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SOUTHERN  
TANZANIA  
ELEPHANT  
PROGRAM

STEP



**Interim Report**  
**November 2020 – April 2021**  
**20<sup>th</sup> July 2021**

**Report to:**

**Fondazione Foresta Futura, Italy through Association Mazingira**

**Wild Planet Trust, UK**

**And**

**Bristol Zoological Society, UK**



**Bristol Zoological  
Society**  
Saving Wildlife Together

## PROJECT LOCATION AND IMPLEMENTERS

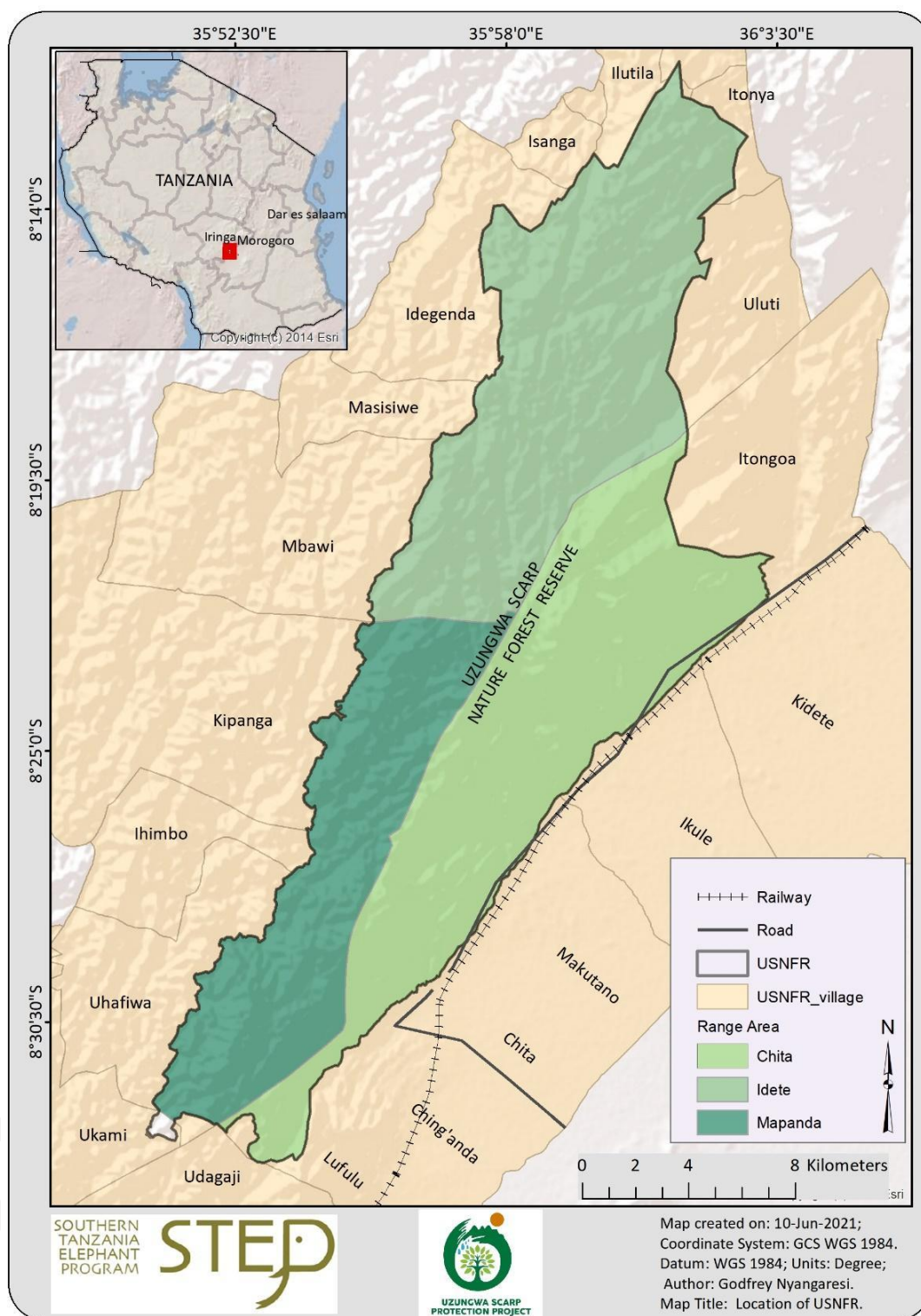


Figure 1: Project Location.

