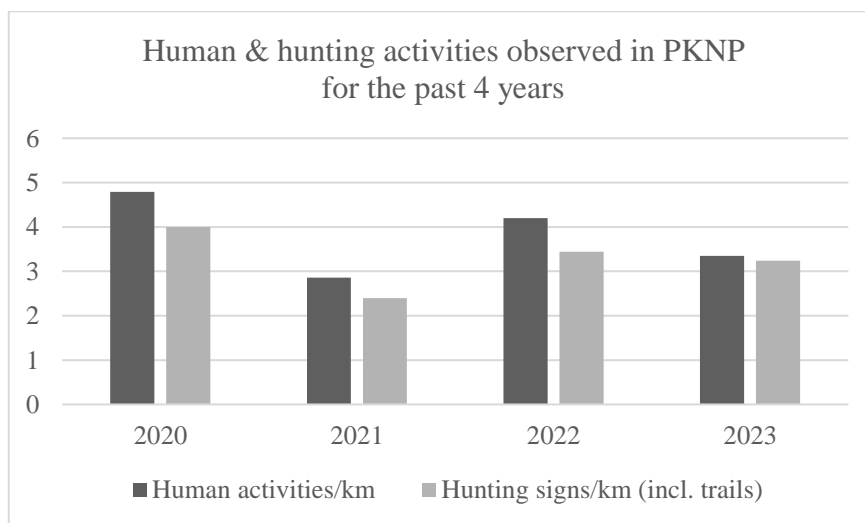- *Proposed Kwa National Park (PKNP)*

In 2023, the ten community ecoguard teams in PKNP (previously known as Krahn-Bassa Proposed Protected Area (KBPPA)), composed of 40 community members (including 16 women), were mainly focused on pre-gazettement activities around the PKNP until September, while the regular forest patrols resumed in November, after the recruitment of additional team members and an intense refresher training. The presidential election in October and November caused further interruptions. Therefore, the number of patrols was limited to 12. For two consecutive years, 2022 and 2023, the forest patrols of the community ecoguard were only few, which however will change from 2024 onwards.

During the **12 forest patrols** in 2023, the teams covered 68 grid cells and a total distance of 269.42 km, over 68 patrol days or 296-person days. An area of 22,020 ha where ecoguard patrols were conducted at the beginning of 2023 was later on excluded from the future national park by FDA, as they decided that they do not want for a road to pass through the future national park, separating the southern part from the rest, though the road is a small dirt road. In 2023, the patrols focused more on the western and eastern part of PKNP, on the one hand because few areas were not accessible due to the very high-water level of some rivers. Towards the end of 2023, certain areas were not targeted by the community ecoguards, in order to avoid interference with the biomonitoring activities.

The ecoguard teams observed **903 signs of human activities, of which 872 signs or 97% were hunting related**, resulting in an encounter rate of 3.35 signs/km for overall human activities, and 3.24 signs/km for hunting signs, including trails potentially used by poachers. Compared to 2022, these figures show a decrease of 20.30% for overall illegal human activities, but of only 6.00% for hunting activities. This situation is similar to GKNP and shows the extremely high pressure on threatened and rare wildlife by hunting for bushmeat for commercial purpose, which represents the major threat for wildlife throughout Liberia, and in particular southeastern Liberia.

Another worrisome development is the increasing encroachment by foreign cocoa farmers in the northeastern part of PKNP, which had been brought to the attention of the FDA several months ago. However, similar to GKNP, the FDA Conservation Department was unable to act to address the serious encroachment into PKNP. However, there is hope that action will be taken in early 2024.

In 2023, the PKNP community ecoguard teams made **498 observations of threatened key wildlife species,** including observation of all key species, such as western chimpanzee, pygmy hippopotamus and forest elephant. It is however worrisome that those species, in particularly the critically endangered western chimpanzee and forest elephant, as well as several threatened monkey and duiker species were observed in high numbers in and/or very close to the area of PKNP, which no longer will be part of the future national park, even though it has been shown to be one of the most important High Conservation Value areas for PKNP.

Encounter rates (signs/km) of illegal human and hunting activities observed in Proposed Kwa National Park (PKNP) from 2020 to 2023
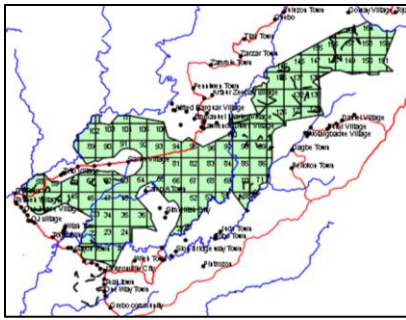
Map of community ecoguard patrol coverage in PKNP throughout 2023
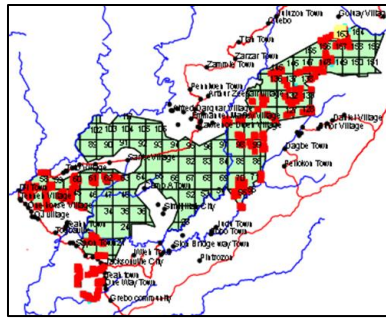
Map of observed human activities in PKNP in 2023, with 97% of all observations being linked to hunting
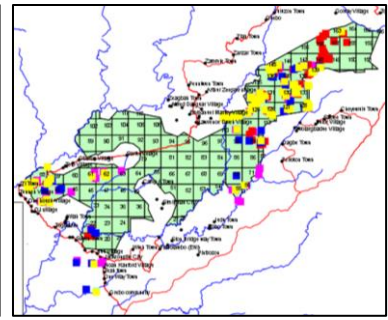
Map showing the distribution of key wildlife species observations made during patrols in PKNP in 2023

Two out of ten community ecoguard teams regularly patrolling in Proposed Kwa National Park (PKNP) to record human activity and wildlife observations and to raise awareness

An endangered pangolin (left) and a monitor lizard (middle) trapped in snares, found and released, and fresh pygmy hippo footprint observed during community ecoguard patrols in PKNP

After the forest patrols, the ecoguard teams held **18 awareness meetings** in communities adjacent to PKNP, where **234 people** were sensitized.

In 2023, the community ecoguard program at PKNP has been supported by the Great Ape Conservation Fund/USFWS, Rainforest Trust, and the Illegal Wildlife Trade Challenge Fund/UKAID.

- *Community ecoguard program in northwestern Liberia*

On the **national level**, WCF, in close collaboration with FDA, the Royal Society for the Protection of Birds (RSPB) and the Society for the Conservation of Nature of Liberia (SCNL) continued to support **community ecoguard programs** at Lake Piso Sustainable Multiple Use Reserve (LPSMUR, two teams, 10 ecoguards, all women), Gola Forest National Park (GFNP, 10 teams, 40 ecoguards, including 10 women), and Foya Proposed Protected Area (FPPA, two mixed teams, 20 ecoguards, including 10 women). In total, 47 patrols were conducted in these three areas (10 in LPSMUR, 30 in GFNP, and seven in FPPA).

In 2023, the national community ecoguard program from WCF side has been supported by the Illegal Wildlife Trade Challenge Fund/UKAID.

## 2) Auxiliary program in Grebo-Krahn National Park (GKNP)

While the regular community ecoguard patrols are indeed helping to limit and reduce the level of illegal activities to some extent, the long-term absence of regular law enforcement activities by the Liberian Forestry Development Authority (FDA) and the knowledge of those doing illegal activities that the community ecoguards have no mandate to enforce the law, have resulted in a still high level of illegal activities in GKNP, in particular linked to hunting for the commercial bushmeat trade. With a continuously very small number of FDA rangers (three rangers and three zone wardens), FDA cannot enforce the law in GKNP without further support. Following the request from FDA, WCF with support from GIZ has therefore helped FDA to establish an auxiliary program to support monthly law enforcement patrols in GKNP. A pre-selected team of eight existing auxiliaries and community ecoguards, as well as two rangers attended a forest law enforcement patrol training in Sierra Leone in May 2023 and another training to select the final team of 12 auxiliaries was conducted in August 2023, when also a draft protocol for the law enforcement patrols was developed. In September, the 12 auxiliaries and six FDA rangers and zone wardens conducted their first patrol, during which they arrested 12 hunters, and confiscated bushmeat and six guns. However, they were instructed by the FDA Conservation Department to release the suspects due to the close elections, and during the following patrols for the period October to December, the auxiliary team continued to test the patrol protocol and to ensure fully effective implementation in 2024, in close collaboration with the FDA Forest Law Enforcement Department. Furthermore, an effective collaboration with the Liberia National Police will be established, in order to ensure immediate transfer of suspects from FDA to the police, followed by effective prosecution.

The 12 members of the newly established GKNP Auxiliary team in August 2023, with the FDA Chief Park Warden

3) Biomonitoring Proposed Kwa National Park (PKNP)

In September 2023, 41 community members were trained (nine women, 32 men) from 21 communities around Proposed Kwa National Park (PKNP). The 32 best participants were selected to form eight biomonitoring teams (seven women, 25 men, two FDA rangers and eight team leaders). The methodology follows WCF newest standardized biomonitoring protocol based on camera trap distance sampling, in combination with line transects. Two biomonitoring missions were completed in 2023, with a total of 23 line transects surveyed (out of 88 planned) and camera traps installed at 88 points (out of 347 planned) by the field teams. The videos will be analyzed by WCF's camera trap video analyst team in Abidjan.
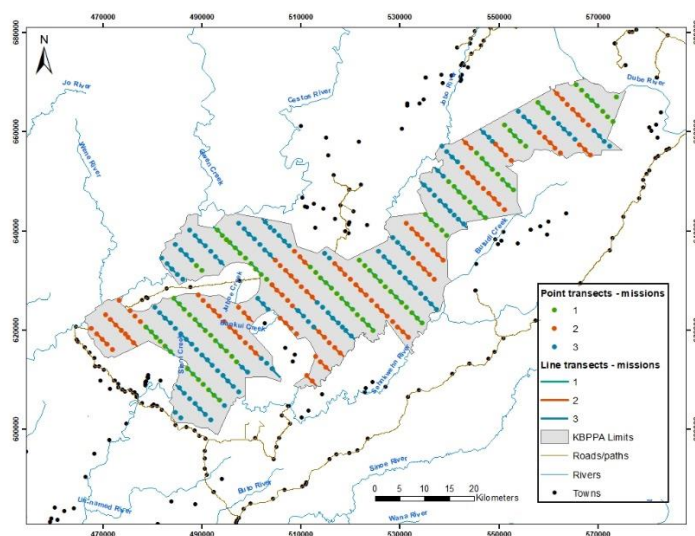
Biomonitoring survey design (top left) showing the points for camera trap distance sampling and line transects; camera trap set up during deployment (top right); participants in the Proposed Kwa National Park biomonitoring training in September 2023 (bottom left); and biomonitoring team members learning how to make the reference videos for analysis (bottom right).

The biomonitoring program for Proposed Kwa National Park is funded by Rainforest Trust.

4) Community Volunteer Program

A nationwide community volunteer program targeting female bushmeat sellers in 10 major bushmeat hotspots across Liberia was launched in February 2023. The program shall empower local women to reduce the demand for illegal wildlife trade products and change their businesses to sustainable and legal alternatives.

Up to the end of 2023, in collaboration with FDA and the Liberia Marketing Association (LMA), 250 bushmeat sellers were recruited as community volunteers, and trained in the wildlife law, protected species, zoonotic diseases, general conservation principles and communication methods. The women are helping to raise awareness in their own markets and are educating other bushmeat traders, restaurant owners and costumers. Out of the 250 community volunteers trained so far, 198 (79.2%) already stopped selling bushmeat and changed to legal sustainable businesses, which is a great achievement and highlights the importance of such non-enforcement-based interventions when attempting to tackle illegal wildlife trade. In 2024, 50 additional women will be trained and become part of the program in Fishtown and Pleebo in southeastern Liberia. The women are regularly monitored to ensure that indeed they remain disengaged from the bushmeat trade.

The community volunteers recruited and trained in Saclapea, Nimba County,
one of the bushmeat hubs in Liberia

In 2023, the community volunteers conducted **81 awareness raising events** in 25 communities/local markets in Liberia, and educated **3,501 people** (1,970 women and 1,531 men). Some of these community volunteer awareness-raising events coincided with special days dedicated to biodiversity conservation such as World Chimpanzee Days, and for which WCF organized national events (see section 7).

The community volunteer program is supported by the Illegal Wildlife Trade Challenge Fund/UKAID.

5) <u>Ecotourism</u>

- *Sapo Ecolodge*

In 2023, 27 tourists stayed at the Sapo Ecolodge. Most of the visitors also went on hiking tours inside Sapo National Park and on boat tours on the Sinoe River. Two trails were mapped and established around the Sapo Ecolodge, some resting sites were established and tourists are enjoying the possibility to go for short walks around the Ecolodge, including night walks. The Ecolodge continues to provide livelihood support for six security guards and five cooks/cleaners, including seven women. Two long-term interns from the Forestry Training Institute have been on site to work alongside the community members and the FDA to received tourists.

