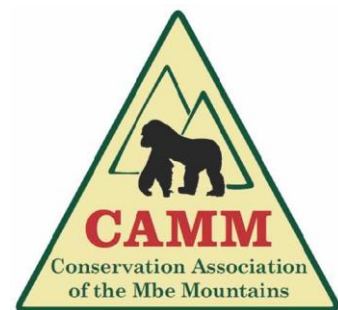


**WILDLIFE CONSERVATION SOCIETY
MBE MOUNTAINS COMMUNITY WILDLIFE SANCTUARY**

QUARTERLY REPORT: APRIL –JUNE 2021



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Summary

This report presents results of law enforcement patrols of the Mbe Mountains conducted by 16 eco-guards from April to June 2021 and supported by the Wildlife Conservation Society (WCS). The report also describes activities implemented to raise conservation awareness and improve local livelihoods. A total of 21 patrols were completed this quarter, covering a total distance of 992 kilometres over 154 patrol days (729 person-days). During the patrols, 13 wire snares were removed, and one hunting camp was destroyed. Other signs of illegal activity observed include 57 expended shotgun cartridges, 14 gunshots heard and 1 illegal logging site. Great apes were sighted on eight occasions (chimpanzees seven times, gorillas once) during patrols this quarter and thirty-two ape nest sites were observed: twenty-one gorilla, eleven chimpanzee. Monkeys were sighted a total of 150 times: drill (20 sightings), red-eared monkey (13 sightings), Mona monkey (74 sightings), and putty-nosed monkey (43 sightings). Activities implemented to raise awareness include film shows in six villages reaching 607 people, 5 exchange visits between conservation clubs involving 492 students, 6 guided field trips, 5 community meetings and 8 school visits. A total of 60 branded notebooks, 170 pens and 16 posters designed to promote conservation of Cross River gorillas and forest elephants were distributed during the school visits. WCS purchased farming supplies to be distributed to farmers, including 108 wheelbarrows, 108 tarpaulins and 180 rain boots. The supplies were provided as part of ongoing support to local farmers who also receive training on improved agricultural practices to improve efficiency and reduce deforestation. As part of efforts to strengthen the Conservation Association of Mbe Mountains (Camm) and improve community forest governance, WCS supported seven meetings of the association's General Assembly, BoT and Management Committee to resolve governance and management issues within Camm.

Methods

Three teams of four eco-guards each based at different camps in the sanctuary completed 2-3 7 to 10 days patrols per month, patrolling different sectors of the sanctuary simultaneously. Each month additional 1-2 short (3 to 5 days) patrols are also organized. Patrols followed existing trails but targeted known and suspected hotspots of human activities based on intelligence gathered from the surrounding villages and data from previous patrols. Data were collected using CyberTracker software on handheld computer devices and analyzed in SMART (<http://smartconservationtools.org/>). All offenders encountered apprehended, all wire snares, and hunting camps found were destroyed.

Results

Patrol effort

Twenty-one patrols were completed this quarter (Table 1; Figure 1; Appendix I) covering a total distance of 992 kilometres over 154 patrol days (729 person-days).