**CONDUCTED BY: SOUTHERN TANZANIA ELEPHANT IN COLLABORATION WITH TANZANIA FOREST SERVICES AGENCY, TANZANIA WILDLIFE MANAGEMENT AUTHORITY, AND COMMUNITY VILLAGE GAME SCOUTS**

## CONTENTS

PROJECT LOCATION AND IMPLEMENTERS	2
CONTENTS	3
ABBREVIATIONS AND ACRONYMS	3
EXECUTIVE SUMMARY	4
ACKNOWLEDGEMENTS	4
MEETINGS	1
Meetings with USNFR's Conservator and patrol leaders	1
JOINT ANTI-POACHING PATROL OPERATIONS	1
a. Project location and patrol teams	1
b. Summary of patrol results	1
c. Patrol coverage	2
d. Signs of illegal activities encountered	3
e. Confiscated items	5
f. Spatial distribution of the encountered signs of illegal activities	6
g. Wildlife species encountered during patrols	7
PATROL CHALLENGES	7
LESSONS LEARNT DURING THIS PERIOD	7
APPENDICES	8
Appendix 1: Summary of patrol results.	8
Appendix 2: Encounter rates of signs of illegal activities by range areas.	8
Appendix 3: Wildlife species encountered during patrols.	8

## ABBREVIATIONS AND ACRONYMS

APU	Anti-Poaching Unit
CEO	Chief Executive Officer
FMU	Forest Management Unit
FPC	Forest Protection Coordinator
STEP	Southern Tanzania Elephant
TFS	Tanzania Forest Services Agency
UEMC	Udzungwa Ecological Monitoring Centre
USNFR	Uzungwa Scarp Nature Forest Reserve
USPP	Uzungwa Scarp Protection Project
VGS	Village Game Scout
VNRCs	Village Natural Resources Committee



## EXECUTIVE SUMMARY

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This report of the Uzungwa Scarp Protection Project (USPP) highlights activities from November 2020 to April 2021. Southern Tanzania Elephant (STEP) has executed this project in collaboration with Tanzania Forest Services Agency (TFS), Anti-Poaching Unit (APU) under Tanzania Wildlife Management Authority, and Village Game Scouts (VGS), since September 2017. USPP supported seven joint patrol operations under this performance period. Below in this report is a brief description of the patrols' outcomes.

The joint patrols were the outputs of the seven meetings conducted by the Forest Protection Coordinator (FPC) with the Conservator of Uzungwa Scarp Nature Forest Reserve (USNFR) and patrol leaders. There were 70 positions (10 positions in each patrol) in the seven conducted joint patrols covered by TFS staff (20%); APU rangers (40%), and VGS (40%) from the local communities adjacent to the Uzungwa Scarp Nature Forest Reserve (USNFR). Out of 100% of these positions, female participants occupied 13%. All patrols were strategically planned and executed, with mapping, analysis, and reporting of findings after each patrol. Patrol teams covered 257 km of the steep slopes of the Scarp. Patrols resulted in the apprehension of three suspects, removal of 183 snares, closure of two timber cutting sites, destroyed three poachers' camps and one farm, and 105 items confiscated including one muzzleloader and 13 pieces of timber. Twelve wildlife observations were made on patrol of 10 different species. In comparison with the first six months of 2019 – 2020, STEP supported a similar number of patrols with fewer person-days (by -21%) due to limited funds, as an outcome of the effects of the COVID-19 pandemic. However, the patrols were impactful as shown by the increase of coverage (+8%) and detection of illegal activities (+44%). TFS and local communities adjacent to the USNFR acknowledged the resumption of the anti-poaching patrol operations after being paused for two months (September and October 2020).

The rainy season was among the challenges which, as usual, limits the patrol coverage. Insufficiency of funds due to the COVID-19 pandemic was another key challenge that faced USPP and as a result, no patrol was conducted during September and October 2020, and only single patrols per month were conducted from November 2020 to March 2021. The recent financial support from BIOPAMA will enable the implementation of dual patrols monthly up to March 2022.

## ACKNOWLEDGEMENTS

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STEP would like to acknowledge the collaboration from TFS (headquarter, southern highland zone, and USNFR) who have generously provided cooperation in the project's implementation and all related activities. Special thanks to Prof. Dos Santos Silayo (TFS-Conservation Commissioner), Mr Cosmas Ndakidemi (TFS-Assistant Conservation Commissioner-southern highland zone), and the Acting USNFR Conservator, Mr Oscar Nkonomagaka.