- *Tourism zone patrols*

In 2023 the three tourist ecoguard teams and one tourist guide team carried out 16 patrols in the Sapo National Park (SNP) tourism zone, covering 104 grid cells. The tourism zone is separated into two sub-zones: A core zone (dark green area in the maps below) where tourist guides are carefully looking for all attractive tourist sites, besides recording wildlife and human activities, and a larger area surrounding the core zone (light green area in the maps below), where the tourist ecoguards are focusing on recording wildlife and human activities. During the patrols conducted in 2023, the teams covered a total distance of **446.8 km**, over 127 patrol days, or 794-person days. The teams observed **846 signs of human activities, including trails (of which at least 92.79%, or 785 were hunting related)** resulting in an encounter rate of 1.89 signs of human activities/km and 1.76 signs of hunting/km. These figures are significantly lower than for GKNP and PKNP, which indicates the positive impact of frequent presence of field teams and tourists. However, the tourism zone is the most frequently visited area of SNP, while the situation for the rest of the park is expected to be different. As 2023 was the first year with regular tourism zone patrols, it will serve as the baseline for the comparison with future data.

The teams made **1,652 wildlife observations**, including observations of key species, such as critically endangered western chimpanzee, forest elephant, pygmy hippopotamus, and various threatened monkey and duiker species.
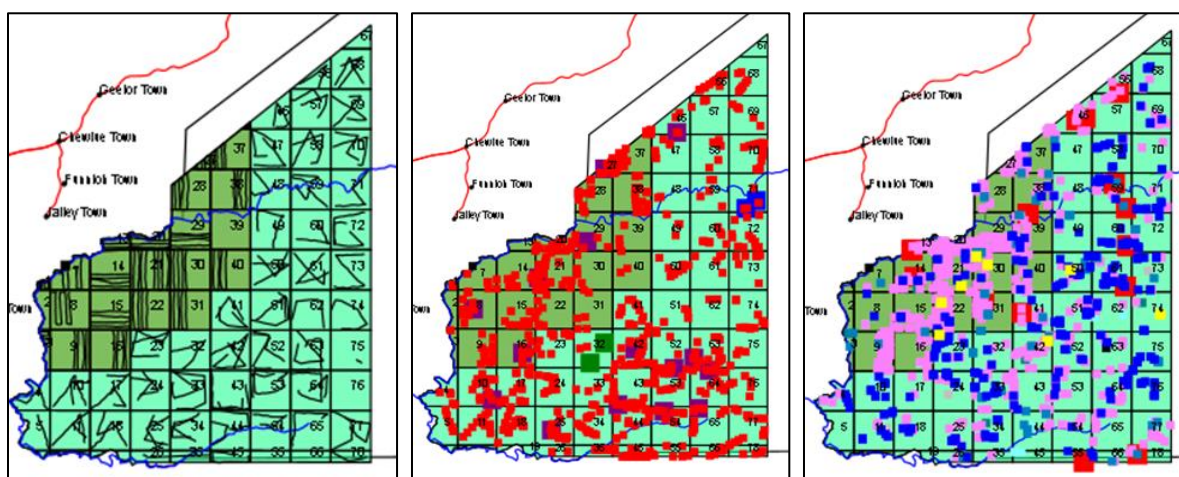
Map of tourism zone patrol coverage in SNP throughout 2023	*Map of observed human activities in the SNP tourism zone in 2023, with 93% of all observations being linked to hunting*	*Map showing the distribution of key wildlife species observations made during patrols in the SNP tourism zone in 2023*

6) <u>Gazettement of Kwa National Park</u>

WCF has been collaborating with the Liberian Forestry Development Authority (FDA), the Liberia Land Authority (LLA), the Ministry of Internal Affairs (MIA) and local communities, to finalize the gazettement package for the future Kwa National Park (currently the Krahn-Bassa Proposed Protected Area (KBPPA)). Following extensive community consultations, boundary assessments and harmonization, signing of consent forms by local communities, government stakeholders and CSO observers, and participatory flagging, the proposed park now spans 214,226 ha, making it Liberia's largest protected area.

Seventy-eight (78) forest-fringe communities have given their consent to establish the park and are eager to be part of the future co-management team for the park. A draft co-management framework, including a draft grievance and benefit sharing mechanism was developed by a national consultant with the local communities and national stakeholders in April 2023.

After the regional and national consultations for the validation of the gazettement package, the public notice period ran from 28 June to 27 August 2023. During this period, the general public and any stakeholder who wished to could raise concerns about the gazettement, which shall be responded by FDA. While it was planned to achieve the gazettement prior to the presidential elections in Liberia in October 2023, few steps remained uncompleted by FDA and LLA and other partners in the KBPPA landscape, including some very basic progress on the Customary Land Formalization, which however is legally not required for gazettement. Due to the upcoming change in government, it is now the new target to achieve the gazettement during the first half of 2024.

Regional consultation on the gazettement package conducted in the three county capitals: Zwedru City (Grand Gedeh County, left), Greenville City (Sinoe County, middle), and Cestos City (Rivercess County, right) in June 2023
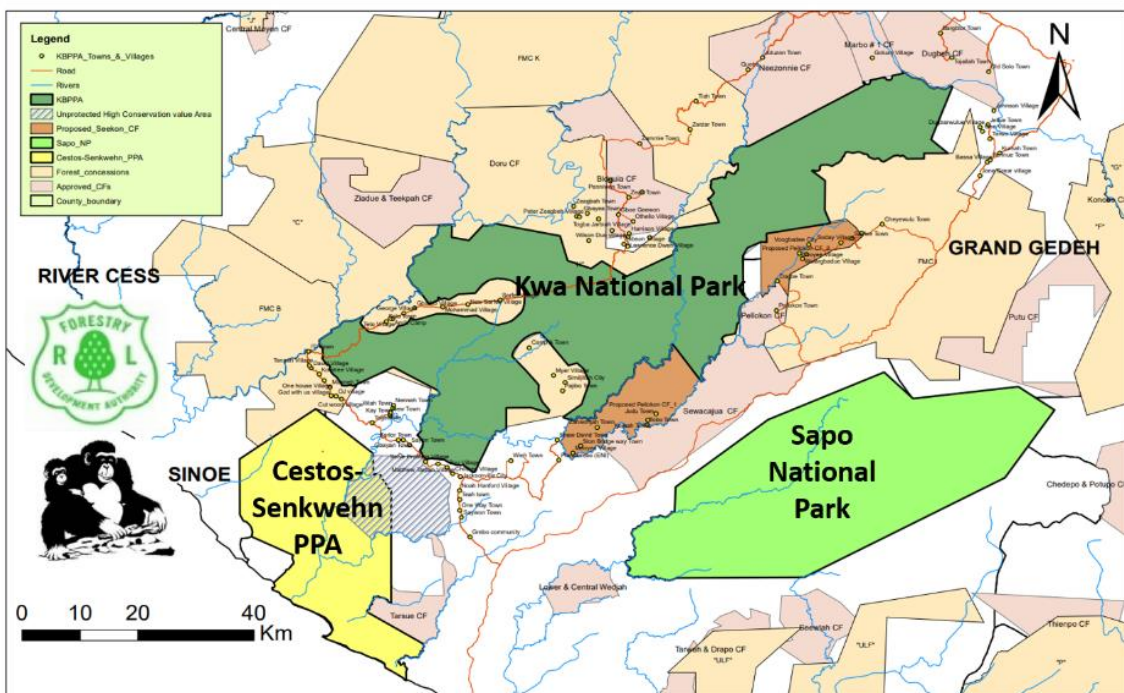
Map of the future Kwa National Park in southeastern Liberia

7) <u>Sustainable livelihoods and infrastructure development</u>

In 2023, besides the regular income for local community members through the various green job schemes, i.e. the community ecoguard, ecotourism, biomonitoring and community volunteer programs, in collaboration with Universal Outreach Foundation, the beekeeping activities around PKNP have been extended to include additional 41 beekeepers (including 14 women) joining the already existing 84 PKNP beekeepers. Additional 59 communities will follow in 2024. To ensure the sustainability of the beekeeping program, local beekeeping associations and conservation enterprises are being established, which are being connected to the Association of Liberian Beekeepers.

A livelihood assessment was conducted around PKNP in partnership with Partners in Development (PADEV). The assessment was identifying general needs and activities, but also women-specific preferences for future livelihood activities. Cassava and swamp rice farming were identified as priorities for local communities, in order to achieve food security. The women lead conservation-friendly agriculture projects will be implemented in 2024.

In order to ensure access to safe drinking water, WCF has further continued to support the construction of hand pump water wells around GKNP (in 2023 in the community Nyengba). Another important infrastructure support was the installation of solar light systems at 15 schools around PKNP, to support the activities of the local wildlife clubs.

Water-well constructed in Nyengba/GKNP (left), new beekeepers trained in Sayon Town/PKNP (middle), and solar light system installed in Plandialebo school/PKNP to support the wildlife club activities (right)

The support given to the local communities was funded by Rainforest Trust and John-Ball Zoo, Sayon Town.

8) <u>Awareness raising and environmental education</u>

In 2023, WCF continued to support and implement awareness events and activities. Awareness events are for example the World Pangolin Day, World Wildlife Day, World Environment Day, when WCF worked with FDA and partners to celebrate the events and raise awareness. The community volunteers (female ex-bushmeat sellers) in selected bushmeat market hotspots across Liberia have taken a key role in awareness raising activities, besides the efforts made by the FDA, the local representatives of the Ministry of Internal Affairs, community ecoguards and other WCF team members.

For example, the World Chimpanzee was celebrated in five locations (Saclepea market, Zwedru market, Jalay Town/SNP, Ziah Town/GKNP, and Kumah Town/PKNP), with strong involvement of local community members, marketers and school children. Activities reached from march passes, over soccer games to town hall meetings and cultural performances, in order to promote knowledge about chimpanzees and their conservation needs.

World Chimpanzee Day Celebration in Jalay Town/SNP (left) and in Zwedru/Grand Gedeh County, where the Community Volunteers led the celebration (right)

Around PKNP and SNP, WCF is currently supporting 18 Wildlife Clubs in local schools. The WCF long-term interns developed a basic curriculum to work with children and teachers in the schools and to increase knowledge about nature conservation, protected species and sustainable use of natural resources. The children enjoyed the activities and, in some areas, school quizzes and other activities were organized.

A WCF long-term intern speaking to pupils about the importance of conserving the forest and wildlife at Bargblor Town Community School /PKNP (left), some members of the Wildlife Club in Solo Town/PKNP, after winning a quiz competition (middle) and members of the Wildlife Club in Pellokon/PKNP, after receiving education materials.

9) Capacity building

In 2023, besides the continuation of WCF's internship program which hosted 20 short and long-term interns from the Forestry Training Institute, Tubman University and other academic institutions in Liberia, WCF led on or supported 14 different training events, building the capacity of 314 local community members (including 110 women, government representatives, NGO partners, and WCF interns and staff). The training reached from community ecoguard recruitment, SMART and refresher training for GKNP and PKPN, over auxiliary, law enforcement and ranger training for GKNP, tourist ecoguard training and ecotourism training for SNP, and biomonitoring training for PKNP, to the training for Wildlife Crime Task Force focal rangers for all protected areas in Liberia, as well as technical digital data interview data collection and Kobocollect Toolbox training for the Center for Environment, Forest Conservation and Research (CENFOR), to conduct a Non-Timber Forest Product survey

around GKNP. All training sessions served to improve and complement already ongoing activities, to ensure local community members, government partners and WCF interns and staff are fully equipped and empowered to conduct patrols, surveys, and other activities in the best possible ways, following standardized methodologies and best practices.

Participants in the community ecoguard refresher training in Zwedru in May 2023

Training participants in the advanced field ranger training with the South African Wildlife College at the Gola Rainforest National Park in Sierra Leone in May 2023, organized by the Royal Society for the Protection of Birds

Participants in the tourist ecoguard training for patrols in the SNP tourism zone, in August 2023

Training of Wildlife Crime Task Force Focal persons from all protected area in Liberia in evidence collection, investigation and animal care in August 2023 in Monrovia (left); training for WCF partner CENFOR for NTFP survey around GKNP in November 2023 (right).

10) Acknowledgements

The WCF Liberia team is grateful to its partners in Liberia, in particular the Forestry Development Authority, who has been by WCF's side for the implementation of all projects. Other partners in Liberia with whom projects have been implemented and whom we wish to thank, in no particular order, are: Forestry Training Institute, Environmental Protection Agency, Ministry of Internal Affairs, especially represented through the Superintendents in Grand Gedeh, River Gee, Sinoe and Rivercess Counties, Liberia Land Authority, Ministry for Information, Cultural Affairs and Tourism, Ministry of Justice, Society for the Conservation of Nature of Liberia, Royal Society for the Protection of Birds, Libassa Wildlife Sanctuary, Partners in Development, the Center for Environment, Forest Conservation and Research, Partners in Development, and Universal Outreach Foundation,

We wish to thank our donors for our activities in 2023, without whom none of our projects would be possible: Illegal Wildlife Trade Challenge Fund/ UK Government, the Great Ape Conservation Fund of the US Fish and Wildlife Service, the Liberia Forest Sector Project, the Jane Goodall Institute, Rainforest Rescue, Rainforest Trust, West Africa Biodiversity and Low Emissions Development (WABiLED)/USAID, GIZ and John-Ball Zoo.

