WILDLIFE CONSERVATION SOCIETY
CROSS RIVER NATIONAL PARK (OBAN DIVISION)
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Peter Abanyam, Isa Ebri & Inaoyom Imong
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Summary

This report summarizes the results of anti-poaching patrols of the Oban Division of Cross River National Park (Oban) conducted by park rangers from January to December 2019 with technical support from Wildlife Conservation Society (WCS). The report does not include data from patrols conducted by Cross River National Park independently of WCS. The results of these patrols are compared with those from previous years (2015-2018) to evaluate the effectiveness of law enforcement action in Oban. During 2019, a total of 44 patrols were completed over 274 patrol-days (1,685 person-days) covering a total distance of 1,922 km kilometers. Fifty-three poachers were arrested during these patrols. In addition to arrests, the patrols destroyed 48 hunting camps and 4,936 active wire snares (and 3,321 snare wires found in hunting camps). Other hunting signs observed include 1,787 empty cartridges and 21 gunshots heard. Preuss's red colobus monkey (*Piliocolobus preussi*) was sighted once and vocalization heard once. Chimpanzees (*Pan troglodytes ellioti*) were sighted on three occasions. Other primates sighted include red-capped mangabey *Cercocebus torquatus* (2 sightings), drill *Mandrillus leucophaeus* (7 sightings), red-eared monkey *Cercopithecus erythrotis* (4 sightings), Mona monkey *Cercopithecus mona* (sighted 62 times), and putty-nosed monkey *Cercopithecus nictitans* (34 sightings). Other large mammals recorded include forest elephant (*Loxodonta cyclotis*), buffalo (*Syncerus caffer*) and red river hog (*Potamochoerus porcus*).

Introduction

The Cross River National Park (CRNP), created in 1991 from existing forest reserves, is the most extensive area of tropical rain forest remaining in Nigeria today. Cross River National Park consists of two separate divisions: Oban and Okwangwo. The Oban Division covers an area of roughly 3,000 km² and is contiguous with Korup National Park in Cameroon. Oban is recognized internationally as a biodiversity hotspot with high levels of species richness and endemism and is a particularly significant site for rare and threatened primate species including Preuss's red colobus, drill and Nigeria-Cameroon chimpanzee. The two main threats to Oban are hunting to supply the bushmeat trade, and deforestation from agriculture. Neglected for many years hunting is widespread and farm encroachment is increasing. In late 2014, WCS launched a new project to support law enforcement in Oban and the introduction of CyberTracker https://www.cybertracker.org/ for law enforcement monitoring. Initial funding for this project came from the IUCN Save Our Species fund for and North Carolina Zoo. In 2016 Spatial Monitoring And Reporting Tool (SMART), a law enforcement monitoring and protected area management tool (http://smartconservationtools.org/) replaced CyberTracker and has continued to improve effectiveness of the monitoring of protection efforts in Oban. Additional funding to sustain the project was been provided by the United States Forest Service, the UNEP African Elephant Fund, and

the Mohamed bin Zayed Species Conservation Fund. The main objective of the project has remained: strengthening of existing law enforcement efforts by improving the frequency, coverage, duration and efficacy of anti-poaching patrols, as well as monitoring ranger performance. This report covers law enforcement activities supported by WCS in Oban during the period from January to December 2019.

Methods

Four long-distance foot patrols were completed each month by two ranger teams that patrolled different areas of the park simultaneously. Each team comprised of six CRNP rangers, led by a WCS staff. The teams searched areas where hunting activities were suspected or known to be relatively high based on information from informants and results of previous patrols. Valleys and areas around known access trails were targeted. Signs of human activity and large mammals were recorded using SMART. All detected wire snares and hunting camps were destroyed. Data were analyzed using SMART software.

Results

Patrol Effort

Due to funding constraints, patrol effort in 2019 (measured as number of patrols completed, number of patrol days, and distance covered) was lower compared to 2018 but the patrols covered more areas within the park previously not covered (Table 1). In 2019, 44 anti-poaching patrols were completed over 274 patrol-days (1,685 person-days) covering a total distance of 1,922 km kilometres (Figure 1; Table 1).