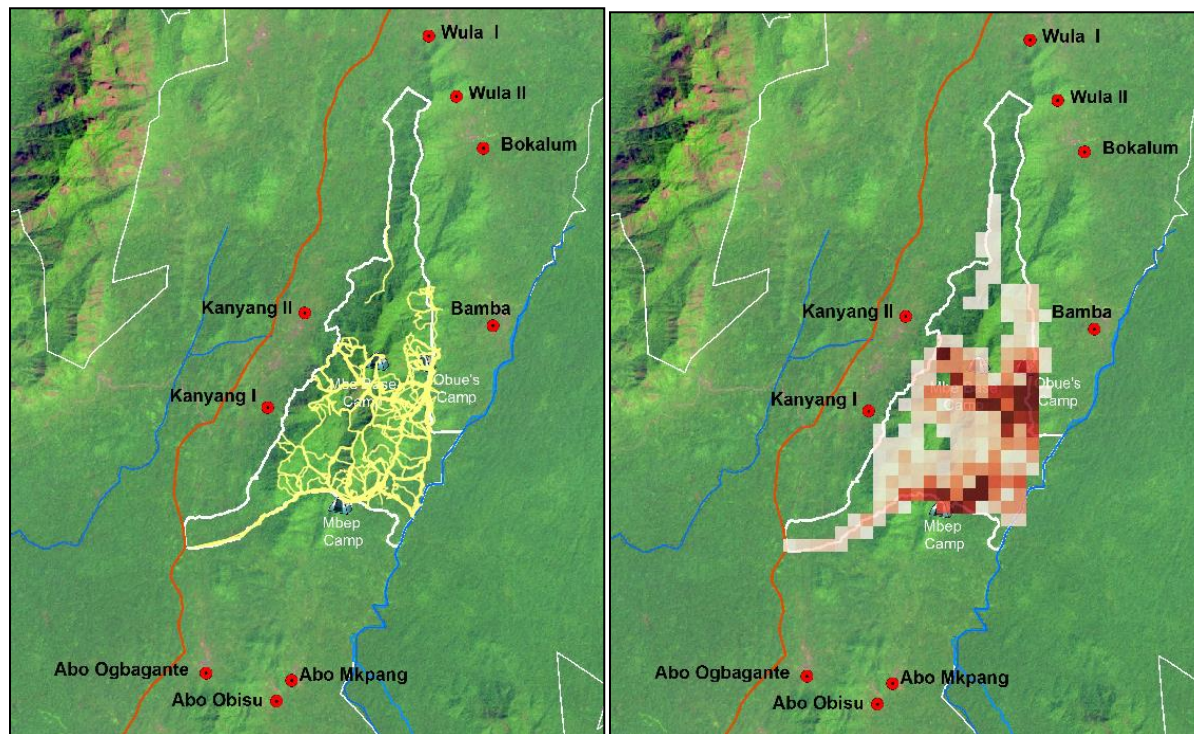


Figure 1. Patrol tracked-logs and patrol effort in grid cell for the period April to June 2021. (Darker red color indicates areas of more intense patrol coverage).

Table 1. Summary of patrol effort for the period April to June 2021.

Patrol ID	Number of patrols	Number of days	Distance (km)	Person - days
mbe_mts_000439	1	1	4.0	2
mbe_mts_000447	1	7	39.2	28
mbe_mts_000448	1	7	50.4	28
mbe_mts_000449	1	5	8.0	20
mbe_mts_000450	1	4	27.3	14
mbe_mts_000451	1	8	34.3	34
mbe_mts_000452	1	7	57.6	33
mbe_mts_000453	1	6	49.8	30
mbe_mts_000454	1	8	50.4	40
mbe_mts_000455	1	8	55.7	40
mbe_mts_000456	1	8	45.9	46
mbe_mts_000457	1	12	76.5	58
mbe_mts_000458	1	11	76.0	66
mbe_mts_000459	1	11	78.9	55
mbe_mts_000460	1	8	53.5	40
mbe_mts_000461	1	8	47.9	46
mbe_mts_000462	1	8	63.0	40
mbe_mts_000463	1	3	17.5	12

Patrol ID	Number of patrols	Number of days	Distance (km)	Person - days
mbe_mts_000473	1	8	51.6	32
mbe_mts_000474	1	8	54.1	32
mbe_mts_000475	1	8	54.9	33
Total	21	154	996.5	729

Average distance and length of patrols per month

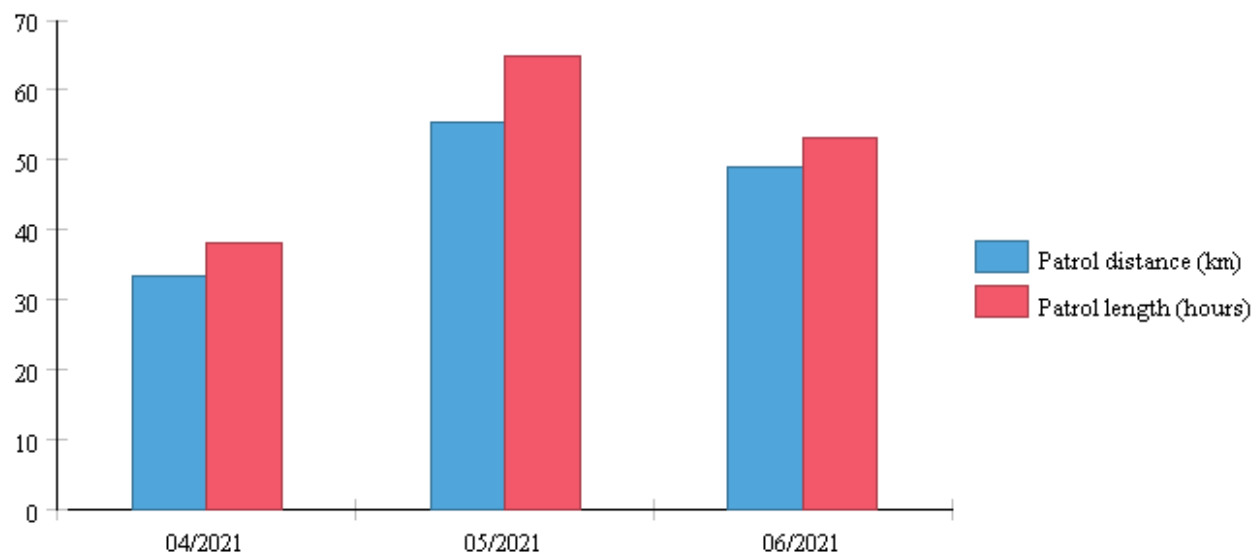


Figure 2. Average distance covered and time taken per patrol per month for the period April to June 2021.