Annual Report 2023 – WCF Guinea

Conakry / Guinea

January 2024

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Acronyms

AGEE	Guinean Agency for Environmental Assessment
BNP	Badiar National Park
CBG	Compagnie des Bauxites de Guinée
CR	Critically endangered
DNFF	National Forestry and Wildlife Directorate
DS	Distance Sampling
EN	Endangered
FECAN	Environment and Natural Capital Fund
FMNR	Farmer Managed Natural Regeneration
FPIC	Free Prior and Informed Consent
GAC	Guinea Alumina Corporation
GIE	Economic Interest Group (*Groupement d'Intérêt Economique*)
HCVF	High Conservation Value Forest
IMET	Integrated Management Effectiveness Tool
IUCN	International Union for Conservation of Nature
MBNP	Moyen-Bafing National Park
MBOP	Moyen-Bafing Offset Project
MEDD	Ministry of Environment and Sustainable Development (*Ministère de l'Environnement et du Développement Durable*)
MoU	Memorandum of Understanding
NER	Natural Ecological Regeneration
NPAA	National Protected Area Authority
OGPNRF	Guinean Office of National Parks and Fauna Reserves (*Office Guinéen des Parcs Nationaux et Réserves de Faune*)
OGUIB	Guinean Timber Office
OKKPS	Outamba-Kilimi-Kuru-Pinselli-Soyah-Sabouyah
PAPFor	Support programme for the preservation of forest ecosystems in West Africa
PDL	Local Development Plan (*Plan de Développement Local*)
PSS	Pinselli-Soyah-Sabouyah
PSS NP	Pinselli-Soyah-Sabouyah National Park
SECR	Spatially Explicit Capture-Recapture
SMART	Spatial Monitoring and Reporting Tool
TCS	Tacugama Chimpanzee Sanctuary
TKEEP	Tacugama's Kids Environmental Education Programme
USAID	U.S. Agency for International Development
VLMP	Village Land Management Plan
VU	Vulnerable
WABiLED	West Africa Biodiversity and Low Emissions Development from USAID
WCF	Wild Chimpanzee Foundation
WCS	Winning Consortium Simandou

1. **Executive summary**

In Guinea, the Wild Chimpanzee Foundation (WCF) has pursued sustainable management activities for the Moyen-Bafing National Park (MBNP) since 2019. The MBNP project is financially mainly supported by a chimpanzee offset project following an International Finance Corporation scheme for two important mining companies operating in Guinea. This year marks a turning point, with WCF's withdrawal from the Moyen-Bafing project as of 31st of December 2023, apart from biomonitoring activities. The project was in a transition phase since May 4th 2021 and should now move to the management phase, as expected by the Guinean Government. Since 2021, the WCF Guinea is also working in the transboundary Outamba-Kilimi-Kuru-Pinselli-Soyah-Sabouyah (OKKPS) landscape in Guinea and Sierra Leone, where the Pinselli-Soyah-Sabouyah National Park (PSS NP) is in its creation process phase.

In 2023, WCF Guinea conducted 106 surveillance patrols (total of 20,702 km) in the Moyen-Bafing National Park (MBNP) resulting in arrests, seizures, and prosecutions for illegal logging and bushmeat hunting activities. WCF organised four capacity-building workshops for law enforcement agents. Fire management activities, as for previous years, were conducted to protect the high conservation value areas within the park with the involvement of community members (2,865 service contracts). Thus, fire management protected 92% of the high conservation value forests in the MBNP during the 2022-2023 fire season. The management efficiency of the MBNP was also evaluated using the Integrated Management Effectiveness Tool (IMET) and obtained an efficiency score of 75.24%.

The abundance and density of critically endangered western chimpanzees and four indicator species (bushbuck, red-flanked duiker, vervet monkey, and warthog) were estimated last year, with the MBNP being possibly inhabited by 3,246 chimpanzees (range = 2,186 to 4,854) with an estimated density of 0.74 individual/km^2 (range: 0.50 - 1.11). WCF is currently conducting a follow up survey to follow possible variation compared with the present baseline information.

In 2023, 4,981 community members were actively participating in the management of MBNP through a multilevel committee structure. A total of 2,163 people are organised into 72 cooperatives for vegetable gardening, agriculture, apiculture, and shea butter production. This year, 21 benefitted from WCF technical, training, and material support. The 26 market gardening fields produced 58.3 tons of onion, 4.7 tons of pepper, 3.3 tons of potato, 2.5 tons of okra, 533 kg of eggplant, 403.5 kg of watermelon, 256 kg of tomato, 143 kg of cabbage, and total grouped sales reached 154,571,500 GNF (~17,976 USD). In addition, 540 liters of honey were produced from 120 eco-responsible Kenyan beehives, as well as 3.5 tons of shea butter. WCF conducted a survey on 180 farmers to estimate the spread of agroecological practices, which revealed that 88.3% of them are preserving trees in their fields and 67.8% do manual weed control. Farmers adopted these techniques through volunteering in WCF program, training, radio broadcast and listening circles. Sixty-seven farmer managed natural regeneration fields maintained by community members and supported by WCF produced 20.2 tons of groundnut, 14.3 tons of fonio, 4.9 tons of maize, 2.6 tons of sorghum, and 1.2 tons of rice.

WCF implemented various outreach activities in the MBNP: (i) 24 *Cercles d'écoute* ("listening circles") reached 1,794 persons in 93 villages, (ii) Club PAN environmental education program in 10 schools for 900 children, (iii) 492 radio broadcasts; and (iv) 21 articles published online.

As part of the creation process of the Pinselli-Soyah-Sabouyah National Park, WCF in support of the Guinean government organised the second and third consultation meetings with local communities following the Free Prior and Informed Consent principles, which resulted in the revision of the external boundaries of the future park (total provisional size of 3,156.06 km^2).

From January to December 2023, WCF conducted 39 surveillance patrols in the proposed Pinselli-Soyah-Sabouyah National Park (4,297 km) and organised three law enforcement capacity-building workshops. The management efficiency of the future park was also evaluated using the IMET tool and obtained an efficiency score of 50.65% (compared to 33.07% last year). To ensure the transboundary protection and management of the OKKPS landscape, a memorandum of understanding was signed between the Guinean Office of National Parks and Fauna Reserves (Office Guinéen des Parcs Nationaux et Réserves de Faune - OGPNRF) and the National Protected Area Authority (NPAA), which was followed by the first joint law enforcement patrol on the border of Guinea and Sierra Leone. WCF launched its first annual wildfire management campaign to protect high conservation value forests with the involvement of 655 community members, which resulted in the creation of 72 kilometres of firebreaks and the protection of 93.5 – 95.5 % of gallery and open forests during the 2022-2023 fire season.

WCF conducted three biomonitoring designs in the proposed Pinselli-Soyah-Sabouyah National Park this year: (i) line transects and camera traps distance sampling for all wild animal and human illegal activity presence indices, (ii) spatially-explicit capture-recapture design for African forest elephants, and (iii) specific 6km-line transect distance sampling to assess the impact of the railway construction on biodiversity.

As the railway construction plans represent a major threat to the future park, threatening to divide the park in two, WCF continued to be extremely active in exchanging with the railway constructors to have them significantly increase investment into mitigating and compensating their negative impacts. In particular, WCF pursued the conduct of bi-monthly field visits in the park along the train track to monitor the construction activities and the implementation of the mitigation hierarchy, conducted environmental impact studies, organised two workshops, and signed an agreement to conduct a chimpanzee population assessment in Guinea to identify potential chimpanzee offset sites.

This year, 670 community members, including 340 women, organized into 20 cooperatives benefited from the project support to improve livelihoods in various sectors such as vegetable gardening, agriculture, and apiculture. The project currently supports seven market gardening fields (totalling 7.33 ha) and six farmer-managed natural regeneration fields (totalling 6.50 ha), and donated 120 eco-responsible Kenyan beehives to community members. Harvest for this first year of support consisted in 5 tons of groundnuts, 2.7 tons of rice, 1.4 ton of maize, 1.3 ton of sweet potatoes, 80 kg of chili pepper, and 271 kg of eggplants.

Finally, outreach activities were implemented in the proposed Pinselli-Soyah-Sabouyah National Park as follows: (i) 50 *Cercles d'écoute* reached 2,106 persons (including 861 women), (ii) the Club PAN environmental education program in six schools for 267 children, (iii) the first theatre tour with the participation of 1,629 persons in 20 villages, (iv) 463 radio broadcasts, (v) five TV broadcasts, and (vi) 25 articles published online.

2. **Moyen-Bafing National Park**

   2.1. Surveillance and law enforcement activities

From January to November 2023, 106 patrols led by teams comprised of mixed WCF ecoguards and OGPNRF agents (5-6 persons per team) were conducted in the MBNP, totalling 20,702 kilometres. A total of 67,267 observations of medium to large sized mammals was recorded from which 1,138 were direct observations of 39 different species. The common warthog (*Phacochoerus africanus*) was the species with the highest encounter rate (1.84 sign/km) followed by the critically endangered western chimpanzee (*Pan troglodytes verus*, 0.42 sign/km), Guinea baboon (*Papio papio*, 0.40 sign/km), and crested porcupine (*Hystrix cristata*, 0.26 sign/km). A total of 1,855 signs of illegal human activities were recorded: agriculture was the main threat (average of 0.03 sign/km), followed by traditional livestock farming (0.02 sign/km) and non-timber exploitation (0.01 sign/km).
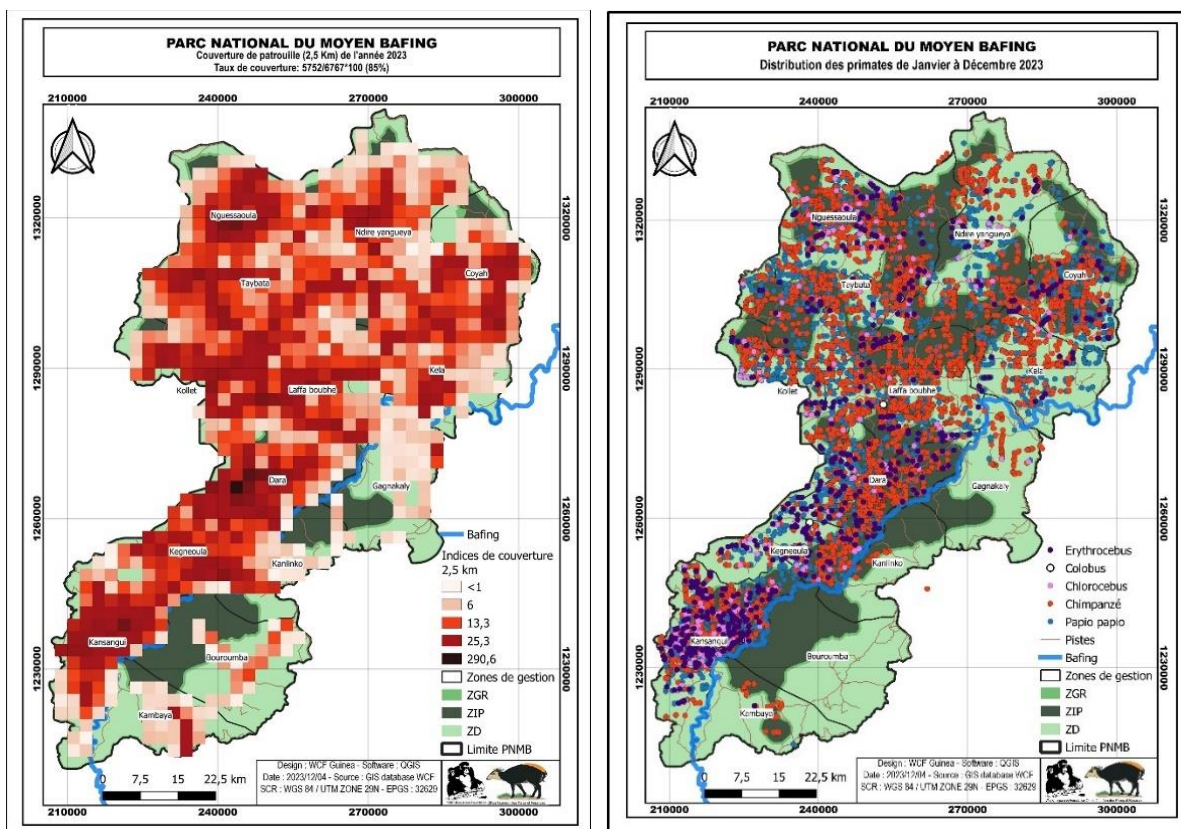

Figure 1. Coverage and intensity of patrols conducted in the Moyen-Bafing National Park from January to November 2023, with darker red colour representing grid cells with higher patrol efforts (left), and spatial distribution of primate presence signs (right).

Table 1. Direct and indirect observations of medium- to large-size mammals recorded between January and November 2023 during ecoguards missions in the Moyen-Bafing National Park.