Table 1: Comparison of patrol effort 2015 to 2019

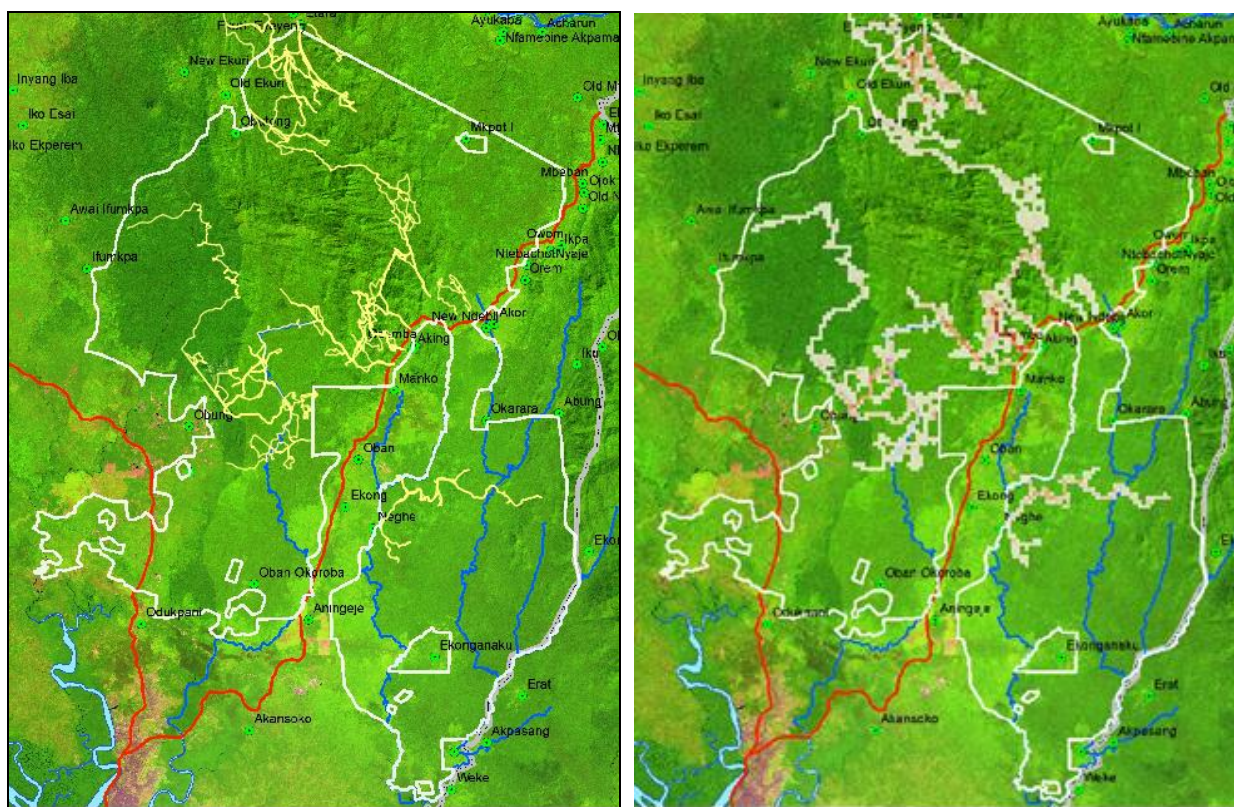| Activity	2015	2016	2017	2018	2019
Number of patrols	45	44	43	47	44
Number of patrol days	313	307	298	328	274
Total distance covered (km)	3,340.9	3,588.6	2,728.5	2,818.6	1,921.9

Figure 1. Patrol tracklogs and effort in km walked per grid cell for the period from January 2019 to December 2019. Darker red colour indicates areas of more intense patrol coverage.

Law Enforcement

During the reporting period, 53 poachers were arrested (Table 4). Illegal logging and collection of non-timber forest products were also observed (Tables 5-7). Hunting signs were encountered more frequently during patrols in 2019 compared 2018 (Table 2). We continued to improve improve on patrol planning and using data from previous patrols and intelligence from informants.

Table 2: Comparison of the encounter rate of Hunting signs from 2015 to 2019

	Number of observations & Encounter rate (per 10km)									
Sign	2015		2016		2017		2018		2019	
Expended cartridges	2952	8.84	1257	3.5	472	1.74	1472	5.22	1787	9.29
Gunshots heard	26	0.08	12	0.03	21	0.08	35	0.12	21	0.11
Hunting camps	94	0.28	50	0.13	15	0.06	46	0.16	48	0.25
Wire Snares	4810	14.4	933	2.6	333	1.2	2460	8.73	8257	42.96
Total distance (km)	3341		3589		2718		2819		1922	

Table 3. Summary of patrol effort from January 2019 to December 2019.