Total patrol distance and length per month

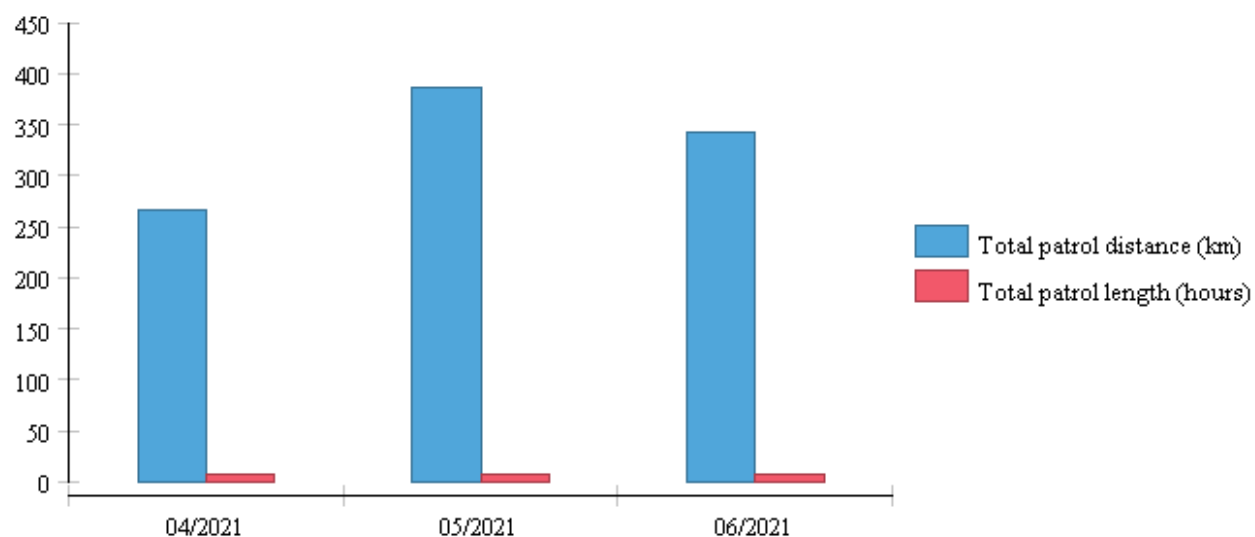


Figure 3. Total patrol distance and time per month for the period April to June 2021.

Law Enforcement

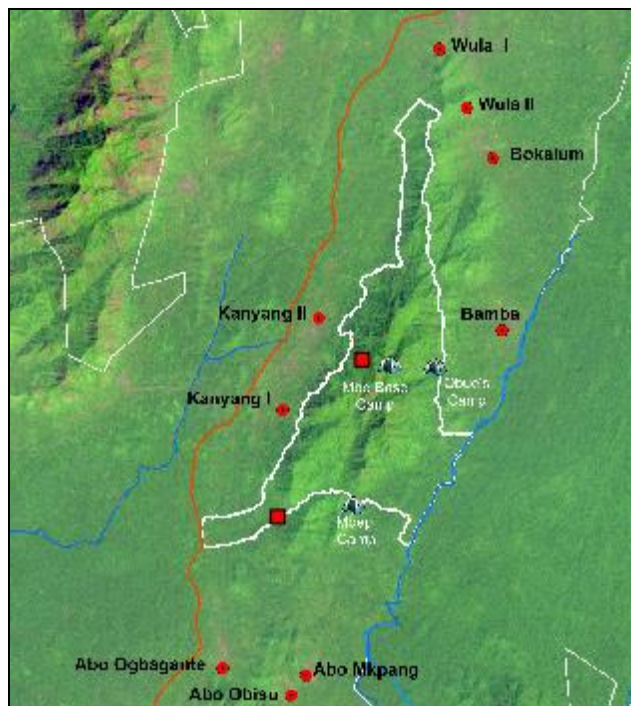
Patrols this period removed 13 wire snares and dismantled one hunting camp. Other signs of illegal activity observed include 57 expended cartridges, 13 incidents of gunshots heard and 1 illegal logging site.

Table 2. Total encounter rates of signs of human activity for the period April to June 2021.

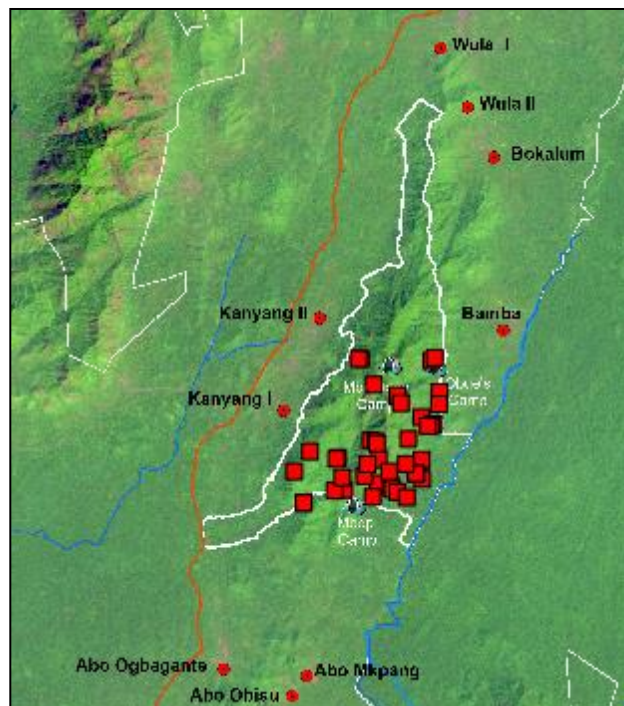
Activity	# of incidents	Encounter rate/km
Farming and land clearing	1	0.001
Gunshots heard	13	0.013
Human sign	36	0.036
Logging and tree cutting	1	0.001
Shed or camp	1	0.001
Traps, weapons & equipment	46	0.046
Total	98	0.099

Table 3. Details of logging activity for the period April to June 2021.