Family		Common name	Scientific name	Total Obs	Enc. Rate (sign/km*100)
Bovidae	1	Black duiker	*Cephalophus niger*	87	0.42
	2	Red-flanked duiker	*Cephalophus rufilatus*	543	2.62
	3	Yellow-backed duiker	*Cephalophus silvicultor*	91	0.44
	4	Defassa waterbuck	*Kobus ellipsiprymnus defassa*	384	1.86
	5	Maxwell's duiker	*Philantomba maxwellii*	72	0.35
	6	Common duiker	*Sylvicapra grimmia*	75	0.36
	7	African buffalo	*Syncerus caffer*	97	0.47
	8	Bushbuck	*Tragelaphus scriptus*	433	2.09
Canidae	9	Side-striped jackal	*Canis adustus*	1,419	6.86
Cercopithecidae	10	Sooty mangabey	*Cercocebus atys*	4	0.02
	11	Campbell's monkey	*Cercopithecus campbelli*	8	0.04
	12	Green monkey	*Chlorocebus sabaeus*	455	2.20
	13	King colobus	*Colobus polykomos*	7	0.03
	14	Patas monkey	*Erythrocebus patas*	869	4.20
	15	Guinea baboon	*Papio papio*	8,377	40.47
	16	Western Red Colobus	*Piliocolobus badius*	5	0.02
Felidae	17	African golden cat	*Caracal aurata*	16	0.08
	18	Caracal	*Caracal caracal*	50	0.24
	19	Serval	*Leptailurus serval*	3	0.01
	20	African leopard	*Panthera pardus*	54	0.26
Herpestidae	21	Marsh mongoose	*Atilax paludinosus*	150	0.72
	22	Egyptian mangoose	*Herpestes ichneumon*	11	0.05
	23	White-tailed mongoose	*Ichneumia albicauda*	15	0.07
	24	Gambian mongoose	*Mungos gambianus*	25	0.12
	25	Banded mongoose	*Mungos mungo*	38	0.18
Hippopotamidae	26	Hippopotamus	*Hippopotamus amphibius*	40	0.19
Hominidae	27	Western chimpanzee	*Pan troglodytes verus*	8,717	42.11
Hyaenidae	28	Spotted hyaena	*Crocuta crocuta*	5	0.02
Hystricidae	29	Brush-tailed porcupine	*Atherurus africanus*	557	2.69
	30	Crested porcupine	*Hystrix cristata*	5,528	26.71
Manidae	31	White-bellied pangolin	*Phataginus tricuspis*	5	0.02
Mustelidae	32	African clawless otter	*Aonyx capensis*	3	0.01
	33	Spotted-necked otter	*Lutra maculicollis*	1	0.01
	34	Honey badger	*Mellivora capensis*	1	0.01
Orycteropodidae	35	Aardvark	*Orycteropus afer*	17	0.08
Suidae	36	Common warthog	*Phacochoerus africanus*	38,136	184.23
	37	Red river hog	*Potamochoerus porcus*	796	3.85
Viverridae	38	African civet	*Civettictis civetta*	142	0.69
	39	Common genet	*Genetta genetta*	31	0.15
Total				**67,267**	

2.2. Law enforcement capacity building

In 2023, four law enforcement capacity-building workshops were organized for state agents:

1) One training on patrolling techniques was organized for 45 OGPNRF agents subdivided into two sessions. The first session took place from 9 to 23 May and the second session from 15 to 24 June. The theoretical and practical course was focused on how to collect data with the GPS, SMART, and Cybertracker applications, how to identify species, how to plan, organize, and conduct a patrol, and the codes of conduct of park rangers;

2) One workshop on the management of natural resources was organized for 37 stakeholders: prefects, mayors, regional and prefectural directions, National Forestry and Wildlife Directorate (DNFF), Guinean Timber Office (OGUIB), Environment and Natural Capital Fund (FECAN), OGPNRF, Brigade and *Cantonnement* Chief in the prefectures of Dinguiraye and Dabola from 28 May to 4 June 2023. The objective of this workshop was to better coordinate technical services in the MBNP and identify difficulties and remedies on various topics related to environmental management (issuing of logging permits, promotion of sustainable management, etc.);

3) One workshop on project monitoring related to protected area management was organized for 27 people: regional inspectors, prefectural directors, Brigade unit chiefs, OGPNRF, forest and wildlife section chiefs from the prefectures of Labe, Koubia, Tougué, Mamou, Dabola and Dinguiraye from 20 to 23 November 2023. They were introduced to the essential concepts of project management and trained on the different tools, monitoring-evaluation methods and capitalization;

4) The management efficiency of the MBNP was evaluated for the third time using the Integrated Management Effectiveness Tool (IMET) from 19 to 26 September 2023 in Conakry. The MBNP obtained an efficiency score of 75.24% with a significant increase of 18.77% from 2021 (63.35%).

Photo 1. Project monitoring (left) and patrolling techniques (right) workshops.

2.3. Wildlife biomonitoring

WCF installed two camera-trap grid designs throughout the park: (i) Distance-Sampling (DS) design to estimate wildlife populations within the entire park and (ii) Spatially Explicit Capture-Recapture (SECR) design to follow precisely all chimpanzee individuals and groups living in two 100 km^2 grids to understand chimpanzee demography and population dynamics.

Distance-Sampling design
After having rotated the 215 camera traps of the DS design in all three sectors of the park (South, North East and North West), the abundance and density of the chimpanzees and four indicator species (bushbuck, red-flanked duiker, vervet monkey, and warthog) were estimated according to the main habitats present in the park. The MBNP is possibly inhabited by 3,246 chimpanzees (CV = 21%; range = 2,186 to 4,854 individuals) with an estimated density of 0.74 individual/km^2 (range = 0.50 – 1.11 ind./km^2). The gallery forest hosts the highest densities of all of the five species stressing the importance for the fauna to regenerate the degraded gallery forests within the MBNP.

A follow up biomonitoring survey is currently being conducted to compare with the baseline information collected, and this will allow us to know if the populations of key species are stable or not, i.e., if they are increasing or decreasing.

Table 2. Abundance and density over the whole Moyen-Bafing National Park for the chimpanzee, bushbuck, red-flanked duiker, vervet monkey, and warthog (from December 2018 to May 2021).

Species	Estimated abundance	Estimated density	CV	Confidence interval	Area (km^2)
Chimpanzee	3,246	0.74	21%	0.50 – 1.11	4,373.1
Bushbuck	5,003	1.14	16%	0.84 – 1.55	4,373.1
Red-flanked duiker	7,381	1.69	34%	0.89 – 3.21	4,373.1
Vervet monkey	5,690	1.30	13%	1.01 – 1.68	4,373.1
Warthog	9,177	2.10	13%	1.64 – 2.69	4,373.1

Spatially Explicit Capture-Recapture design
The SECR method allowed the identification of six chimpanzee groups (with all group members identified) and their respective home ranges in Bakoun (North of the park, four groups) and Koukoutamba (South of the park, two groups). Another five chimpanzee groups were detected (two in Bakoun and three in Koukoutamba), but additional data is needed to have a full understanding of their group composition, the individual chimpanzees and their full home range. This information will constitute the baseline data that will be used to monitor the chimpanzee population dynamics in the MBNP. The SECR results were the object of one publication entitled "*Camera traps unveil demography, social structure, and home range of six unhabituated Western chimpanzee groups in the Moyen Bafing National Park, Guinea*" authored by Benjamin Debetencourt, Mamadou Moussa Barry, Mimi Arandjelovic, Colleen Stephens, Nuria Maldonado and Christophe Boesch, that was published in November 2023 in the American Journal of Primatology**.**
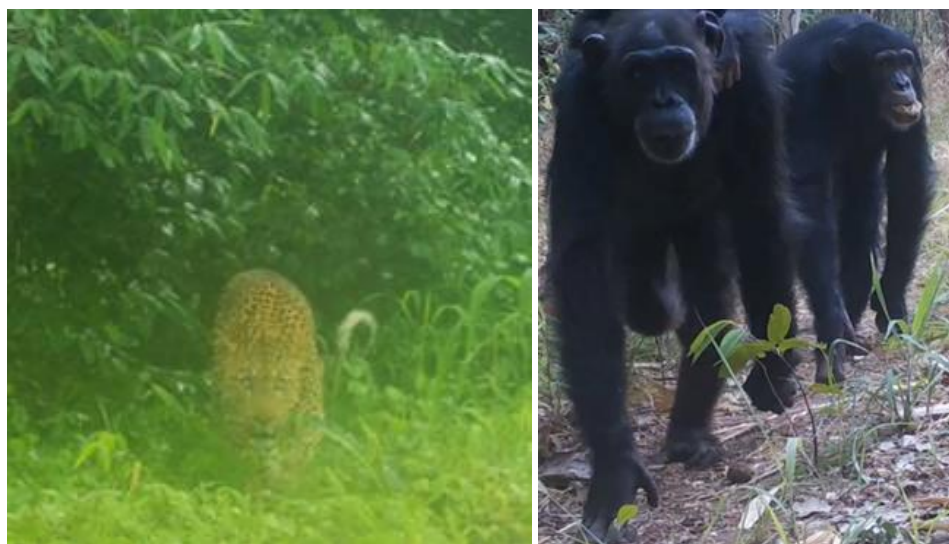

Photo 2. Leopard (Panthera pardus) and western chimpanzees (Pan troglodytes verus) in the Moyen-Bafing National Park.

2.4. Forest regeneration and wildfire management

As part of the forest regeneration program, WCF identified 661.48 ha of land (from 21 sites in 18 villages) to implement Natural Ecological Regeneration (NER) and 568.48 ha are currently benefitting from this approach. Five sites were monitored this year (Marwanya, Foungani, Sotirè Dow, Sotirè Ley and Taybata) and three sites have their tree height and number available over the years. Between 2021 and 2023, the NER sites of Sotirè Dow, Sotirè Ley, and Taybata showed an increase in tree height of 192.8%, 46%, and 26% and an increase in tree number of 31.6%, 172%, and 114% respectively (with 125, 3,392, and 844 new shoots respectively). These figures highlight the positive impact of the NER approach for forest restauration.

WCF conducted its wildfire management program for the 2022-2023 fire season to protect the high conservation value forests (HCVF). With the participation of community members (2,865 service contracts), 639 km of 15-m wide firebreaks were opened around HCVFs and NER sites to prevent the further loss of forest cover and 55 fires were extinguished. Analyses of burned areas throughout the MBNP indicate that a total of 22% was burned during the 2022-2023 fire season. This is the lowest percentage of burned area since the beginning of WCF ecological monitoring of the MBNP. This result should therefore be recognized, especially after the critical last year, when 38% of the park was burnt. In addition, 91.6 – 91.8 % of gallery and open forests were protected from wildfire within the limits of the park. Moreover, with the onset of the 2023-2024 fire season, WCF conducted 1,439 prescribed burning activities and 988 persons (including 319 women) were sensitized from 55 villages.

Since November 2021, a study is underway in the MBNP, with the long-term objective of determining whether carbon is being accumulated faster than it is being released into the atmosphere by the environment i.e., a carbon sink. To date, all the 151 planned vegetation plots have been surveyed (including 11 in 2023) in the main habitats of the MBNP, from which 1,238 samples of vegetation, soil and rock were collected (including 357 in 2023) for laboratory analysis to determine their carbon content and 5,085 trees were identified, labelled, and measured. Preliminary results show that at least 37 tree species are acting as inorganic carbon sinks (oxalate-carbonate pathways), which is a considerable number compared to other previously studied ecosystems. As part of this study, the list of MBNP's plant species could be updated with 744 plant species (including 38 with a threatened status: CR, EN, VU), compared to less than 300 in September 2021. Analysis of 40 plots is almost done at the laboratory of the Institute of Earth Dynamics at the University of Lausanne, Switzerland. The identification will be further done with the 483 herbarium samples and the plant species on the 111 remaining plots are in the identification process.

2.5. Community consultative management framework

A total of 4,981 community members are actively participating in the management of the park through committees: (i) at the village level with the creation of 54 village- or inter-village committees, (ii) at the communal level with the creation of 13 commune committees, which are comprised of representatives of the village committees, government representatives, and the mayors of the communes, and (iii) at the park level with the creation of one park-wide committee (*Faitière*) representing the commune committees.

This year, as part of its strategy to obtain the official zoning of the MBNP, WCF pursued the development of Village Land Management Plans (VLMP). Nine participatory maps were updated and 13 VLMPs were validated. Despite the delay in the VLMP process, this event is a milestone for the management of the MBNP and its governance at the community level.

Photo 3. Validation meeting of Soulé's Village Land Management Plan in the Moyen-Bafing National Park

Moreover, a complaint and grievance mechanism is in place and was presented to 1,794 persons from January to December 2023. During this period, 12 complaints were received regarding human-wildlife conflict, deforestation and unwillingness to work with the project, and 17 complaints were solved (including five from last year). For the first time since the creation of the MBNP, WCF has filed complaints against communities responsible for the deforestation of riverbanks and waterheads, which is prohibited by the Guinean law.