STEP would also like to acknowledge with much appreciation the crucial role of the rest of TFS staff from USNFR, Kilombero Nature Reserves, TFS Iringa and Kilolo offices, southern highland APU Rangers, and Village Game Scouts from USNFR adjacent villages, who were on the ground in joint anti-poaching patrol operations. Likewise, thanks go to Udzungwa Ecological Monitoring Centre (UEMC) for sharing the encountered illegal activities data with STEP and USNFR for further follow-ups.

Special thanks to the USPP team. Many thanks to Dr Francesco Rovero, Dr Andrew Bowkett, Dr Grainne McCabe, and Dr Trevor Jones (STEP's CEO) for close coordination of the project activities. Likewise, many thanks go to the STEP protection team, Frank Lihwa, Solomon Sembosi, and Godfrey Nyangaresi, and the rest of the STEP team for invaluable support wherever needed.

STEP is grateful for the partnership with Wild Planet Trust – UK, the financial support from Fondazione Foresta Futura – Italy via Association Mazingira, and Bristol Zoological Society – UK.

## MEETINGS

### ***Meetings with USNFR's Conservator and patrol leaders***

For the last six months, the Forest Protection Coordinator (FPC) conducted seven meetings with USNFR Conservator and patrol leaders to discuss pre-patrols planning and patrols outcomes. As outputs of these meetings, seven joint anti-poaching patrols were conducted (the next section provides more patrol details).

## JOINT ANTI-POACHING PATROL OPERATIONS

### ***a. Project location and patrol teams***

Nineteen villages forming the Forest Management Units (FMUs) border USNFR. These FMUs fall under three ranges namely Chita, Mapanda, and Idete with eight, four, and seven villages respectively (Figure 1). Apart from that, range areas fall under three districts in which Chita is in Mlimba, Morogoro Region; Mapanda is in Mufindi and Idete in Kilolo, both in Iringa Region. An average number of a joint patrol team was 10 persons (Figure 2) who have conducted monthly patrols for the reported period. Each patrol team comprises four members from adjacent villages involved in each joint patrol, together with two TFS staff and four APU armed rangers. For the reported period, the patrol participants filled 70 positions (10 positions in each patrol) in the seven conducted joint patrols covered by TFS staff (20%); APU rangers (40%), and VGS (40%) from the local communities adjacent to USNFR. Out of 100% of all positions, female participants occupied 13%. The project contributed to enhancing participatory forest management by involving almost half of the patrol participants being local communities (Figure 3). The FPC assisted patrol teams with organisation, patrolling strategies, encouraged proper data collection, sharing the findings, and facilitated mapping and reporting.