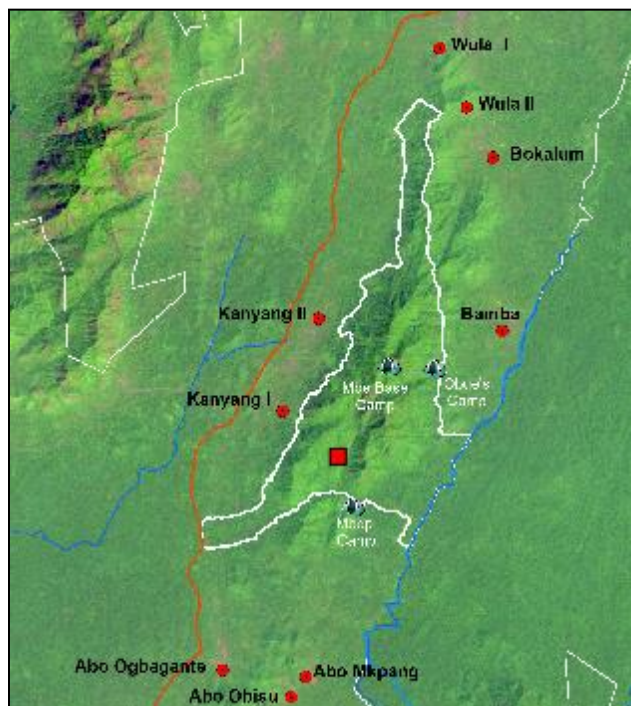
Type of logging evidence	Action taken	Age of sign	Tree species
Stump	Seen only	Recent	Other



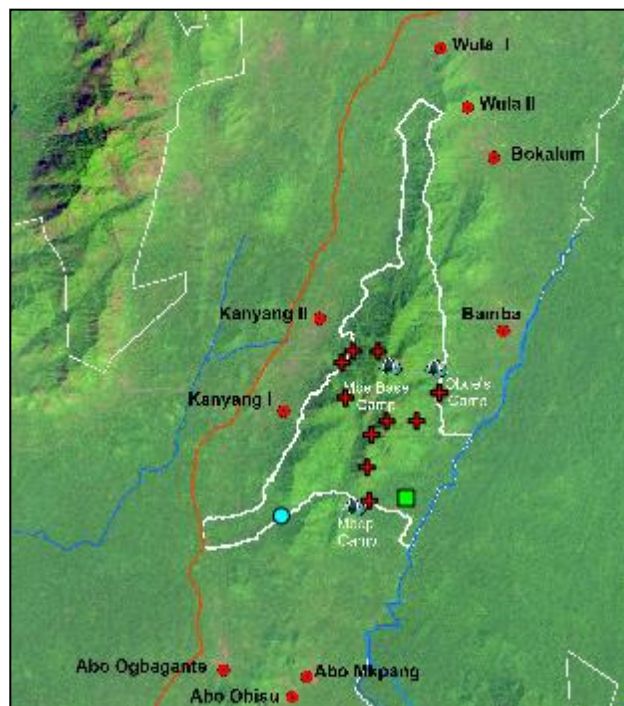
a) Wire snares



b) Empty cartridges



c) Sheds and camps



d) Farms (circles), gunshots heard (crosses) and logging (squares)

Figure 4. Distribution of all signs of human activity recorded for the period April to June 2021.

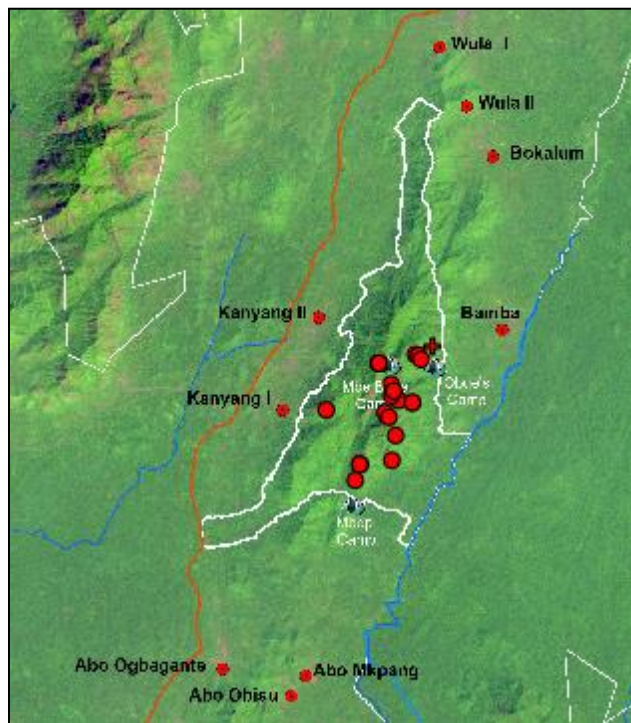
Table 4. Hunting signs recorded for the period April to June 2021.