2.6. Socioeconomic development of communities

To help communities in the MBNP achieve sustainable economic development, WCF has supported the creation of cooperatives, also called community economic interest groups (GIE, *Groupement d'Intérêt Économique*). To date, a total of 72 GIEs were created:
- 27 GIE "vegetable – shea butter" with 850 members including 773 women;
- 8 GIE "vegetable" with 403 members including 348 women;
- 5 GIE "shea butter" with 163 members including 143 women;
- 15 GIE "apiculture" with 267 members including 71 women;
- 16 GIE "agriculture" with 462 members including 184 women;
- 1 GIE "agriculture – apiculture" with 18 members including 8 women.

However, this year, only 21 out of the 72 GIEs were supported by WCF due to multiple constraints (budget limitations, inaccessibility of certain areas, etc.).

<u>Vegetable gardening</u>
During the growing season in Guinea (from December 2022 to May 2023), WCF supported 26 villages (including 20 GIE) in the development of vegetable gardening activities for a total of 334 fields including four collective fields and three demonstration gardens. To enhance the field productivity, 1.2 ton of compost and 23.7 liters of biopesticide were produced. The 26 villages produced 58.3 tons of onion, 4.7 tons of pepper, 3.3 tons of potato, 2.5 tons of okra, 533 kg of eggplant, 403.5 kg of watermelon, 256 kg of tomato, 143 kg of cabbage, and earned 154,571,500 GNF (~17,976 USD) from the grouped sale. WCF realized a survey on 180 farmers to estimate the spread of agroecological practices promoted in the MBNP, which revealed that 88.3% of them are preserving trees in their fields and 67.8% do manual weed control. Farmers adopted these techniques through volunteering in WCF program, training, radio broadcast and listening circles.

In addition, hydro-agricultural facilities were installed in the collective plains of Lallabara, Ley Kimbeli and Idia to reduce agricultural expansion, which contributes considerably to the destruction of forest cover. Forty-seven (47) plots (20 in Lallabara, 11 in Idia, 16 in Ley Kimbely) are used by 44 individual farmers who grew 1.61 ton of maize and 1.89 ton of rice this year.

Farmer-managed natural regeneration (FMNR)
Based on specific criteria (depth of soil, level of slope, age of the field, availability of tree species, etc.), 67 FMNR fields totalling 37.16 hectares and managed by 237 farmers (including 178 GIE members) were selected to receive agricultural support in 2023. The following activities were conducted from January to December 2023: (i) opening and clearing of the field, (ii) selection of 3,265 preserved trees, (iii) fencing to secure the fields, (iv) installation of anti-erosion measures (1,081 meters of stone barriers), (v) labouring and seed sowing, (vi) monitoring and maintenance of the crops, and (vii) harvesting, processing, packaging. As a result, the 67 fields produced 14.3 tons of fonio, 20.2 tons of groundnut, 4.9 tons of maize, 2.6 tons of sorghum and 1.2 ton of rice.

Apiculture
To guarantee the best conditions for Kenyan beehives' inhabitation and honey production, the following activities were conducted this year: (i) cleaning of production hives and swarm-capture hives, (ii) application of beeswax in production hives and uninhabited swarm-capture hives, (iii) apiary cleaning (firewalls) by GIE members in charge of maintenance and (iv) monitoring of the management of beekeeping tools and equipment. From January to September, the bee inhabitation rate showed a positive evolution from 59% during the first quarter of 2023 to 71% during the third quarter. Besides, 540 liters of honey were produced from 120 eco-responsible Kenyan beehives (+13.45% from 2022) and 500 liters of honey were sold for 13,750,000 GNF (~1,600 USD).

Photo 4. Packaged honey (left) and beehive maintenance in Moyen-Bafing National Park (right)

Shea butter
For the development of the shea butter value chain, a multifunctional platform consisting of a processing center, a drying area and a well was constructed in Bellakouré and one new production center was established in Kansala, outside of the MBNP to support neighboring communities of the park. A total of 3.5 tons of shea butter were produced from 10 tons of shea almonds in the four production centers of Bellakouré, Bamiko Woro, Kela and Kansala. 263 women participated in this 2023 campaign, from 19 villages and 2.8 tons of shea butter were sold for 56,500,000 GNF (~6,592 USD).

Marketing of local products
During a mission conducted from 3 to 10 February in Conakry, 17 potential buyers were identified in seven prospected markets. With the aim of working more closely with potential buyers and putting them in touch with GIEs' farmers, the terms of the partnership were discussed and ended in the potential sales of 10.8 tons of shea butter and 4,620 liters of honey.

Livestock programme
Two trainings on sustainable livestock techniques were organized for 11 villages from 1 to 13 February and 11 to 20 May. During the trainings, participants prepared multi-nutritional salt licks, which will reduce cattle straying and allow animal monitoring. The trained villagers were provided with material to produce nutritional salt licks. Out of the five cattle pens erected during the project, only two are still operational. The two remaining cattle pens of Kouratongo and Yalagueta show an inhabitation rate of 63%, which represents a decrease of 32% from last year. Despite mixed results on livestock penning, a survey on livestock losses conducted early 2023 revealed that since the construction of pens, the number of losses diminished (from 460 to 210 losses). In addition, two 16m²-storage stalls were set up in Yalagueta and Kouratoungo to provide cattle food during the dry season (with 1,120 kg of fodder made to date).

Community development infrastructures
Two boreholes were repaired in N'dire Yangueya and Baridondé, 27 table-benches given to the school of Taybata, and one school renovated in Idia in addition to 60 table-benches given to promote education.

Photo 5. The renovated school of Idia (left) and the table-benches given to Taybata (right)

2.7. Awareness raising and education

WCF has implemented two outreach activities this year:
- *Cercles d'écoute* ('listening circles'): 24 focus groups in which people listen to and enter discussions on radio broadcasts created and communicated by WCF have reached 1,794 persons (including 817 women). This year the *cercles d'écoute* focused on wildfire management, the complaints and grievance mechanism, agroecological techniques, the obtention procedures for firewood, deforestation, the MBNP and poaching;
- **Club PAN environmental education program** was implemented in ten schools and benefitted 900 children during the 2022-2023 school year. Children that participated in the Club PAN have increased their knowledge by 46% on the subjects taught on average and want to avoid bushmeat eating in the future.

In addition, the WCF communications team developed other outreach activities using different communication channels as follows: 492 radio programs were broadcast on seven local radios and 21 articles were published online (WCF website and social media).

2.8. Activities conducted in the Moyen-Bafing NP – Badiar NP corridor

In order to enhance connectivity between chimpanzees' populations, WCF is implementing activities in the Moyen-Bafing National Park – Badiar National Park corridor with the support of the Great Ape Conservation Fund (GACF) and the United Nations Development Programme (UNDP). WCF is conducting a wildlife inventory and has carried out a forest degradation study from 2016 to 2023. The aim of these two studies was to verify the wildlife potential of the three classified forests in the area, namely Woundou North and South, Gambie and Kabéla, and to identify trends in terms of deforestation. On the basis of this information, it will be possible to propose a zoning scheme and thus put in place an appropriate management method for the corridor.
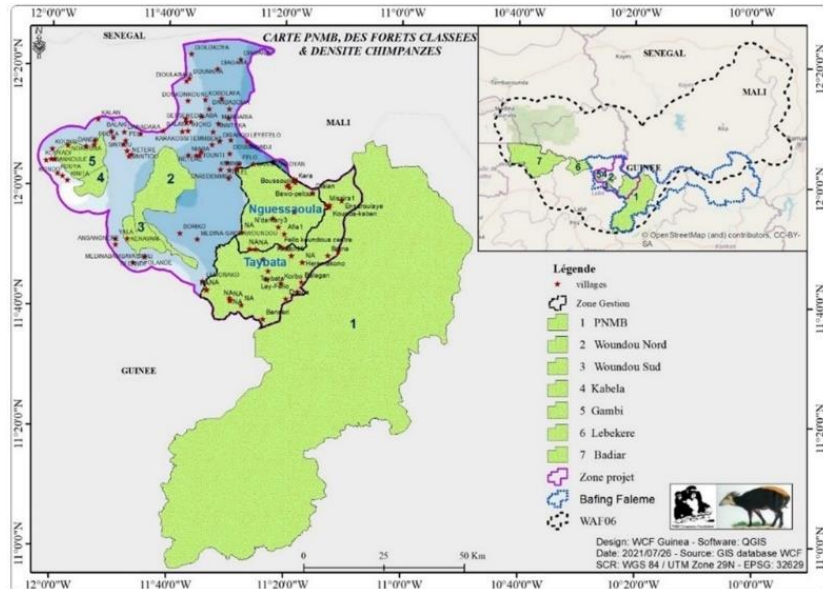

Figure 2. Location of the Moyen-Bafing National Park –
Badiar National Park corridor

Biomonitoring activities are currently being carried out, using the method of line transects and camera trap distance sampling. Preliminary results from the line transects revealed the presence of 22 mammal species from 670 observations and the respective encounter rates were calculated. The warthog was the animal with the highest encounter rate (*Phacochoerus africanus*, 3.74 signs/km), followed by porcupine (*Hystrix cristata*, 0.89 sign/km), and western chimpanzee (*Pan troglodytes verus*, 0.86 sign/km). Based on these initial observations, we can see that Woundou and Gambie classified forests (the Kabéla classified forest has not yet been studied) and their surroundings are of significant wildlife interest, with a greater presence of chimpanzees and monkeys than in the rest of the area studied.
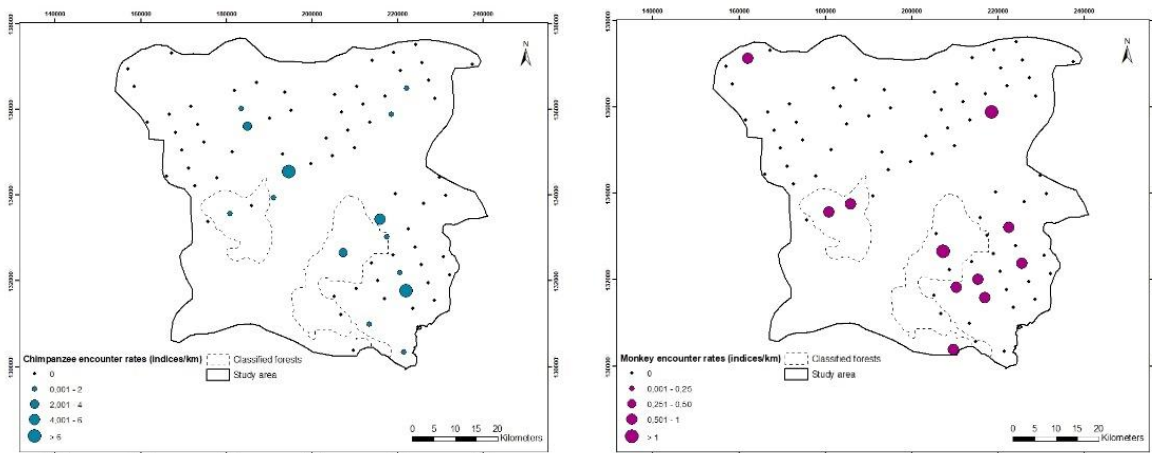

Figure 3. Encounter rates of chimpanzees (left) and primates (right)
in the Moyen-Bafing National Park – Badiar National Park corridor in 2023

The study of forest degradation in the whole Bafing Falémé landscape between 2016 and 2023 revealed that 5.57% of forest (dense, open and shrub savannah) were lost in this time period, which represents 4.29% of the territory, i.e. 1,066 km². This deforestation is present throughout the corridor, but is more concentrated East of the Moyen-Bafing National Park. This information thus provides a basis for guiding future nature protection actions in the MBNP-BNP corridor and reveals the need for activities to be undertaken in the East of this landscape.
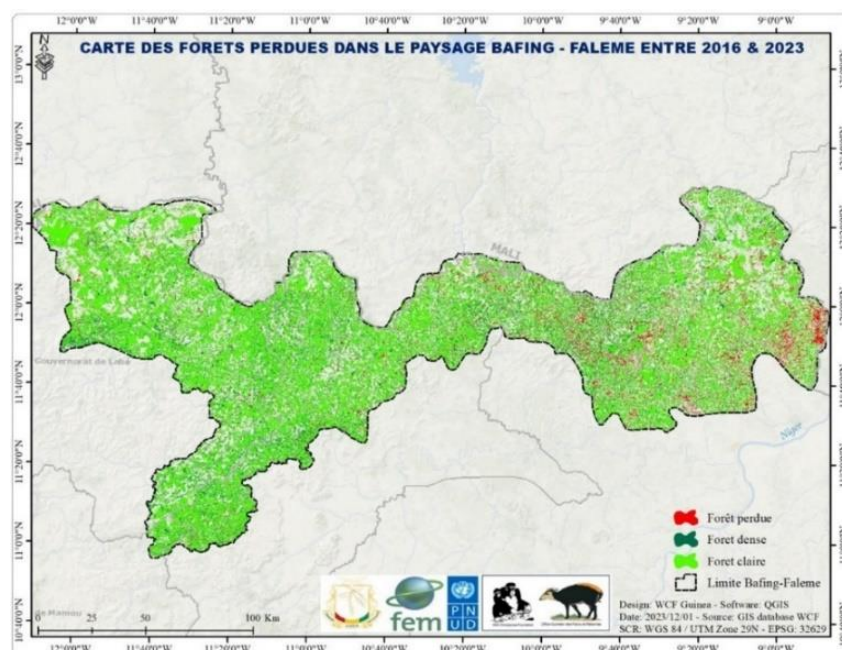

Figure 4. Deforestation in the Bafing-Falémé landscape from 2016 to 2023

3. Outamba-Kilimi-Kuru Hills-Pinselli-Soyah landscape

Since 2021, WCF is working for the sustainable management and protection of the transboundary Outamba-Kilimi-Kuru Hills-Pinselli-Soyah (OKKPS) landscape as part of the OKKPS-PAPFor EU-funded and WABiLED USAID-funded projects. WCF is the lead partner of both projects and is working closely with their implementing partner in Sierra Leone, Tacugama Chimpanzee Sanctuary (TCS), and in close collaboration with the OGPNRF in Guinea and the National Protected Area Authority (NPAA) in Sierra Leone. The proposed Pinselli-Soyah-Sabouyah National Park is benefiting from additional funding from Rainforest Trust, Arcus Foundation, Zürcher Tierschutz, and more recently European Union as part of the NaturaGuinée project to reinforce the conservation efforts in this key conservation area.