Patrol ID	Number of Patrols	Number of Days	Distance (km)	Person - Days
CRNP-OB_000130	1	3	26.0	18
CRNP-OB_000131	1	9	65.4	72
CRNP-OB_000132	1	6	51.4	48
CRNP-OB_000133	1	7	45.8	42
CRNP-OB_000134	1	5	29.4	30
CRNP-OB_000135	1	3	31.6	15
CRNP-OB_000136	1	6	44.5	24
CRNP-OB_000137	1	7	49.8	42
CRNP-OB_000138	1	7	47.5	43
CRNP-OB_000139	1	8	46.2	48
CRNP-OB_000140	1	5	56.0	30
CRNP-OB_000141	1	5	35.5	30
CRNP-OB_000142	1	6	42.4	36
CRNP-OB_000143	1	8	49.7	48
CRNP-OB_000144	1	7	48.4	39
CRNP-OB_000145	1	8	46.0	48
CRNP-OB_000146	1	5	38.2	25
CRNP-OB_000147	1	6	33.7	36
CRNP-OB_000149	1	1	8.0	6
CRNP-OB_000150	1	6	38.1	37
CRNP-OB_000151	1	8	42.9	40
CRNP-OB_000152	1	8	47.4	40
CRNP-OB_000153	1	7	33.5	35
CRNP-OB_000154	1	3	24.4	15
CRNP-OB_000155	1	6	36.9	26
CRNP-OB_000156	1	6	63.2	30
CRNP-OB_000157	1	7	35.1	42
CRNP-OB_000158	1	5	30.1	35
CRNP-OB_000159	1	7	30.0	41
CRNP-OB_000160	1	7	44.1	49
CRNP-OB_000161	1	7	59.3	42
CRNP-OB_000162	1	6	31.1	34
CRNP-OB_000163	1	6	63.9	36
CRNP-OB_000164	1	6	48.6	54
CRNP-OB_000165	1	7	55.0	42
CRNP-OB_000166	1	7	73.6	42
CRNP-OB_000167	1	7	31.7	42
CRNP-OB_000168	1	7	42.7	42
CRNP-OB_000169	1	5	34.8	35
CRNP-OB_000170	1	6	42.1	36
CRNP-OB_000171	1	8	56.3	48
CRNP-OB_000172	1	6	63.2	46
CRNP-OB_000173	1	6	36.6	36
CRNP-OB_000174	1	8	61.8	80
Total	**44**	**274**	**1921.9**	**1685**

Table 4. Summary of arrests – January 2019 to December 2019.

Leader	Waypoint Date	Action Taken	Home Village	Name	Threat
Kingsley Udoh	14 Jul 2019	Arrested	Akpabuyo	Asuquo Okon and Emmanuel Okon	Hunting
Kingsley Udoh	14 Jul 2019	Arrested	Akpabuyo	Okon Asuquo	Hunting
Kingsley Udoh	19 May 2019	Arrested	Osomba	Otiah Akparika and Keneth Sunday	Hunting
Sylvester Akat	15 May 2019	Arrested	Obung	Daniel ofu	Logging
Fidelis Ubele	25 Nov 2019	Arrested	Akpabuyo	Bassey Effiom	Hunting
Dominic Samuel	21 Nov 2019	Arrested	Nsofang	John Odey	Hunting
Dominic Samuel	21 Nov 2019	Arrested	Nsofang	Fidelis Odey	Hunting
Aondona Aernyi	26 Mar 2019	Arrested	Mango	Effiong Etim Effiong	Hunting
Aondona Aernyi	27 Mar 2019	Arrested	Oban	Effiong Okon	Hunting
Aondona Aernyi	27 Mar 2019	Arrested	Oban	Clement Okon	Hunting
Aondona Aernyi	13 Feb 2019	Arrested	Obung	Ita Okon	Hunting
Abel Akpu	15 Jul 2019	Arrested	Akpabuyo	NA	Trapping
Abel Akpu	15 Jul 2019	Arrested	Ikot ene	Bassey Effiong	Trapping
Abel Akpu	15 Jul 2019	Arrested	Ikot ene	Daniel Peter	Trapping
Abel Akpu	15 Jul 2019	Arrested	Ifiang Orok	Etim Asuquo	Trapping
Lekam Obongha	12 Oct 2019	Arrested	Etara	Oga Okey	Hunting
Dominic Samuel	25 Sep 2019	Arrested	Akor	Etim Okon, Udauk Obot, Edet Udor, Samikana Monday, Sunday Uduak, Charles Roland	Hunting
Lekam Obongha	26 Sep 2019	Arrested	Akor	Friday Sunday Udo	Trapping
Aondona Aernyi	14 Sep 2019	Arrested	Etara	Emanuel Umoh, Okey Ogar	Gun hunting
Kingsley Udoh	20 Nov 2019	Arrested	Aking	Leo Ekun	Fishing
Kingsley Udoh	20 Nov 2019	Arrested	Aking	Moses Ekpo, Simon Ekun, Enerst Ekun, Nsikan	Fishing
Aondona Aernyi	27 Jul 2019	Arrested	Etara	Charles Ogar	Hunting
Aondona Aernyi	27 Jul 2019	Arrested	Etara	Vincent Ogar, Eti Ogar, Alapa Ntui, Femi, Patrick Igeri, Njige Serin, Okang, Oyam Ovat, Ntui Ogar,	Hunting
Aondona Aernyi	27 Jul 2019	Arrested	Etara	Efele Effiong	Hunting
Godfrey Ashu	26 Jul 2019	Written Warning	Etara	Ogar Shedrack	Hunting
Kenedy Oyama	29 Jan 2019	Arrested	Etinan	Anietti udoh thomas	Hunting
Kingsley Udoh	26 Jan 2019	Arrested	Obot akara	Etim Udoh	Hunting
John Bisong	23 Sep 2019	Arrested	Old Netim	Inyang Egom	Hunting
Ekun Ekpe	13 Oct 2019	Arrested	Odokpani	Okon Etim Asuquo	Logging
Isa Ebri	20 Aug 2019	Arrested	Etara	George Hardy, Richard Atabor, Eric Ebiake, Destiny, Godwin Akaibom	Logging
Kingsley Udoh	26 May 2019	Arrested	Itu	Edet Bassey	NTFP collection
Austine Etta	15 Sep 2019	Arrested	Osomba	Prince Ayam	Hunting
Kingsley Udoh	19 Sep 2019	Arrested	Akpaboyu	David Okon and Mayor Etta	Logging

Table 5. The number of people seen by threat for the period from January 2019 to December 2019.