Sign	# of observations	Encounter rate/km
Gunshots heard	14	0.014
Set wire snares	13	0.013
Empty cartridges	57	0.057
Hunting camps	1	0.001
Total	85	0.086

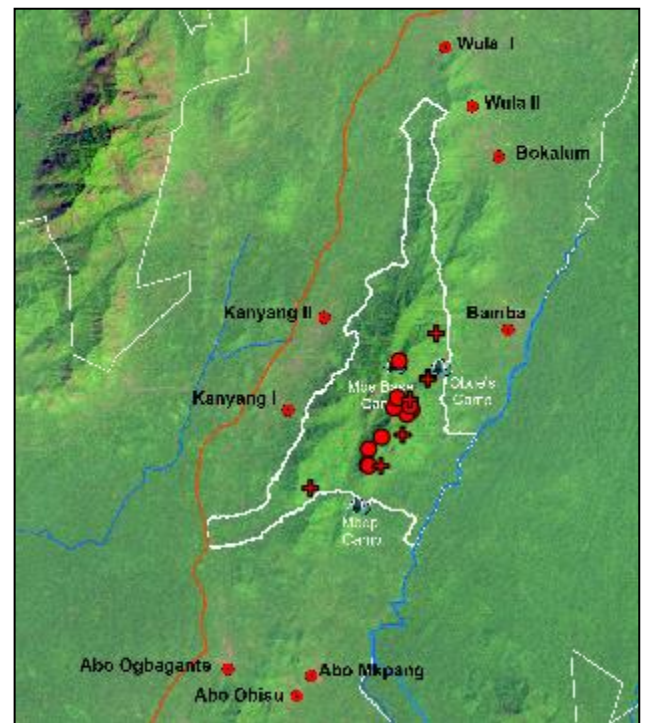
Wildlife Observations

Great Apes and other Primates

Apes were sighted on eight occasions (gorillas once, chimpanzees on seven occasions) during patrols this quarter and thirty-two ape nest sites were observed: 21 gorilla and 11 chimpanzee (Figure 5, Tables 5, 6, & 7). Other ape evidence recorded include fresh dung, calls, trails and feeding remains.



a) Gorillas



b) Chimpanzees

Figure 5. Ape sightings and nest sites recorded for the period April to June 2021.
(NOTE: Nest sites shown as circles, sightings shown as crosses).

Table 5. Ape sightings recorded for the period April to June 2021.

Date	Species	Individuals counted
May 24, 2021	Chimpanzee	13
Apr 18, 2021	Chimpanzee	16
Jun 20, 2021	Chimpanzee	6
Jun 19, 2021	Chimpanzee	9
May 23, 2021	Chimpanzee	11
Apr 17, 2021	Chimpanzee	6
Jun 7, 2021	Chimpanzee	7
Apr 26, 2021	Gorilla	1

Table 6. Number and encounter rate of nest sites recorded for the period April to June 2021.

Species	Number of nest sites	Encounter rate of nest sites per km
Chimpanzee	11	0.011
Gorilla	21	0.021
Total	32	0.032

Table 7. Nest sites recorded for the period April to June 2021.

Species	Nest site type	Dung present	Age of sign	Number of ground nests	Total number of nests
Chimpanzee	Day nest(s)	false	Fresh	0	7
Chimpanzee	Night nest(s)	false	Fresh	0	4
Chimpanzee	Night nest(s)	false	Recent	0	8
Chimpanzee	Night nest(s)	true	Fresh	0	13
Chimpanzee	Night nest(s)	true	Fresh	0	11
Chimpanzee	Day nest(s)	false	Fresh	0	3
Chimpanzee	Night nest(s)	false	Recent	0	9
Chimpanzee	Night nest(s)	true	Fresh	0	14
Chimpanzee	Night nest(s)	false	Fresh	0	9
Chimpanzee	Night nest(s)	false	Fresh	0	11
Chimpanzee	Night nest(s)	true	Fresh	0	8
Gorilla	Night nest(s)	true	Fresh	1	1
Gorilla	Day nest(s)	false	Recent	1	4
Gorilla	Night nest(s)	false	Recent	8	8
Gorilla	Night nest(s)	true	Fresh	5	6
Gorilla	Day nest(s)	false	Fresh	1	1
Gorilla	Night nest(s)	false	Recent	5	5
Gorilla	Day nest(s)	false	Fresh	1	1
Gorilla	Day nest(s)	false	Fresh	1	1
Gorilla	Night nest(s)	false	Recent	8	8
Gorilla	Night nest(s)	false	Fresh	1	1
Gorilla	Night nest(s)	true	Recent	3	11
Gorilla	Night nest(s)	false	Fresh	3	5
Gorilla	Night nest(s)	true	Fresh	8	8
Gorilla	Night nest(s)	true	Fresh	4	4
Gorilla	Night nest(s)	false	Recent	9	11
Gorilla	Night nest(s)	true	Fresh	9	9
Gorilla	Night nest(s)	false	Recent	7	7
Gorilla	Night nest(s)	true	Fresh	1	1
Gorilla	Day nest(s)	false	Fresh	1	1
Gorilla	Night nest(s)	true	Fresh	3	9
Gorilla	Night nest(s)	true	Fresh	4	4

Monkey sightings

Monkeys were sighted a total of 150 times during patrols this quarter (Figure 6, Table 8). Mona monkey *Cercopithecus mona* and putty-nosed monkey *Cercopithecus nictitans* were the most frequently sighted (74 times and 43 times respectively). Drills were sighted 20 times and red-eared on 13 occasions.