3.1. Creation of the Pinselli-Soyah-Sabouyah National Park

This year, substantial advancements have been made towards the creation process of the Pinselli-Soyah-Sabouyah National Park (PSS NP). In collaboration with the OGPNRF, WCF organised in May and October 2023 the second and third consultation meetings (*Cadre de Concertation*) respectively, with local communities and regional, prefectural and sub-prefectural authorities. The aim was to inform about the progress of the PSS NP creation project, explain the Free Prior and Informed Consent principles and the complaints and grievance management mechanism, present the future management of the park which includes a zoning plan, gather their fears and expectations regarding the project, and present the map of the external provisional boundaries of the future park to obtain their approval. The two consultation meetings gathered a total of 257 and 243 people respectively.

Following the recommendations made during the third consultation meeting, a mission was then carried out in November to update the external boundaries of the future park to take into account the communes' requests (i.e., the extension or exclusion of their communes in the future park). The external boundaries of the future park have been revised, and now include six municipalities (Madina Oula, Soyah, Ouré Kaba, Maréla, Linsan, and Konkouré) and a total provisional size of 3,156.06 km^2. The next step will be to organize a national workshop to officially validate them.
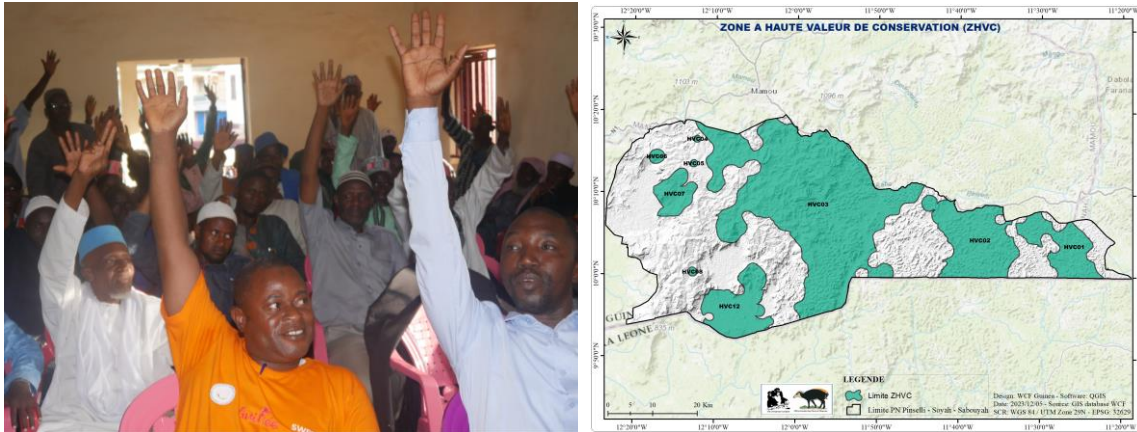

Figure 5. Third consultation meeting held in October (left) and revised map of the external limits of the future PSS NP, with the high conservation value areas in green (right).

3.2. Surveillance and law enforcement activities

This year, 39 surveillance patrols led by mixed teams composed of WCF community ecoguards and OGPNRF agents were conducted in the proposed PSS NP, corresponding to 4,297 kilometres (average of 3.55 patrols/month, range = 1 – 11). A total of 6,140 direct and indirect observations of 30 medium to large sized mammal species were recorded, including the critically endangered (CR) western chimpanzee (0.04 sign/km) and African forest elephant (0.04 sign/km), endangered (EN) king colobus (0.002 sign/km), and vulnerable (VU) hippopotamus (0.002 sign/km), African golden cat (0.002 sign/km) and sooty mangabey (0.006 sign/km). Moreover, 4,182 signs of illegal human activities were recorded: agriculture was the main threat (0.29 sign/km), followed by roads and trails (0.27 sign/km), logging (0.15 sign/km), traditional livestock farming (0.12 sign/km), and illegal settlements and camps (0.10 sign/km).
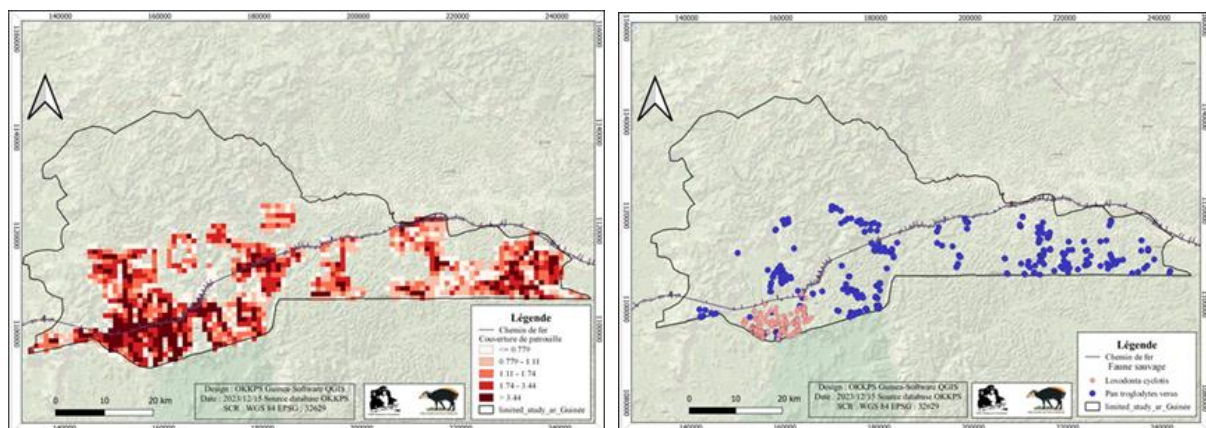

Figure 6. Coverage and intensity of patrols conducted in proposed PSS NP from January to December 2023, with darker red colour representing grid cells with higher patrol efforts (left); Signs of forest elephants (pink) and western chimpanzees (blue) recorded during the surveillance patrols in 2023.

WCF supported the Brigade, OGPNRF, and *Cantonnement* in the conduct of four special missions which led to the seizure of 2,339 wood planks in January, one timber logging truck and wood planks in March, two chainsaws and 50 wood planks in September, and 145 four-meter-long wood planks and 12 mining dredge machines in November.

Photo 6. Wood planks (left) and mining dredge machine (right) seized in November 2023.

Finally, to enhance the surveillance and law enforcement in the proposed PSS NP, 17 OGPNRF were assigned to the future park on 1 June 2023 by the Minister of the MEDD (*Décision No2023/000019/MEDD/CAB/DRH*). And, to ensure a transboundary cooperation and collaboration in the protection and management of the OKKPS landscape, a memorandum of understanding (MoU) was signed between the OGPNRF in Guinea and the NPAA in Sierra Leone on 8 May 2023. The signing of this MoU was then followed by an experienced-sharing visit in the Moyen-Bafing National Park in July, during which NPAA and OGPNRF members learned about the best approaches to protected area conservation and governance, and the conduct of the first joint law enforcement patrol on the border of Guinea and Sierra Leone in September.

3.3. Law enforcement capacity building

Four capacity-building workshops were organised by WCF for different state actors and Pinselli-Soyah-Sabouyah National Park teams in 2023:

1) From 13 to 20 January 2023, a biomonitoring training course was organized in Mamou for 30 WCF and game wardens, with the goal to render the latter operational and proficient before the start of the biomonitoring survey, which was initiated in February 2023. The course was divided into two trainings: (i) data collect, camera traps, line transects, use of Cybertracker, GPS, compasses, and species identification, and (ii) data management, video storage and video analysis.

2) A training on patrolling techniques was organised from 27 to 31 March 2023 in Mamou for 42 WCF and game wardens. The training focused on patrolling tools (GPS, SMART, and Cybertracker), on how to plan, organize, and conduct a patrol, and on the codes of conduct of law enforcement agents, with the goal to render the latter operational and proficient in the surveillance and management of natural resources.

3) A law enforcement capacity-building workshop was organized from 21 to 25 June 2023 in Mamou for 55 WCF and game wardens. The objective of this workshop was to (i) increase knowledge and understanding of the Fauna and Flora codes, and hunting and logging regulations, (ii) train agents in the techniques and procedures of arrests operations, confiscations, prosecutions, and legal follow-up, and (iii) present the codes of conduct of law enforcement agents.

4) The management efficiency of the proposed Pinselli-Soyah-Sabouyah National Park was evaluated for the second time using the IMET tool from 22 to 26 September 2023 in Mamou. The proposed PSS NP obtained an efficiency score of 50.65% for the second year of its creation phase, a significant increase of 17.58% from last year's score of 33.07%.

Photo 7. Biomonitoring training (left) and law enforcement workshop (right) in Mamou.

3.4. Wildlife biomonitoring

Three biomonitoring designs are currently being conducted by WCF in the proposed Pinselli-Soyah-Sabouyah National Park (PSS NP): (i) line transects and camera traps distance sampling for all wild animal and human illegal activity presence indices, (ii) spatially-explicit capture-recapture (SECR) design for African forest elephants, and (iii) specific 6km-line transect distance sampling to assess the impact of the railway construction on biodiversity.

Distance sampling

Last year, WCF estimated the abundance and density of western chimpanzee in the proposed PSS NP with an abundance of 1,945 chimpanzees (range = 1,233 – 3,095) and an estimated density of 0.69 individual/km^2 (range = 0.44 – 1.09). This year, WCF finalized the camera trap video analysis of the first and second phases of the camera trap distance sampling biomonitoring survey conducted in 2022 and 2023 respectively. Combining 2022 and 2023 data, WCF confirmed the presence of 50 mammal species, including the CR western chimpanzee and African forest elephant, EN king colobus and tree pangolin, and VU leopard, African golden cat, hippopotamus, and sooty mangabey. See the table below for the list of all mammal species detected by camera traps in the proposed PSS NP, with their respective relative abondance indices (RAI), defined as the number of independent events per 100 camera trap days. We considered videos as dependent event when they recorded the same species at the same camera location on the same day, with videos occurring within 15 minutes of another.

Photo 8. Western chimpanzees (Pan troglodytes verus, left) and Serval (Leptailurus serval, right) detected by camera traps in the proposed Pinselli-Soyah-Sabouyah National Park.

Table 3. Mammal species detected by camera trap in the proposed Pinselli-Soyah-Sabouyah National Park in 2022 and 2023, with the respective relative abondance indices (RAI), defined as the number of independent events per 100 camera trap days. Note that the forest elephant and hippopotamus were not detected by the camera trap DS design, but their presence was confirmed in the park.