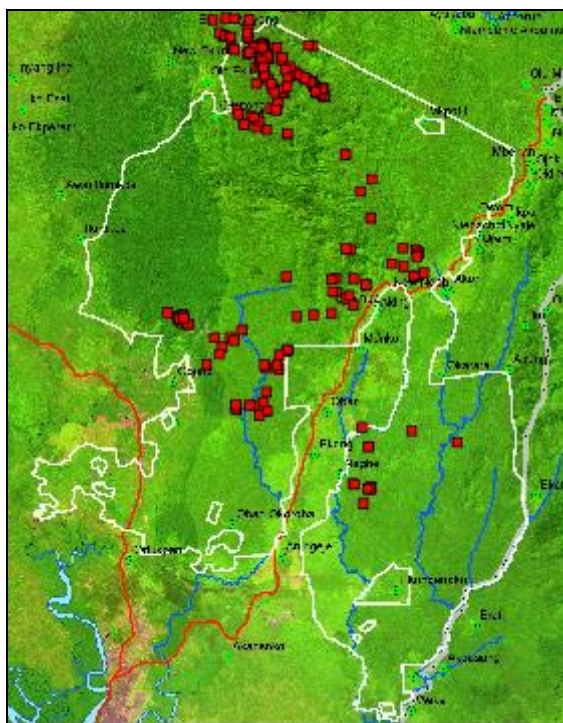| Threat	Number of people seen	Encounter rate per 10 km
Fishing	2	0.01
Hunting	27	0.14
Logging	5	0.03
NTFP Collection	1	0.01

Table 6. Total encounter rates of signs of human activity January 2019 to December 2019.

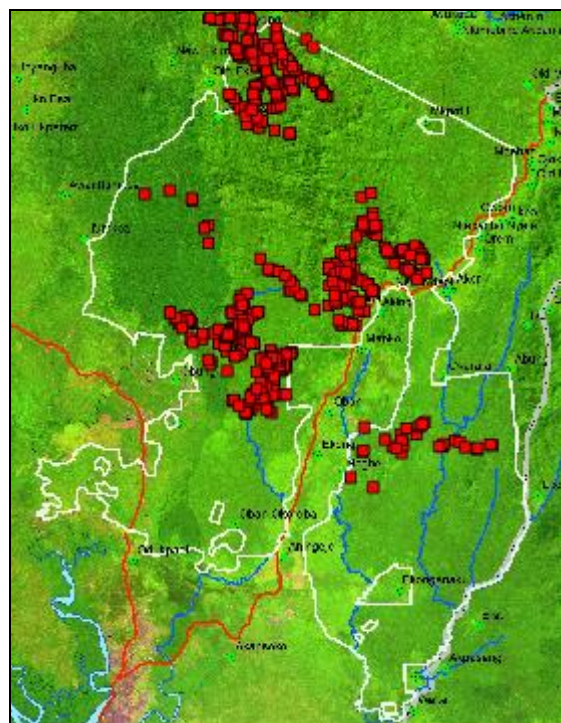| Activity	Number of Incidents	Encounter Rate per 10 km
Farming and Land Clearing	8	0.04
Gunshot heard	21	0.11
Human Sign	15	0.08
Logging and Tree Cutting	10	0.05
NTFPs	2	0.01
People seen	33	0.17
Shed or Camp	62	0.32
Traps, Weapons & Equipment	782	4. 07

Table 7. Total encounter rates of signs of logging January 2019 to December 2019.

Type of logging evidence	Action Taken	Age of Sign	Number of cut pieces	Number of Logs	Number of Stumps
Logs	Collected	Very old		1	
Logs	Destroyed	Old		2	
Logs	Seen Only	Recent		50	
Logs	Seen Only	Recent		300	
Cut Pieces	Seen Only	Old	60		
Stump	Seen Only	Very old			1
Stump	Seen Only	Very old			1
Cut Pieces	Destroyed	Fresh	18		
Stump	Seen Only	Very old			3
Cut Pieces	Seen Only	Old	34		