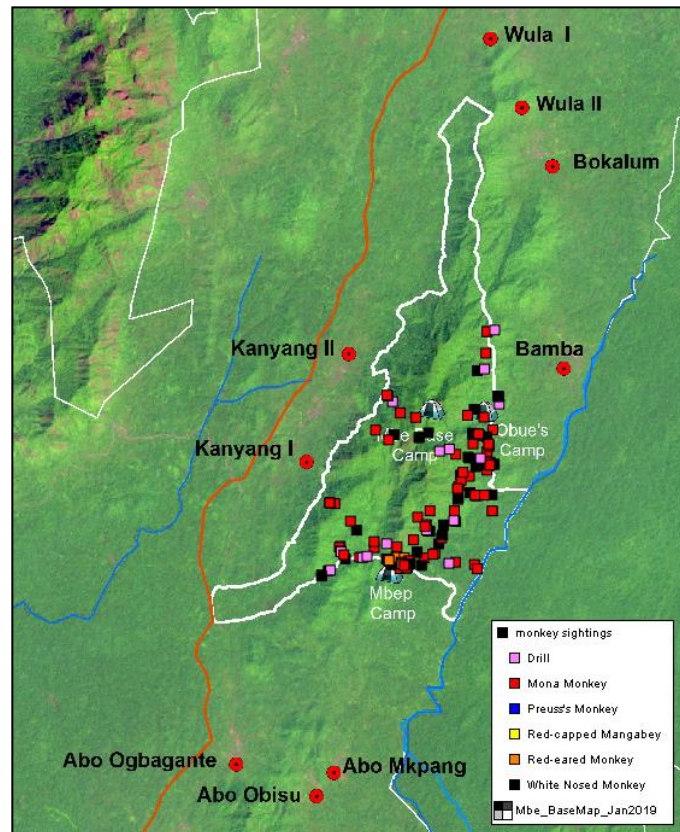


Figure 6. Monkey sightings recorded for the period April to June 2021.

Table 8. Number and encounter rate of monkey species observed from April to June 2021.

Species	Number of observations	Encounter rate
Drill	20	0.020
Mona Monkey	74	0.074
Red-eared Monkey	13	0.013
Putty-nosed Monkey	43	0.043
Total	150	0.151

Other Wildlife

Other large mammals recorded this quarter include forest elephant *Loxodonta cyclotis*, red river hog (*Potamochoerus porcus*), water chevrotain (*Hyemoschus aquaticus*), and yellow-backed duiker (*Cephalophus silvicultor*). See Appendix II for full list of species recorded. Non-primates sighted include duikers, red river hog, hyrax, cusimanse, squirrels and bats.

Conservation Education and Awareness

Exchange Visits

During this quarter, WCS organized six schools exchange visits involving 12 schools in Mbe, with a total of 590 students participating in the activity (Table 9). Lessons and outdoor activities including quiz competition and conservation games and puppet show were organized to teach the children about conservation and natural resource management and to give the children opportunity to share ideas and knowledge gathered at various sites.

Table 9: Schools Exchange Visits in Mbe April to June 2021

Date	School(s)	Site	# of students
28/4.2021	Government Primary School Kanyang and Dowell Partner Nursery and Primary School Kanyang	Mbe	104
28/4/2021	Community Secondary School Bamba and St. John's Model Secondary School Wula	Mbe	92
20/5/2021	Community Secondary School Bamba and Buentsebe Secondary School Wula	Mbe	99
28/5/2021	Government Primary School Kanyang and Government Primary School Abo Ogbagante	Mbe	81
16/6/2021	Secondary Commercial School Abo Ogbagante and Government Secondary School Kanyang	Mbe	116
22/6/2021	Government Primary School Abo Mkpang and Abo Obisu	Mbe	98
Total			590



Figure 7. Exchange visit between Community Secondary School Bamba (left) and Buentsebe Secondary School Wula (right).

Field Trips

Field trips are an effective way to connect young people to nature, often offering experiences that inspire people to value nature and support wildlife conservation. During this reporting period, WCS organized six guided field trips for 124 students in Mbe (Table 10). The field trips provided the students and pupils the opportunity to learn about the rainforest, threats to wildlife, and ongoing efforts to save endangered species from extinction. WCS field staff shared their knowledge and experiences with the students during the field trips.

Table 10: Field trips organized for students in Mbe April to June 2021

Date	School(s)	Site	# of pupils/ students
29/4/2021	Community Secondary School Bokalum	Mbe	22
1/5/2021	Christ the King Secondary School Abo Mkpang	Mbe	24
20/5/2021	Buentsebe Secondary School Wula	Mbe	24
27/5/2021	Government Primary School Wula II	Mbe	23
15/6/2021	Government Secondary School Kanyang	Mbe	25
26/6/2021	Christ the King Comprehensive Secondary School Abo Mkpang	Mbe	23
Total			141



Figure 8. Field trip with Christ the King Comprehensive Secondary School Abo Mkpang to CRNP Butatong

School Visits

WCS education staff visited eight schools in Mbe to create conservation awareness (Table 11). Lessons were organized to teach the children about conservation and natural resource management. Other activities carried out during the visits include quiz, conservation games and puppet show. Writing materials were given to the best performing students and to others who were present. Sixty customized notebooks were distributed to raise awareness of the conservation status of forest elephants.