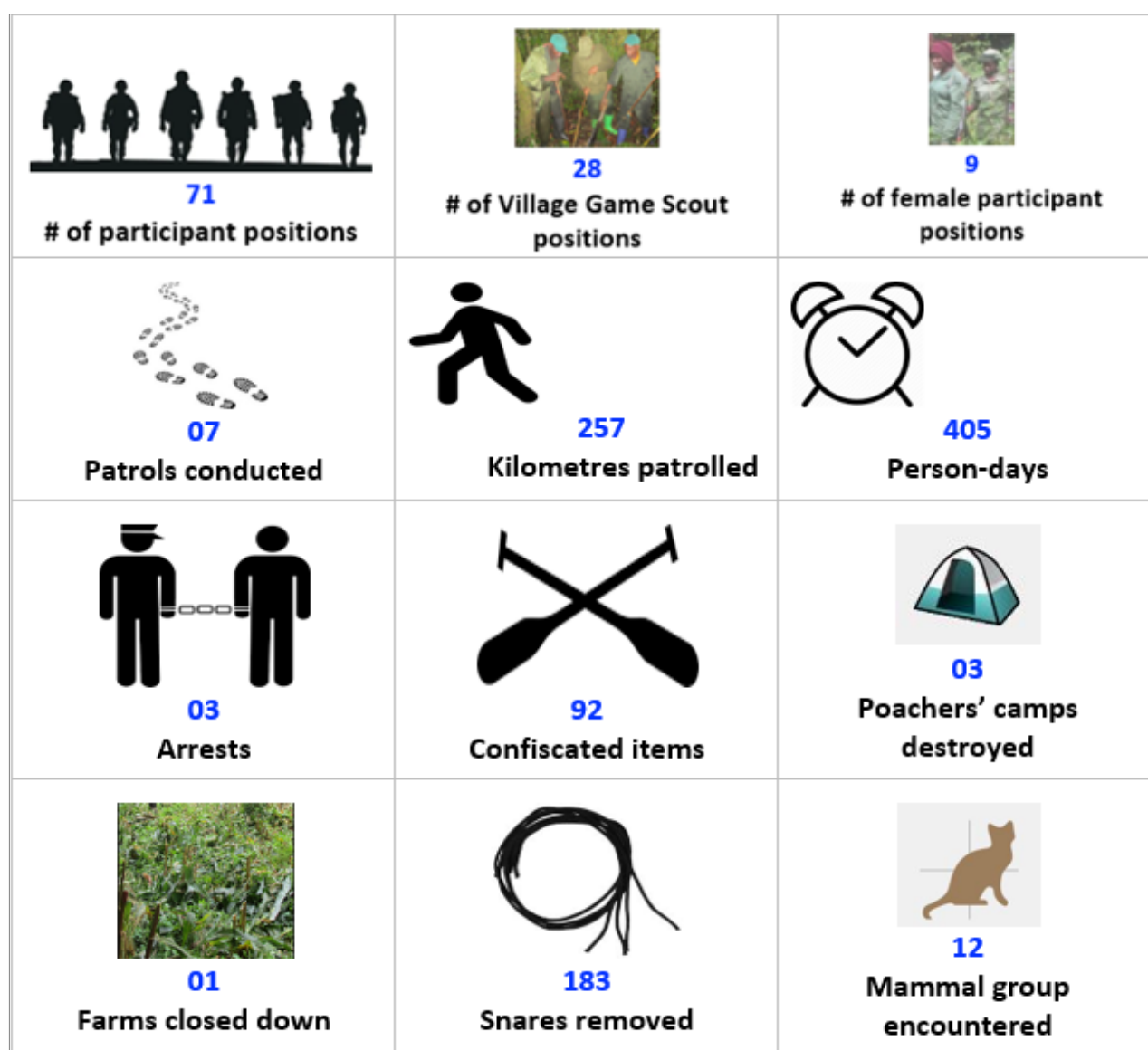


**Figure 2:** Patrol teams: Patrol leader discussing the plan with rangers (Left). The FPC de-briefing the patrol team in the forest.

### ***b. Summary of patrol results***

Figure 3 summarises patrol results between November 2020 and April 2021. STEP supported seven joint foot patrol operations in USNFR. The frequency of patrols ranged from one to two trips per month, lasting on average six days (range 5 – 7 days). The seven patrols were routine and based on local community information. In September and October 2020 there were no patrols at all and from November 2020 to March 2021 single patrol was supported monthly due to insufficient funds resulting from the effect of the COVID-19 pandemic. Through these joint anti-poaching operations, the patrol teams accessed 68% of the FMUs as indicated in

Appendix 1. The average number of person-days was 67 per patrol, a 21% decrease relative to the first six months of 2019 - 2020. In April 2021, person-days were high due to dual patrols lasting over five days each. The patrol coverage was 257 kilometres, an eight per cent increase in patrol coverage relative to the first six months of 2019 - 2020, and the patrol team apprehended three suspects. On average, 26 illegal activities were encountered per month (a 44% increase relative to the first six months of 2019 – 2020), categorised as snaring, poacher’s trails and camps, mining sites, beehives, charcoaling, and logging. In big picture and comparison, of these data with the first six months of 2019 – 2020, STEP supported a similar number of patrols with few person-days due to the effects of the COVID-19 pandemic but the patrols were with huge impacts as shown by the increase of coverage and illegal activities detection.