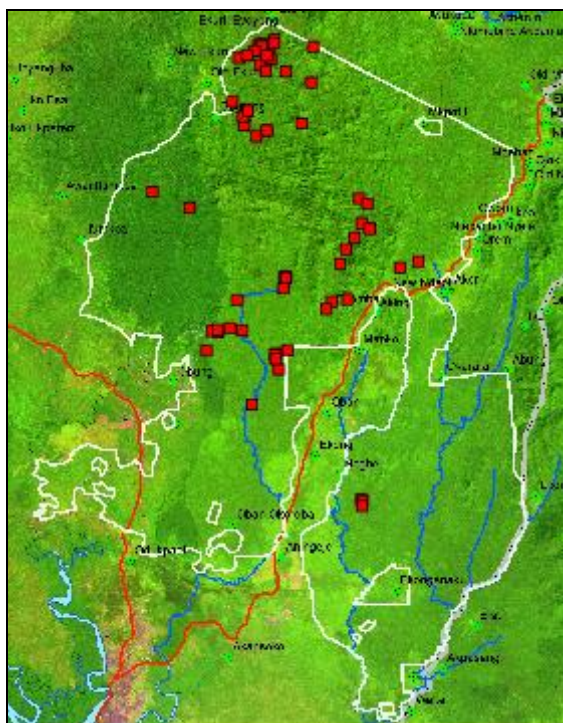**Figure 2. Distribution of all signs of human activity recorded January 2019 to December 2019.**

a) Wire snares

b) Empty cartridges

c) Sheds and camps

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

Table 8. Hunting signs recorded for the period from January 2019 to December 2019.

Sign	Number of Observations	Encounter Rate per 10 km

Gunshots heard	21	0.11
Set wire snares	4936	25.68
Unset wire snares	3321	17.28
Empty cartridges	1787	9.30
Hunting camps	48	0.25

Wildlife Observations

Primates

Preuss's red colobus (*Piliocolobus preussi*) was sighted only once during these patrols; vocalization heard once (Figure 3; Table 12). Patrols in 2019 focused more in western sector of the park which received less patrolling in previous years due to limited resources, and relatively less on the eastern sector of the park (also known as the Ikpan Block), where Preuss's red colobus appears to be more abundant. Greater patrol effort will be allocated to the Ikpan Block in 2020. Chimpanzees (*Pan troglodytes ellioti*) were sighted on three occasions (Figure 3). Other primates sighted include red-capped mangabey *Cercocebus torquatus* (2 sightings), drill *Mandrillus leucophaeus* (7 sightings), red-eared monkey *Cercopithecus erythrotis* (4 sightings), Mona monkey *Cercopithecus mona* (sighted 62 times), and putty-nosed monkey *Cercopithecus nictitans* (34 sightings) (Figure 4; Table 12).

Table 9. Encounter rate of chimpanzee nest sites recorded January 2019 to December 2019.

Species	Scientific Name	Number of Nests	Encounter Rate per 10 km
Nigeria-Cameroon-Chimpanzee	*Pan troglodytes ellioti*	3	0.016

Table 10. Chimpanzee sightings recorded January to December 2019.

Date	Number of individuals counted
24 Oct 2019	18
24 Nov 2019	3
24 Nov 2019	1

Figure 3. Chimpanzee and red colobus evidence recorded January to December 2019. Nest sites/vocalizations shown as circles, sightings shown as crosses.

a) Red colobus sightings and vocalizations

b) Chimpanzee sightings and nest sites

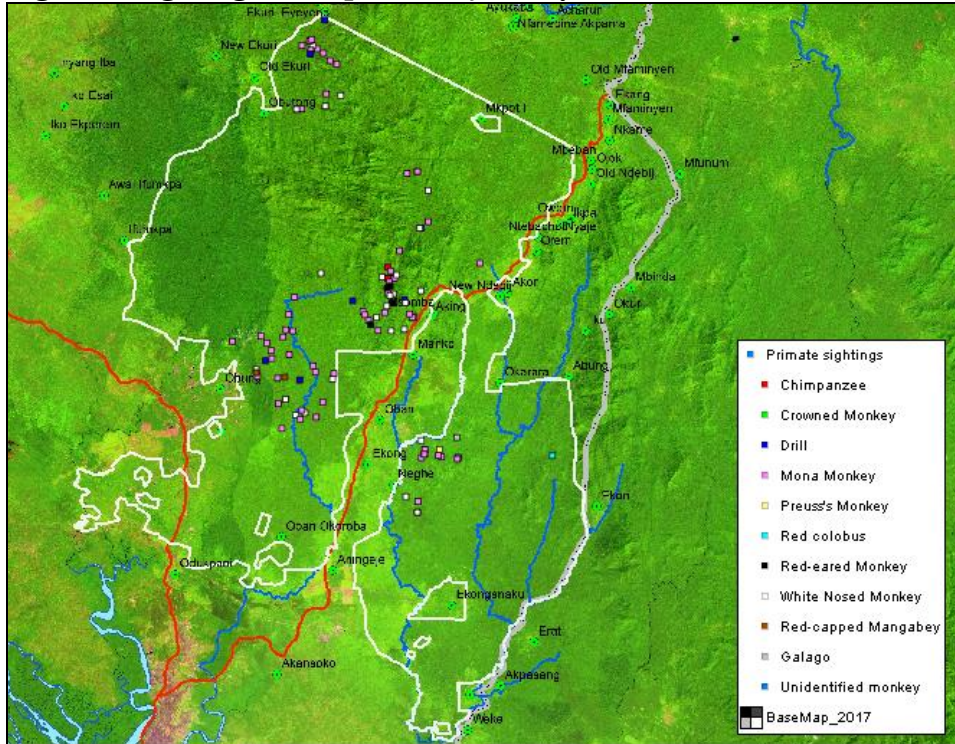**Figure 4. Sightings of all primates January to December 2019.**

Table 11. Nest sites recorded for the period from January 2019 to December 2019.