Family		Common name	Scientific name	IUCN status	RAI 2022	RAI 2023
Bovidae	1	Bay	*Cephalophus dorsalis*	NT	2.61	1.25
	2	Black duiker	*Cephalophus niger*	LC	1.70	0.45
	3	Red-flanked duiker	*Cephalophus rufilatus*	LC	1.39	1.07
	4	Yellow-backed duiker	*Cephalophus silvicultor*	NT	0.29	0.38
	5	Defassa waterbuck	*Kobus ellipsiprymnus defassa*	NT	0.05	0.12
	6	Maxwell's duiker	*Philantomba maxwellii*	LC	3.59	3.55
	7	African forest buffalo	*Syncerus caffer nanus*	NT	0.02	0.03
	8	Bushbuck	*Tragelaphus scriptus*	LC	6.93	7.53
Canidae	9	Side-striped jackal	*Canis adustus*	LC	1.94	1.35
Cercopithecidae	10	Sooty mangabey	*Cercocebus atys*	VU	2.55	1.80
	11	Campbell's monkey	*Cercopithecus campbelli*	NT	4.97	4.66
	12	Spot-nosed monkey	*Cercopithecus petaurista*	NT	0.55	0.03
	13	Green monkey	*Chlorocebus sabaeus*	LC	4.82	3.30
	14	King colobus	*Colobus polykomos*	EN	0.01	0.01
	15	Patas monkey	*Erythrocebus patas*	NT	1.56	1.26
	16	Guinea baboon	*Papio papio*	NT	0.10	0.31
Felidae	17	African golden cat	*Caracal aurata*	VU	0.20	0.23
	18	Serval	*Leptailurus serval*	LC	0.19	0.06
	19	African leopard	*Panthera pardus*	VU	-	0.01
Galagidae	20	Northern Lesser Galago	*Galago senegalensis*	LC	0.06	0.06
Herpestidae	21	Marsh mongoose	*Atilax paludinosus*	LC	4.51	2.06
	22	Egyptian mangoose	*Herpestes ichneumon*	LC	0.03	0.10
	23	Common slender mongoose	*Herpestes sanguineus*	LC	0.44	0.15
	24	White-tailed mongoose	*Ichneumia albicauda*	LC	0.19	0.34
	25	Gambian mongoose	*Mungos gambianus*	LC	0.16	-
Homonidae	26	Western chimpanzee	*Pan troglodytes verus*	CR	1.65	2.02
Hyaenidae	27	Spotted hyaena	*Crocuta crocuta*	LC	-	0.01
Hystricidae	28	Brush-tailed porcupine	*Atherurus africanus*	LC	1.84	0.85
	29	Crested porcupine	*Hystrix cristata*	LC	0.99	0.73
Leporidae	30	African savanna hare	*Lepus victoriae*	LC	0.10	0.04
Manidae	31	Tree pangolin	*Phataginus tricuspis*	EN	0.03	0.01
Mustelidae	32	African clawless otter	*Aonyx capensis*	NT	-	0.01
	33	Honey badger	*Mellivora capensis*	LC	0.09	0.16
Nandiniidae	34	African palm civet	*Nandinia binotata*	LC	0.36	0.17
Nesomyidae	35	North giant pouched rat	*Cricetomys gambianus*	LC	4.38	2.42
Procaviidae	36	Rock hyrax	*Procavia capensis*	LC	0.03	0.02
Sciuridae	37	Fire-footed squirrel	*Funisciurus pyrropus*	LC	2.80	2.28
	38	Gambian sun squirrel	*Heliosciurus gambianus*	LC	0.06	0.31
	39	Red-legged Sun Squirrel	*Heliosciurus rufobrachium*	LC	0.69	0.08
	40	Green bush squirrel	*Paraxerus poensis*	LC	0.08	0.01
	41	Forest giant squirrel	*Protoxerus stangeri*	LC	0.02	-
	42	Striped ground squirrel	*Xerus erythropus*	LC	0.44	-
Suidae	43	Forest hog	*Hylochoerus meinertzhageni*	LC	0.19	0.25
	44	Common warthog	*Phacochoerus africanus*	LC	1.46	1.51
	45	Red river hog	*Potamochoerus porcus*	LC	4.07	3.58
Thryonomyidae	46	Great cane rat	*Thryonomys swinderianus*	LC	0.08	0.03
Viverridae	47	African civet	*Civettictis civetta*	LC	4.40	2.69
	48	Johnston's genet	*Genetta johnstoni*	NT	1.62	0.09
Others		Squirrel sp.			0.67	0.40
		Duiker sp.			0.33	0.49
		Genet sp.			2.67	1.83
		Mongoose sp.			0.60	0.18
		Bat sp.			1.00	0.39

Spatially-explicit capture-recapture

In February 2023, WCF initiated an elephant survey using the spatially-explicit capture recapture biomonitoring method, which permits the identification of forest elephant individuals and groups. Mixed teams of WCF community ecoguards and OGPNRF agents set up 62 camera traps within 140 km^2 of the Sabouyah forest, in locations showing signs of elephants: elephant tracks, dungs, and corridors, watering holes, fruit trees and other clues, as a means to increase the probability of elephant capture and recapture. Preliminary results show that a minimum of 123 elephant individuals from 18 social groups inhabit the Sabouyah forest in Guinea. Composition of the groups with number of individuals for each age-sex class is presented in the table below, and includes 36 adult females, 12 adult males, 40 adolescents, 30 infants, and five unclassified (age-sex class to be determined).

Table 4. Number of elephant groups identified with their preliminary size and composition in the Sabouyah forest in the proposed Pinselli-Soyah-Sabouyah National Park.

|	Group name	Group size	Adult females	Adult males	Adolescents	Infants
1	Bafing	10	3	-	4	3
2	Dion	3	1	-	-	2
3	Férédougou	11	3	-	5	3
4	Gambie	6	2	-	2	2
5	Kaba	4	1	-	2	1
6	Kolémé	6	2	-	3	1
7	Konkouré	3	1	1	-	1
8	Koumba	4	3	-	-	1
9	Lolo	10	3	-	5	2
10	Manga	3	2	-	-	1
11	Milo	10	3	-	4	3
12	Moa	5	1	-	3	1
13	Niandan	3	1	-	2	-
14	Niger	4	1	-	2	1
15	Rapide	3	1	-	1	1
16	Sénégal	5	2	-	1	2
17	Téné	6	2	-	2	2
18	Tinkisso	11	4	-	4	3
	Adult males identified	11	-	11	-	-
	Individuals alone identified	5	-	-	-	-
	Total	**123**	**36**	**12**	**40**	**30**
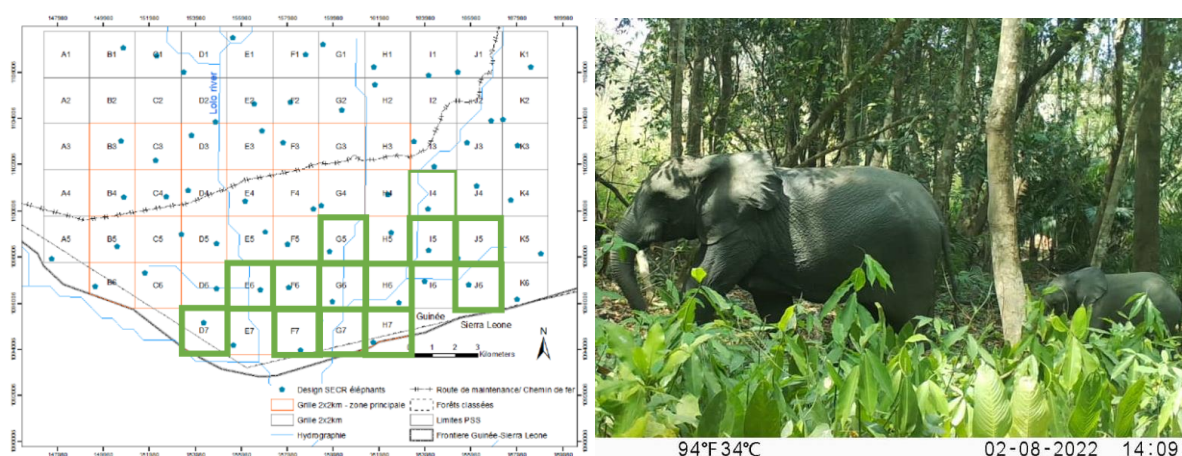
Figure 7. Camera traps recording videos of forest elephants in the Sabouyah forest between June and August 2023 (left) and camera trap footage of forest elephants (right).

Specific line transect distance sampling
To evaluate the impacts of the railway and maintenance road construction on biodiversity, and in particular on western chimpanzee, WCF conducted a specific biomonitoring survey using the method of systematic linear transects on either side of the railway and maintenance road sides in April and November 2023. In total, 26 six-km long line transects were walked by WCF community ecoguards and state agents.

3.5. Forest regeneration and wildfire management

As part of the forest regeneration program, WCF has identified four natural ecological regeneration (NER) sites within the proposed PSS NP, totalling 13.17 hectares. Activities will begin in January 2024, once the field teams have completed the construction of firebreaks for the 2023-2024 fire season.

This year, WCF has launched for the first time its annual wildfire management program to protect the high conservation value forests (HCVF) of the PSS landscape. With the participation of 655 community members, 72 kilometres of 15-m wide firebreaks were created around three HCVFs in the proposed PSS NP to prevent the further loss of forest cover during the 2022-2023 fire season and 14 fires were extinguished. Analyses of burned areas throughout the proposed PSS NP indicate that a total of 11% of the proposed PSS NP was burned during the 2022-2023 fire season. Wildfire control measures are directed towards the preservation of priority forested areas, and even though 11% of the proposed PSS NP were burned, 94 – 96 % of gallery and open forests were protected from wildfire within the whole proposed PSS NP.
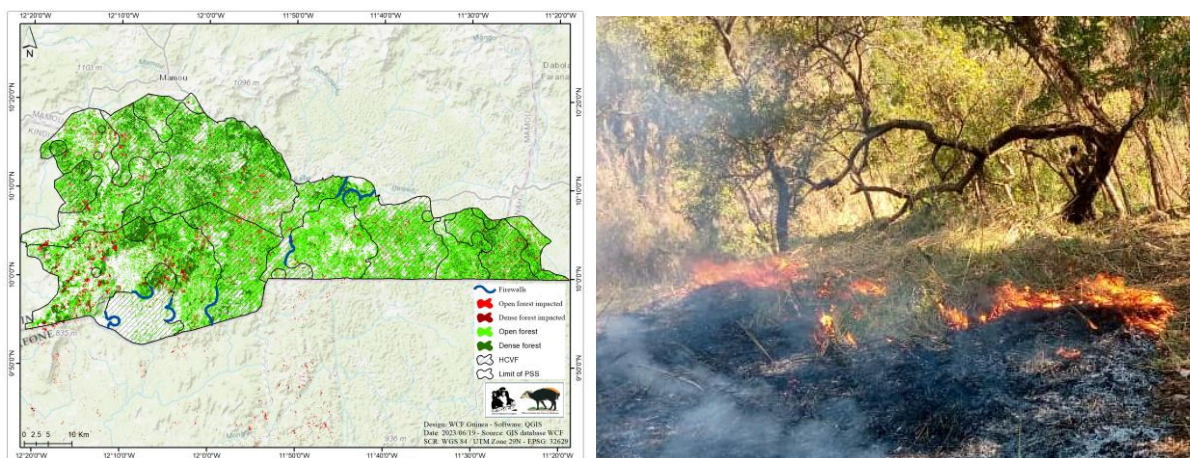

Figure 8. Map illustrating the surface of the gallery and open forests burned in the Pinselli-Soyah-Sabouyah landscape burned during the 2022-2023 fire season (in dark and light red respectively) and location of the 72 km of firebreaks created to protect high conservation value forests (in blue) as shown in the picture.

3.6. Implementation of a mitigation strategy along the future railway line

As the railway construction plans represent a major threat to the future park, threatening to divide the park in two, blocking all animal movement and increasing fragmentation, WCF has continued to be extremely active in exchanging with the railway constructors (Winning Consortium Simandou and Rio Tinto) to have them significantly increase investment into mitigating and compensating their negative impacts.

Bi-monthly field visits

WCF, in collaboration with the "Ministère de l'Environnement et du Développement Durable" (MEDD) regional services, has pursued the bi-monthly field visits at the railway construction sites to monitor and assess the implementation of the mitigation hierarchy and protection measures by railway constructors. The field visits led to the identification of 76 mitigation measures (e.g., under/overpasses at watercourses), which were then reviewed in November to define their priority level for construction. Out of the 76 mitigation measures, 58 were defined as *Priority 1* ("to be built as soon as there are validated by Winning Consortium Simandou senior management"), including all mitigation measures dedicated to the Sabouyah forest elephant population (n = 16) and all chimpanzee and primate bridges (n = 32).

Environmental impact study

This year, WCF has produced the first annual report quantifying the environmental impacts of the railway construction in the PSS landscape: impacts on biodiversity, forest cover, and human immigration. Preliminary results show that a minimum of 145 to 277 chimpanzee individuals are negatively impacted by the construction of the railway line in the whole proposed PSS NP. This environmental impact assessment will be repeated the next following years to assess the progress and impact of the mitigation and restoration measures implemented by railway constructors on the environment.

Following the results of this report and as a means to control human immigration and reduce fauna and flora crimes, WCF and the MEDD both recommended intensifying surveillance activities. In that light six security checkpoints are currently being established in the PSS landscape with financial support from Winning Consortium Simandou/Rio Tinto. Once operational, the checkpoint's agents will register the names, origin and objectives of the individuals, prevent the entry of unauthorized guns, chainsaws, and prevent any illegal export of natural resource products, such as timber and bushmeat.
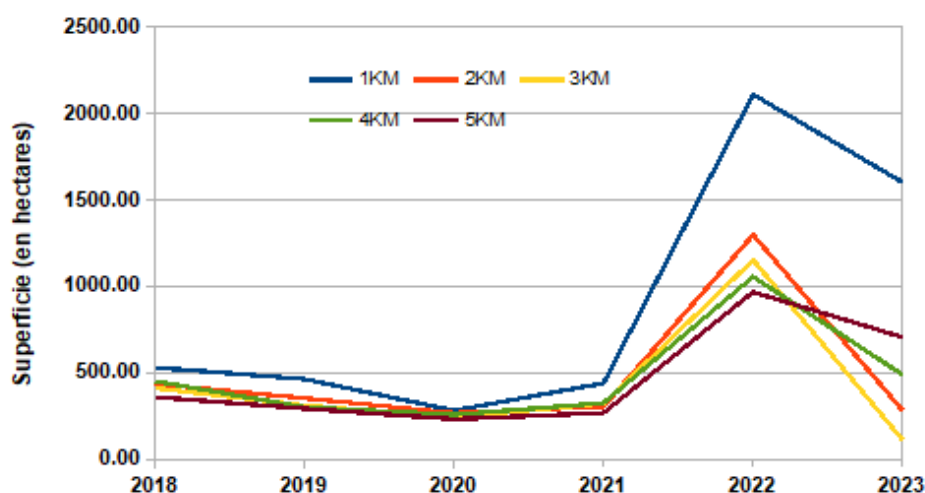

Figure 9. Deforestation in the proposed Pinselli-Soyah-Sabouyah National Park by year and distance from the railway line.