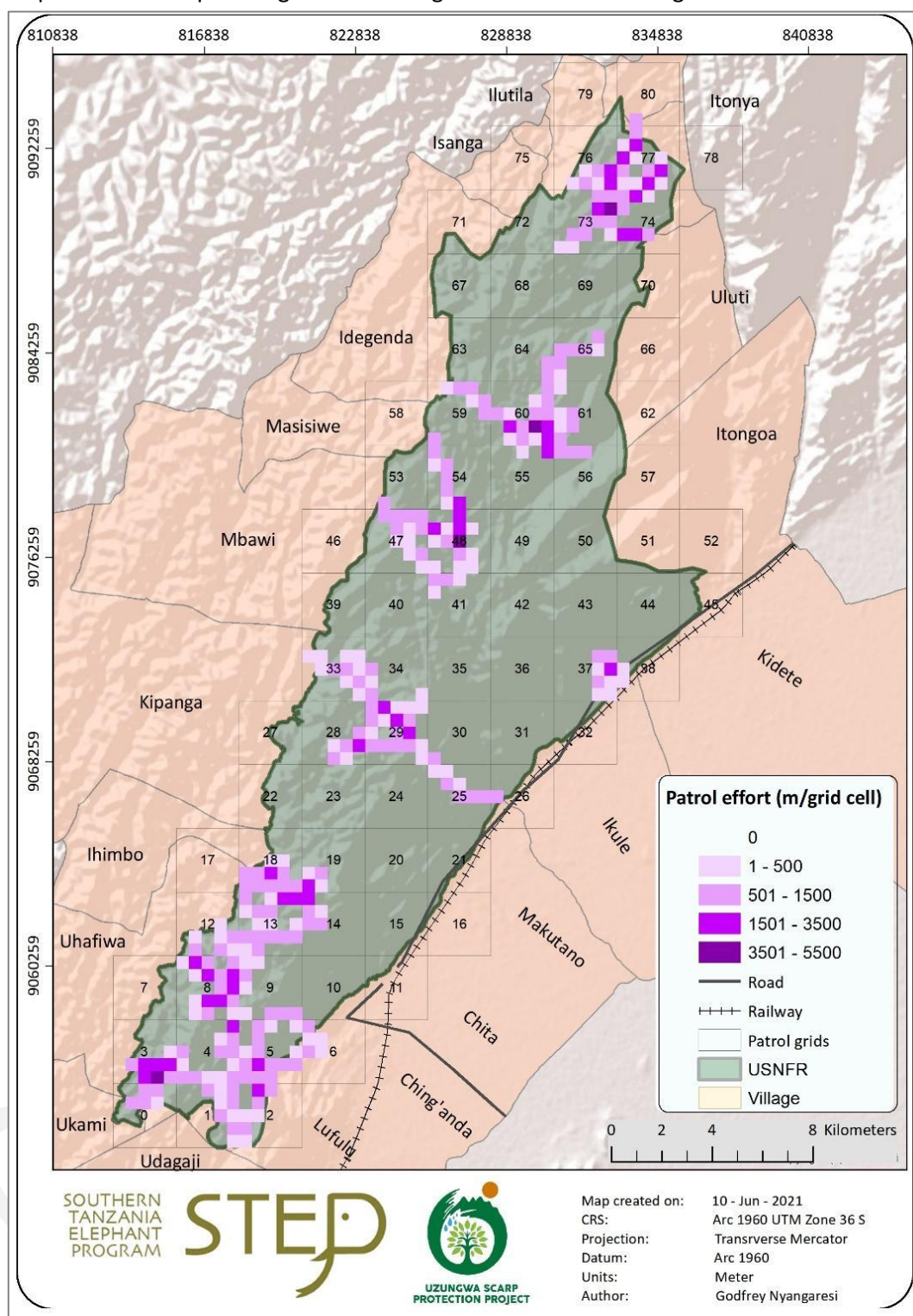
*Figure 3: Infographic summary of patrol results.*

### **c. Patrol coverage**

During this period the patrols covered 48 out of the 81 grids (2.5 km by 2.5 km), giving 59% of the USNFR. The most patrolled grid was crossed eight times, and the least patrolled grid was crossed once with a patrol coverage of 20.8 and 0.5 kilometres, respectively. Figure 4 shows the patrol effort in kilometres walked per grid cell (500 m by 500 m). The dark pink colour indicates an area of more intense patrol coverage. Chita range has been less patrolled compared to other ranges; therefore, it will be a point of consideration when planning the upcoming patrols. The rainy season and poor access to the reserve inhibited patrol location and coverage for various months. In March 2021, few planned patrol targets were not attained because of the



post-arrest procedures as the patrol team spent more time gathering more information and escorted the arrested suspects to the respective government organs for more actions against them.