Species	Nest site type	Age	Dung present	Number of ground nests	Total number of nests
Nigeria-Cameroon Chimpanzee	Night nest(s)	Old	false	0	3
Nigeria-Cameroon Chimpanzee	Unknown	Old	false	0	2
Nigeria-Cameroon Chimpanzee	Unknown	Recent	false	0	1

Table 12. Sightings of primate species for the period from January 2019 to December 2019.

Species (common name)	Scientific name	Number of Sightings	Encounter Rate per 10 km
Mona monkey	*Cercopithecus mona*	62	0.323
Putty-nosed monkey	*Cercopithecus nictitans*	34	0.177
Drill	*Mandrillus leucophaeus*	7	0.036
Red-eared monkey	*Cercopithecus erythrotis*	4	0.021
Nigeria-Cameroon chimpanzee	*Pan troglodytes ellioti*	3	0.016
Red-capped mangabey	*Cercocebus torquatus*	2	0.010
Preuss's red colobus	*Piliocolobus preussi*	1	0.001

Other Wildlife

Other large mammals recorded include African forest elephant (*Loxodonta cyclotis*), buffalo (*Syncerus caffer*) and red river hog (*Potamochoerus porcus*). See Appendix II for encounter rate of all wildlife observed (all signs) during patrols in 2019.

Recommendations

- Conservation education activities should be extended to communities around the western axis of Oban, especially communities such as Ojor and Obung in order to reduce their hostility towards CRNP rangers and other field staff.

- Park management should make greater effort to prosecute all arrested offenders to serve as a deterent to others and maintain morale among the rangers who put in a great amount of effort and take risks to make arrests.

Acknowledgments

Appendix I. Patrol effort statistics from January 2019 to December 2019.

Date	Number of Patrols	Distance (km)	Number of Hours	Number of Rangers
2019-01-14	1	9.3	5.5	8
2019-01-15	2	17.9	19.2	14
2019-01-16	2	13.7	11.4	14
2019-01-17	2	16.3	13.7	14
2019-01-18	1	6.5	6.9	8
2019-01-19	1	9.3	6.5	8
2019-01-20	1	8.0	6.5	8
2019-01-21	1	7.2	5.6	8
2019-01-22	1	3.2	3.3	8
2019-01-25	1	8.6	7.1	6
2019-01-26	2	20.5	12.8	14
2019-01-27	2	16.3	12.1	14
2019-01-28	2	18.6	14.6	14
2019-01-29	2	12.7	12.0	14
2019-01-30	2	15.8	13.4	14
2019-01-31	2	4.5	4.2	14
2019-02-10	1	5.7	5.8	6
2019-02-11	2	16.0	11.9	11
2019-02-12	2	19.9	19.1	11
2019-02-13	2	15.7	11.9	11
2019-02-14	1	3.8	2.1	6
2019-02-19	1	9.7	6.4	6
2019-02-20	2	13.8	11.8	9
2019-02-21	2	20.2	13.0	9
2019-02-22	2	15.4	13.7	9
2019-02-23	2	12.2	12.1	9
2019-02-24	2	16.1	12.1	9
2019-02-25	2	6.9	5.2	9
2019-03-12	1	5.9	6.4	6
2019-03-13	2	20.6	14.7	12
2019-03-14	2	8.2	10.4	13
2019-03-15	2	15.8	12.1	12
2019-03-16	2	13.0	12.8	12
2019-03-17	2	14.1	13.3	12
2019-03-18	2	13.1	11.4	12
2019-03-19	2	2.8	1.9	12
2019-03-23	1	7.6	8.1	6
2019-03-24	2	11.7	9.8	12
2019-03-25	2	11.4	11.1	12
2019-03-26	2	22.9	13.1	12
2019-03-27	2	29.2	15.8	12
2019-03-28	1	8.6	3.4	6
2019-04-09	1	4.3	3.5	6
2019-04-10	2	16.1	12.5	12
2019-04-11	2	21.9	13.8	12