Table 11. Schools visited in Mbe January to March 2021

DATES	Name of school visited	Site	# of items distributed
26/4/2021	Government Migrant Science School Kakubok	Mbe	20 notebooks
27/4/2021	Rev. Father Idaku Memorial Primary School Bunyia Irruan	Mbe	20 notebooks
20/5/2021	Buentsebe Secondary School Wula	Mbe	50 pens
20/5/2021	Community Secondary School Bokalum	Mbe	20 notebooks
28/5/2021	Government Primary School Abo Ogbagante	Mbe	50 pens
16/5/2021	Government Secondary School Kanyang	Mbe	25 pens
16/6/2021	Government Primary School Kanyang	Mbe	20 pens
16/5/2021	Secondary Commercial School Abo Ogbagante	Mbe	25 pens
Total			230

Film Shows

WCS organized film presentations in six villages around Mbe to raise awareness on issues of wildlife conservation reaching a total of 607 people (Table 12). The films were used to create awareness about environmental problems and encourage people to change their attitudes towards great apes and other threatened species and the forest habitat. At the end of each film presentation, WCS education staff encouraged and facilitated discussion among the viewers on ways to prevent or reduce illegal human activities such as farm encroachment, logging, bush burning, and river poisoning and hunting in protected areas. The role of local communities in protecting forests and wildlife was emphasized.

Table 12: Villages visited in Mbe for film presentation and estimated number of viewers April-June 2021

Date	Community	Site	Attendance
13/4/2021	Kanyang II	Mbe	115
14/4/2021	Kanyang I	Mbe	140
17/4/2021	Bamba	Mbe	76
12/5/2021	Abo Obisu	Mbe	69
15/6/2021	Kanyang I	Mbe	144
17/6/2021	Kanyang II	Mbe	63
Total			607



Figure 9. Film show in Kanyang II

Community Meetings

This quarter, WCS facilitated five community meetings attended by a total of 223 people (Table 13) including village chiefs, women leaders and youths. The meetings discussed threats to Mbe including hunting, farm encroachment, illegal logging and unsustainable harvesting of non-timber forest products. The growing problem of illegal logging, especially logging of bubinga (*Guibourtia* spp.) was highlighted.

Table 13. Community meetings organized and attendance April to June 2021

Date	Community	Site	Attendance
12/4/2021	Kanyang I	Mbe	31
13/4/2021	Kanyang II	Mbe	12
15/4/2021	Abo Obisu	Mbe	53
17/4/2021	Bamba	Mbe	76
19/4/2021	Bokalum	Mbe	51
Total			223



Figure 10. Community meeting session in Bamba

World Environment Day Celebration

World Environment Day (WED) is celebrated annually on 5 June and is the United Nations' principal vehicle for encouraging awareness and action for the protection of the environment. To mark this year's WED, WCS organized a number of activities including talks and walks with schoolchildren, community leaders and forest resources users to raise awareness about threats to the environment. The theme for this year WED was Ecosystem Restoration, which seeks to encourage people to reimagine, recreate, and restore the ecosystem.



Figure 11. Some activities organized to mark World Environment Day 2021

Support for Improved Livelihoods

WCS purchased farming supplies to be distributed to farmers, including 108 wheelbarrows, 108 tarpaulins and 180 rain boots. The supplies were provided as part of ongoing support to local farmers who also receive training on improved agricultural practices to improve efficiency and reduce deforestation. WCS staff made regular monitoring visits to farms supported by the WCS livelihood program to ensure compliance with the terms of agreement with farmers to apply improved farming practices to reduce deforestation.

Support to CAMM

WCS continued to support quarterly meetings of CAMM to facilitate communication among the nine Mbe communities and resolution any issues reported by the Mbe eco-guards. WCS also supported the construction of the CAMM headquarters in Bamba. With support from WCS, the CAMM constitution has now been revised to strengthen the association and make CAMM more sustainable.

Recommendation

- While the use of fines to deal with illegal activities has been effective to some extent, prosecution of offenders is a stronger deterrent and CAMM is encouraged to prosecute offenders applying relevant laws including the CAMM bylaws endorsed by the Boki LGA.

Acknowledgements

WCS is formally registered in Nigeria with the Ministry of Budget and National Planning of the Federal Republic of Nigeria. We are immensely grateful to the Great Ape Conservation Fund of the United States Fish and Wildlife Service. We are also grateful to all other donors who supported our work in the Mbe Mountains in 2021 including Darwin Initiative, Rainforest Trust, Critical Ecosystem Partnership Fund (CEPF), Palmyre Zoo, Cleveland Metroparks Zoo, JRS Biodiversity Foundation, and Berggorilla and Regenwald Direkthilfe. WCS is also grateful for the long-term collaboration and support from the Conservation Association of the Mbe Mountains (CAMM). WCS acknowledges the key role played by the Ministry of Climate Change and Forestry and the Cross River State Forestry Commission who is the legal custodian of all forests and wildlife in Cross River State.

Appendices

Appendix I. Patrol effort statistics April to June 2021.