Workshops and meetings

On 23–24 May and 21-22 November 2023, WCF in collaboration with the MEDD, the Guinean Agency for Environmental Assessment (AGEE), and OGPNRF, organised two workshops in Conakry. The first workshop focused on WCS's 2023 action plan and mitigation measures implemented in the field so far, the establishment of six security checkpoints to control human immigration, the impacts of the railway construction on elephants, and the 76 pre-agreed

mitigation measures. While the second one focused on the first annual report quantifying the environmental impacts of the railway construction, the progress of the mitigation strategy, the cohesion between the mitigation measures planned on the railroad and the access road for wildlife passage, and the Winning Consortium Simandou Biodiversity Management Plan 2022 and the difficulties associated with its implementation.

Photo 9. Workshop organized in Conakry in November 2023

Furthermore, during a meeting in London in June between the President and Founder of WCF, Prof. Dr. Christophe Boesch, Winning Consortium Simandou and Rio Tinto, it was agreed that WCF will conduct a chimpanzee population assessment in Guinea to identify potential chimpanzee offset sites. The contract was signed in September 2023, with field work expected to start in January 2024. This represents the first step in the development of a chimpanzee offset project for the chimpanzees impacted in the Pinselli-Soyah-Sabouyah landscape and the larger Simandou project (mines and railway combined).

3.7. Community consultative management framework

This year, WCF initiated the development of land use plans for some of the village territories with the participatory mapping exercise. To date, 19 participatory land use village maps, including one inter-village map, were created and approved by community members in 20 villages. The next step will consist in holding consultation meetings with community members to inform them about the protection and restoration of conservation priority sites (such as water sources, gallery forests, etc.) and the signing of agreements.
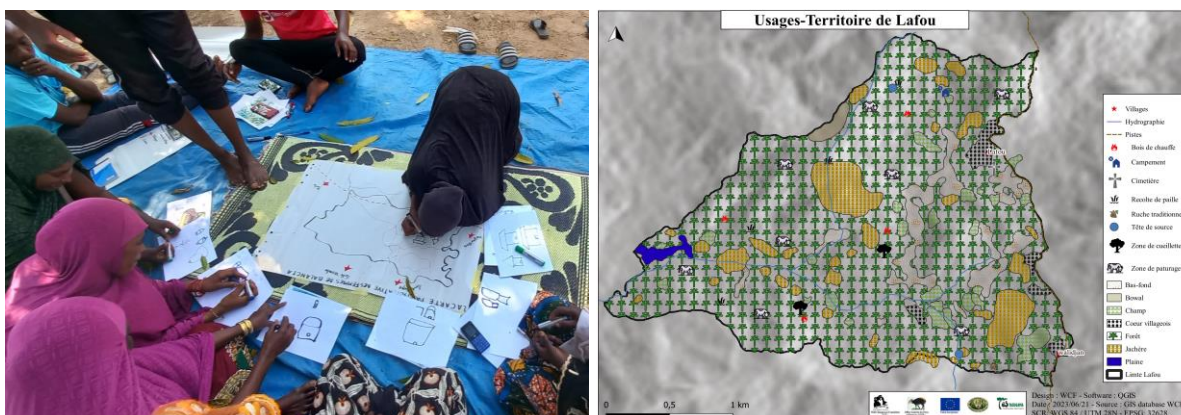

Photo 10. Participatory mapping exercise (left) and final map product (right).

In November, WCF set up 17 council offices (composed of 376 members) in the districts of the future national park for the participatory management of natural resources. The main role of these council offices will be to ensure the involvement of community members in all activities of the park and ensure the management of conflicts, complaints and grievances. The council offices are composed of one chairman (District President), council members (sector manager, women's and youth representative and GIE president, and one monitoring and decision validation committee (Imam, village dean, and PSS team). The Free Prior and Informed Consent (FPIC) principles and the complaints and grievance management mechanism were then explained to the 17 newly established council offices. Complaints and grievances that may arise from the community regarding the PSS NP project should be channelled as follows: from individual to members of the decision validation committee of the council office at the village level, to members of the inter-commune union at the prefectural level, and to members of PSS NP Steering Committee at the national level.

3.8. Socioeconomic development of communities

Important progress has been made towards the socioeconomic development of rural populations this year. To date, 670 community members (including 340 women) organized into 20 Economic Interest Groups ("Groupement d'Intérêt Economique" - GIE), are benefiting from the project support to improve livelihoods in various sectors such as vegetable gardening, agriculture (Farmer Managed Natural Regeneration), and apiculture:
- 8 GIE "vegetable gardening" with 321 members, including 157 women;
- 6 GIE "FMNR" with 179 members, including 115 women;
- 6 GIE "apiculture" with 170 members, including 68 women.

Vegetable gardening
During the vegetable growing season in Guinea, WCF supported the development and maintenance of seven collective plains, for a total surface of 7.33 hectares. Out of the seven collective plains, four were fenced to ensure the securing and valorisation of the vegetable gardening products. The 321 GIE members received technical, training, and material support from the project to improve their production in terms of quality and quantity. In particular: 1,175 agricultural planks were installed, 3.5 tons of compost were produced, 243 litres of biopesticide and 182 litres of bio fungicide were produced, and the basic farming equipment was provided and included hoes, watering cans, sprays, and seeds. The harvest for this first year of support consisted in 3.2 tons of groundnuts, 1.4 ton of maize, 1.3 ton of sweet potatoes, 80 kilos of chili pepper and 271 kilos of eggplants.

Photo 11. Training on agro-ecological techniques (left) and eggplant harvest (right).

__Farmer-managed natural regeneration (FMNR)__
Six FMNR fields totalling 6.50 hectares and managed by 179 GIE members were selected to receive agricultural support in 2023. The following activities were conducted from January to December 2023: (i) opening and clearing of the field, (ii) selection of 638 preserved trees, (iii) fencing to secure the fields, (iv) installation of anti-erosion measures (270 meters of stone barriers and 295 meters of wood barriers), (v) labouring and seed sowing, and (vi) harvest. Harvest consisted in 2.7 tons of rice and 1.8 ton of groundnuts for this first year of support.

Photo 12. Provision of material to fence
the Farmer Managed Natural Regeneration fields (left) and preserved trees (right).

__Apiculture__
WCF organised three trainings on sustainable beekeeping practices from 16 to 31 January 2023 for 73 members of apiculture cooperatives in Soyah, Karimouyah, and Ouré Kaba respectively. The project has donated 120 sustainable Kenyan beehives to the six cooperatives and supported the members in their monitoring and maintenance. To date, 29 out of the 120 (24%) Kenyan beehives are inhabited by bees. In parallel, the project is supporting community members in the monitoring of 944 improved traditional beehives (made of bamboo, an invasive species, cow dung, and straw instead of cutting trees). This year, 2,083 litres of semi-improved honey were harvested, of which 1,520 litres were sold at a total price of 38'000'000 GNF (~ 4,420 USD). Prior to sale, an analysis of the quality and physicochemical composition of the honey was carried out by the "*Office National de Contrôle de Qualité*" showing that the honey produced was of good quality. Finally, on 13 October, WCF organized a training on good beekeeping practices and quality and health control for 14 WCF staff and 18 GIE members.

Photo 13. Eco-responsible Kenyan beehives (left) and honey
production from semi-improved traditional beehives (right)

Néré – Soumbara value chain

Based on the high potential of néré production in the PSS landscape (estimated annual néré production of 33.6 tons), WCF decided in March to launch a new value chain: the néré-soumbara value chain. WCF organized from 4 to 6 May 2023, a two-day theorical and practical training in Soyah for 19 WCF agents on the experimental process of production, transformation, and conditioning of néré. Participants transformed 100 kg of néré seeds in soumbara powder.

Photo 14. Néré seeds (left) and training organised on the experimental process of production, transformation, and conditioning of néré (right).

3.9. Awareness raising and education

This year, WCF has implemented the following outreach activities in the proposed PSS NP:

- ***Cercles d'écoute***: 50 focus groups focusing on wildfire, poaching, logging, and agroecology have reached 2,106 persons, including 861 women, in 58 villages;
- ***Club PAN environmental education program*** was implemented in six schools and benefitted 267 children, including 97 girls, during the 2022-2023 school year;
- ***Theatre tour:*** the troupe "*Association pour la promotion de la santé et de l'éducation en Guinée*" was selected to conduct the first theatre tour in June and July in 20 villages reaching 1,629 persons, including 400 women and 677 children.

In addition, the WCF communications team developed other outreach activities using different communication channels as follows: five TV broadcasts were released on national televisions, 463 radio programs were broadcast on three local radios in French, Poulhar, Malinke and Sousou languages, and 25 articles were published online (WCF website and social media).

Photo 15. Children benefitting from Club PAN (left); First PSS theatre tour (right).

3.10.   Activities conducted in Sierra Leone

Under the supportive supervision of WCF, the following main results were achieved by Tacugama Chimpanzee Sanctuary (TCS) and National Protected Area Authority (NPAA) in Sierra Leone:

Surveillance and law enforcement
Sixty (60) surveillance patrols were conducted from January to November, corresponding to 1,108 kilometres (average of 5.5 patrols/month, range = 0 – 10). In total, 8,025 signs of 40 medium to large sized mammal species were recorded, including the critically endangered western chimpanzee (0.74 sign/km) and forest elephant (0.55 sign/km), endangered pygmy hippopotamus (0.02 sign/km), king colobus (0.07 sign/km), red colobus (0.005 signs/km), and giant and white-bellied pangolins (0.004 and 0.001 sign/km respectively), and vulnerable leopard (0.004 sign/km), hippopotamus (0.02 sign/km), African golden cat (0.005 sign/km), olive colobus (0.002 sign/km) and sooty mangabey (0.14 sign/km).

A law enforcement training workshop was organized by NPAA in January for NPAA rangers, TCS community ecoguards, police and military personnel working in and around the landscape with the objective to (i) develop the capacities in the enforcement of protected area management laws, (ii) strengthen collaboration between the different law enforcement services, and (iii) enhance effective patrols and surveillance in combatting illegal activities across the landscape.

***Photo 16. Direct observation of a forest elephant (left)
and law enforcement workshop(right).***

Biomonitoring
TCS and NPAA conducted a biomonitoring survey using the method of line transects and camera trap distance sampling in Outamba National Park and Kuru Hills Reserve in 2022 and in Kilimi National Park in 2023. The critically endangered lion (*Panthera leo*) was notably detected for the first time in Kilimi National Park this year. Camera trap video analyses are ongoing and results will be presented in the next reporting period.

Livelihood support
In Sierra Leone, 10 GIE "agroecology FMNR" and four GIE "apiculture" composed in total of 499 members are receiving technical, training, and material support from the project. Ten FMNR fields totalling 9.39 hectares were selected this year for ground nut and rice production, and 1.1 ton of groundnuts have been harvested to date. Moreover, the project has donated 60 sustainable Kenyan beehives to the four cooperatives and supported the members in their monitoring and maintenance, from which 47 of them (78%) are already inhabited by bees.

Photo 17. Women working in a Farmer Managed Natural Regeneration field (left) and installation of Kenyan beehives (right).

Awareness raising and education

The Tacugama's Kids Environmental Education Programme (TKEEP) was implemented in six schools and benefitted 210 children, including 103 girls, during the 2022-2023 school year. In addition, 2,014 people were sensitized during awareness sessions on wildfires, deforestation, and agroecology.

4. Acknowledgements

The WCF Guinea team is grateful to their long-term partner, the Guinean Office of National Parks and Fauna Reserves (OGPNRF, *Office Guinéen des Parcs Nationaux et Réserves de Faune*), and all the agents of the Ministry of Environment and Sustainable Development (MEDD, *Ministère de l'Environnement et du Développement Durable*) who contributed to the creation of the Moyen-Bafing National Park in 2021 and are now working towards the creation of the Pinselli-Soyah-Sabouyah National Park.

We are also grateful to the Biodiversity Offset partners: Guinea Alumina Corporation (GAC), *Compagnie de Bauxite de Guinée* (CBG), the offset coordination team (MBOP, *Moyen-Bafing Offset Project*), and the members of the Intermediate Technical Panel (ITP) for their financial and technical support of the Moyen-Bafing National Park project.

We are very thankful to our donors, without whom none of our projects would be possible: European Union, Rainforest Trust, West Africa Biodiversity and Low Emissions Development (WABiLED) from USAID, Arcus Foundation, Zürcher Tierschutz, Great Ape Conservation Fund of the US Fish and Wildlife Service, Zoo am Meer Bremerhaven, Serengeti Park Stiftung, and Monde Sauvage Safari Park.