Date	Number of Patrols	Distance (km)	Number of Hours	Number of Rangers
2019-04-12	2	13.0	21.1	12
2019-04-13	2	14.2	20.5	12
2019-04-14	2	8.4	11.9	12
2019-04-15	2	13.7	9.8	12
2019-04-16	1	0.5	6.3	6
2019-04-23	2	13.3	8.3	9
2019-04-24	2	10.0	10.5	12
2019-04-25	2	19.7	12.8	12
2019-04-26	2	15.1	12.2	12
2019-04-27	2	13.1	11.3	12
2019-04-28	2	10.6	10.0	12
2019-04-29	2	12.2	7.5	12
2019-04-30	1	0.4	6.1	6
2019-05-14	1	5.7	6.2	6
2019-05-15	2	10.7	10.2	11
2019-05-16	2	18.1	11.1	11
2019-05-17	2	18.8	13.3	11
2019-05-18	2	13.1	11.5	11
2019-05-19	2	5.6	9.8	11
2019-05-26	1	8.0	5.1	6
2019-06-15	2	12.3	10.1	10
2019-06-16	3	21.7	14.8	17
2019-06-17	3	18.7	16.3	16
2019-06-18	3	20.8	17.6	16
2019-06-19	3	23.5	18.7	16
2019-06-20	3	10.7	15.0	16
2019-06-21	3	16.0	17.4	16
2019-06-22	2	4.7	7.6	10
2019-07-14	2	11.2	9.5	10
2019-07-15	2	17.5	21.7	10
2019-07-16	2	14.0	9.8	10
2019-07-17	1	4.3	3.1	5
2019-07-18	1	3.1	3.8	5
2019-07-19	1	5.5	6.9	5
2019-07-20	1	2.2	2.5	5
2019-07-26	2	38.8	11.6	11
2019-07-27	2	9.3	7.4	8
2019-07-28	2	22.3	13.6	9
2019-07-29	2	6.9	10.0	9
2019-07-30	2	16.7	10.7	9
2019-07-31	2	6.0	4.4	9
2019-08-15	1	5.4	4.4	6
2019-08-16	1	4.0	3.0	6
2019-08-17	1	9.9	6.4	6
2019-08-18	2	10.7	16.3	13
2019-08-19	2	10.8	16.8	13
2019-08-20	2	10.4	8.0	13

Date	Number of Patrols	Distance (km)	Number of Hours	Number of Rangers
2019-08-21	2	9.8	6.1	13
2019-08-22	1	4.1	8.7	7
2019-08-25	2	14.2	7.6	13
2019-08-26	2	13.5	9.5	13
2019-08-27	2	12.0	9.4	12
2019-08-28	2	9.9	9.5	13
2019-08-29	2	12.3	7.3	13
2019-08-30	2	9.0	6.7	13
2019-08-31	2	3.3	1.3	13
2019-09-11	1	12.8	8.2	6
2019-09-12	1	5.4	1.9	6
2019-09-13	1	8.9	4.5	6
2019-09-14	2	7.8	5.6	11
2019-09-15	2	14.8	10.0	11
2019-09-16	2	14.3	6.2	11
2019-09-17	2	16.5	7.8	11
2019-09-18	1	3.5	3.8	7
2019-09-19	1	6.4	3.4	7
2019-09-22	1	10.8	6.3	6
2019-09-23	2	13.7	10.9	15
2019-09-24	2	14.9	10.7	15
2019-09-25	2	24.2	15.0	15
2019-09-26	2	33.2	14.1	15
2019-09-27	2	7.9	6.4	15
2019-09-28	1	7.8	4.2	9
2019-10-10	2	23.0	18.2	12
2019-10-11	2	17.6	7.6	12
2019-10-12	2	14.5	10.6	12
2019-10-13	2	16.1	9.1	12
2019-10-14	2	15.7	9.4	12
2019-10-15	2	16.3	10.1	12
2019-10-16	2	25.5	8.5	12
2019-10-22	2	11.0	9.7	12
2019-10-23	2	9.9	9.9	12
2019-10-24	2	18.1	12.4	12
2019-10-25	2	11.8	9.8	12
2019-10-26	2	14.2	10.0	12
2019-10-27	2	8.3	7.2	12
2019-10-28	2	1.0	0.8	12
2019-11-08	1	8.8	4.0	6
2019-11-09	2	11.0	8.4	13
2019-11-10	2	13.7	10.7	13
2019-11-11	2	11.1	7.2	13
2019-11-12	1	9.3	3.9	6
2019-11-13	1	2.6	0.8	6
2019-11-14	1	11.0	5.6	7
2019-11-15	1	9.4	3.6	7

Date	Number of Patrols	Distance (km)	Number of Hours	Number of Rangers
2019-11-19	1	7.2	3.6	6
2019-11-20	2	23.7	11.1	13
2019-11-21	2	19.7	14.7	13
2019-11-22	2	13.1	10.6	14
2019-11-23	2	14.1	11.0	14
2019-11-24	2	19.8	12.5	14
2019-11-25	2	20.9	10.8	14
2019-11-26	1	1.1	0.8	6
2019-12-15	1	7.8	5.3	6
2019-12-16	2	12.7	8.7	16
2019-12-17	2	20.3	14.0	16
2019-12-18	2	13.5	11.9	16
2019-12-19	2	17.1	13.3	16
2019-12-20	2	7.2	5.7	16
2019-12-21	1	8.8	5.1	10
2019-12-22	1	9.5	5.8	10
2019-12-23	1	1.4	0.8	10

Appendix II. Encounter rate of wildlife species observed (all signs) during patrols from January 2019 to December 2019. Species not encountered during patrols are not shown.