Date	Number of patrols	Distance (km)	Number of hours	Number of rangers
2021-04-04	1	4.0	3.9	2
2021-04-14	3	20.2	18.2	12
2021-04-15	4	22.6	34.8	14
2021-04-16	4	22.8	31.4	16
2021-04-17	4	18.2	23.6	16
2021-04-18	2	12.3	15.5	8
2021-04-19	3	14.8	17.3	12
2021-04-20	3	14.1	16.6	12
2021-04-24	3	18.7	19.5	11
2021-04-25	3	18.9	20.0	11
2021-04-26	3	23.7	21.7	15
2021-04-27	3	19.4	25.1	15
2021-04-28	3	24.8	19.7	15
2021-04-29	3	19.6	23.6	14
2021-04-30	2	13.0	14.6	9
2021-05-01	1	3.7	5.3	5
2021-05-06	3	15.0	13.7	16
2021-05-07	3	28.5	21.8	16
2021-05-08	3	24.1	24.7	16
2021-05-09	3	16.2	23.4	16
2021-05-10	3	16.7	23.1	16
2021-05-11	3	18.4	23.1	16
2021-05-12	3	16.6	22.1	15
2021-05-13	3	16.6	18.1	15
2021-05-18	3	23.1	16.1	16
2021-05-19	3	23.4	24.6	16
2021-05-20	3	20.6	24.8	16
2021-05-21	3	23.5	25.2	16
2021-05-22	3	20.2	25.1	16
2021-05-23	3	16.5	25.1	16
2021-05-24	3	23.5	24.5	16
2021-05-25	3	22.5	25.9	16
2021-05-26	3	22.3	32.6	16
2021-05-27	3	20.3	31.9	16
2021-05-28	3	14.2	19.7	16
2021-05-30	1	1.5	3.0	3
2021-06-02	3	11.5	11.8	16
2021-06-03	3	19.2	18.6	16
2021-06-04	3	19.2	23.0	15
2021-06-05	3	19.7	23.0	15
2021-06-06	3	20.0	19.3	16
2021-06-07	3	28.1	23.8	16
2021-06-08	3	25.3	25.9	16
2021-06-09	3	21.4	30.7	16
2021-06-10	1	9.8	7.9	4
2021-06-11	1	5.4	7.2	4
2021-06-12	1	2.3	3.7	4
2021-06-15	3	14.8	11.4	12

Date	Number of patrols	Distance (km)	Number of hours	Number of rangers
2021-06-16	3	23.4	25.1	12
2021-06-17	3	20.2	25.4	12
2021-06-18	3	20.8	25.0	12
2021-06-19	3	18.8	24.0	12
2021-06-20	3	23.3	23.5	12
2021-06-21	3	21.4	23.2	12
2021-06-22	3	17.9	19.9	12

Appendix II. Encounter rate of wildlife species observed during patrols April to June 2021.

(NOTE: Species not encountered during patrols not shown).

Species common name	Scientific name	# of observations	Encounter rate/km
Red river hog	<i>Potamocheirus porcus</i>	677	0.679
African brush-tailed porcupine	<i>Atherurus africanus</i>	584	0.586
Unidentified monkey	---	412	0.413
Cusimanses	<i>Crossarchus sp</i>	348	0.349
Mona monkey	<i>Cercopithecus mona</i>	264	0.265
Unidentified large duiker	---	258	0.259
Unidentified small duiker	---	256	0.257
Unidentified medium duiker	---	255	0.256
Turaco	---	186	0.187
Putty-nosed monkey	<i>Cercopithecus nictitans</i>	165	0.166
Crested guinea fowl	<i>Guttera pucherani</i>	144	0.145
Tree pangolin	<i>Phataginus tricuspis</i>	140	0.140
Blue duiker	<i>Philantomba monticola</i>	136	0.136
Nigeria-Cameroon chimpanzee	<i>Pan troglodytes ellioti</i>	108	0.108
Yellow-backed duiker	<i>Cephalophus silvicultor</i>	106	0.106
Drill	<i>Mandrillus leucophaeus</i>	78	0.078
Unidentified great ape	---	51	0.051
Palm civet	<i>Nandinia binotata</i>	50	0.050
Cross River gorilla	<i>Gorilla gorilla diehli</i>	49	0.049
Genet	<i>Genetta sp</i>	26	0.026
Red-eared monkey	<i>Cercopithecus erythrotis</i>	21	0.021
Grey-necked picathartes	<i>Picathartes oreas</i>	17	0.017
African forest elephant	<i>Loxodonta cyclotis</i>	13	0.013
Ogilby's duiker	<i>Cephalophus ogilbyi</i>	9	0.009
Bay duiker	<i>Cephalophus dorsalis</i>	6	0.006
African civet	<i>Civetitica civetta</i>	5	0.005
Cane rat	<i>Thryonomys swinderianus</i>	4	0.004
Water chevrotain	<i>Hyemoschus aquaticus</i>	1	0.001

Appendix III. Ranger work time for the period April to June 2021.

Name	Number of patrols	Number of patrol days	Number of patrol hours	Total patrol distance (km)
Abel Bessong	5	41	302.3	297.4
Benedict Osong	6	47	333.5	287.0
Jacob Osang	7	43	306.4	247.1
Jonas Attah	7	49	355.2	323.7
Jonathan Eban	2	4	21.8	19.0
Jude Tawo	6	49	361.5	327.1
Justin Bebiem	6	45	324.4	290.3
Kenneth Obi	6	46	351.2	293.6
Peter Abraham	7	46	348.6	325.8
Peter Ocha	6	45	356.6	310.6
Philip Enyiam	7	49	357.5	310.2
Raymond Ochang	5	42	330.7	298.2
Robinson Afor	6	44	310.0	254.6
Roland Bessong	6	44	316.9	268.8
Stanley Abang	6	44	346.9	295.3
Terry Takeh	7	44	330.3	290.8
Vincent Aganyi	6	47	350.7	316.4