Species (common name)	Scientific name	Number of Observations	Encounter rate per km
Mona monkey	*Cercopithecus mona*	209	0.109
Red river hog	*Potamochoerus porcus*	167	0.087
Putty-nosed monkey	*Cercopithecus nictitans*	93	0.048
Bay duiker	*Cephalophus dorsalis*	85	0.044
Blue duiker	*Philantomba monticola*	74	0.039
Forest elephant	*Loxodonta cyclotis*	48	0.025
Brush-tailed porcupine	*Atherurus africanus*	47	0.024
Buffalo	*Syncerus caffer*	29	0.015
Drill	*Mandrillus leucophaeus*	26	0.014
Unidentified monkey	-	26	0.014
Common cusimanse	*Crossarchus platycephalus*	13	0.007
Unidentified medium duiker	-	13	0.007
Nigeria-Cameroon chimpanzee	*Pan troglodytes ellioti*	11	0.006
Africann pied hornbill	*Tockus fasciatus*	11	0.006
Great blue turaco	*Corythaeola cristata*	10	0.005
Guinea fowl	*Gettera plumifera*	9	0.005
Red-eared monkey	*Cercopithecus erythrotis*	5	0.003
Unidentified large duiker	-	5	0.003
Grey Parrot	*Psittacus erithacus*	4	0.002
Unidentified small duiker	-	4	0.002
Pangolin	*Phataginus tricuspis*	3	0.002
Preuss's red colobus	*Piliocolobus preussi*	3	0.002
Yellow-backed duiker	*Cephalophus silvicultor*	3	0.002
Red-capped mangabey	*Cercocebus torquatus*	2	0.001

Appendix III. Ranger work time for the period from January 2019 to December 2019

Name	Number of Patrols	Number of Patrol Days	Number of Patrol Hours	Distance (km)
Benjamin Apah Nkose	4	21	133.0	169.7
Blessing Enighe Ewa	1	1	10.7	12.3
Celestine Nyishi Ariah	2	15	70.9	95.3
Charles Sampson Okon	1	7	26.8	42.7
Christopher Agbachom Itandak	7	45	233.4	283.9
Cornelius Itafaha Onyo	11	71	368.6	441.2
Dominic Abel Samuel	12	71	400.8	567.0
Dominic Inyang Anki	1	6	36.6	51.4
Eba Asinya Etahanjom	2	9	56.5	55.4
Abel Ita Akpu	15	88	447.0	607.0
Ajang Ojen Ojen	1	1	5.0	4.0
Ajom Oru Oru	8	53	270.9	327.2
Akpela Peter Ihund	5	39	217.4	237.7
Aondona Michael Aernyi	18	103	600.6	772.1
Austine Etta Etta	18	102	542.7	738.3
Bassey Effim Ajom	4	26	104.8	140.3
Edet Inameti Inameti	1	8	48.2	46.0
Ejum Cyprian Olory	2	7	37.0	47.3
Ekpe Etta Joel	1	7	42.6	73.6
Ekun Effiong Ekpe	10	58	313.6	444.2
Ekuri Ogut Nkom	4	16	105.9	136.2
Emmanuel Clement Akorokpor	9	49	279.8	399.5
Emmanuel Itashu Akpona	3	14	74.4	106.9
Ernest Achura Anwah	6	38	222.0	252.7
Etim Itomin Nyane	2	9	50.6	73.7
Evaristus Itakui Ntuyang	1	7	30.5	33.5
Fabian Agbor Agbor	1	7	30.9	30.3
Felix Emmanuel	5	33	161.4	225.2
Fidelis Ubi Ubele	2	11	55.0	98.0
Francis Akor Muyorkem	3	17	85.3	123.2
Godfrey Lawo Ashu	8	48	255.6	405.8
Ignatius Egot Edet	6	32	172.2	240.3
Isa Ebri	9	53	277.0	408.9
Itehm Ukpabi	3	21	116.6	145.2
John Effiom Edet	2	13	60.8	85.0
John Osang Bisong	7	48	255.1	330.4
Kenedy Missang Oyama	4	31	171.7	203.8
Kingsley Ita Ntui	1	1	4.0	6.6
kingsley Ramsel Udoh	13	87	415.0	512.6
Lawrence Akuba Mgbang	2	16	93.0	95.9
Lekam Anim Obongha	8	48	258.2	373.6
Mathew Ojong Neji	7	47	254.0	325.3
Michael Usor Oyak	1	1	6.1	8.4
Okon Edet Edet	18	114	575.1	729.0
Oru Patrick Erom	4	23	131.9	211.2
Patrick Omo Okwo	3	21	99.5	123.2
Peter Etim Ekun	3	17	100.8	153.5

Romanus Orim Egbi	4	23	132.0	151.0
Samuel Akparika Ndifon	3	10	56.8	82.9
Sunday Keyo Onu	1	9	58.4	65.4
Sunday Tiku Ebam	2	12	57.7	82.9
Sylvester Ojong Akat	5	30	158.2	229.1
Ugumanim Ekpo Effiong	4	19	94.6	139.1
Valentine Okon Effim	2	11	77.2	78.7
Victor Njah Ajom	2	10	57.5	79.0