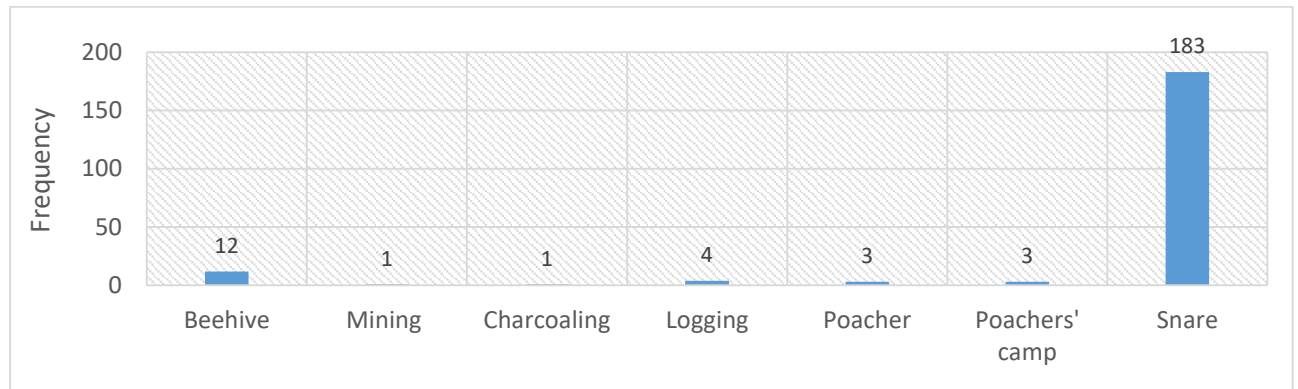


**Figure 4:** Patrol effort in kilometres per grid cell in the last six-month period.

#### **d. Signs of illegal activities encountered**

Patrol teams encountered 207 signs of illegal activities (Figure 5) and intervened in these threats and prevented some offenders from committing unlawful activities. The encounter rates of illegal activity were calculated by the number of illegal activities found divided by patrolling distance (Appendix 2). The most frequently encountered illegal activity was snaring at the encounter rate of 0.711. Other illegal activities were encountered rarely each at the rate of < 0.05. Snares were most frequently removed at Idete and Chita

range areas. More efforts will be put in place to recover these mammal traps during the ongoing patrols, to further discourage the poachers.



**Figure 5:** Signs of encountered illegal activities.

### Signs of habitat destruction

The patrol teams recorded four illegal logging incidences in the last six months. In March 2021, the patrol team searched the concealed areas at Makutano FMU based on key informant details and succeeded to confiscate 13 sawn pieces of timber (*Milicia excelsa*) and two crosscut saws (Figure 6). The suspects escaped in the operation. Other habitat destruction activities were twelve local beehives recorded at Akimbo and Maw FMUs and one active charcoal kiln was encountered and destroyed at Ikeler FMU. The mode of the harvest of honey from the beehives is by using fire, hence becoming a threat to the reserve. The patrol team destroyed these hives. Likewise, a 4.8-hectare farm was encountered at Lufulu FMU. Maize, banana, and vegetables were crops cultivated on the farm. The patrol team arrested two suspects who were farming, and they were educated, warned, and fined (Figure 6).



**Figure 6:** Confiscated pieces of timber at Makutano FMU (left) and arrested farmer at Lufulu FMU (right).

### Signs of hunting activities

The major sign of bushmeat hunting encountered was by the use of snares, whereby the patrol teams successfully recovered 183 snares (Appendix 2). Idete range was the leading with a high number of snares. Most of these snares were newly laid, and there was a single snare that was found with a trapped animal in which the patrol team freed the animal. Similarly, patrol teams destroyed three poachers' camps and arrested one suspect who possessed a muzzleloader, a powder bottle, black powder, 49 cylindrical metal balls (bullets), a bottle with oil, four matchboxes, a knife, two whistles, traditional herbs, and 21 snares (Figure 7). An arrest event was followed by searching of the suspect's premises at his dwelling village. The patrol team found the suspect possessed five steel pipes (muzzleloader barrels), two antelope' horns, and a



tail. Thereafter, the suspect was taken to the village office, later on to Kilolo police station, and then to the court and charged with "(1) illegal entry to the protected area (PA), (2) possession of a weapon in the PA, (3) unlawful possession of government trophies, and (4) unlawful possession of a weapon". The charged suspect is currently detained, as an investigation of these crimes is proceeding.



**Figure 7:** The apprehended suspect with his belongings at Idegenda FMU.

#### **e. Confiscated items**

The patrol teams confiscated all equipment used in committing illegal activities which were taken to USNFR's office in Iringa or other relevant authorities for storage. Snare were the most confiscated item (63.5%) followed by bush knives (14.7%), and the least confiscated items were spade, spear, firearm, and mammal skin, each with less than one per cent. In collaboration with VNRC, patrol teams had physical meetings about their work and challenges. The VNRC handed over to joint patrol teams the confiscated items from the USNFR (Figure 8).

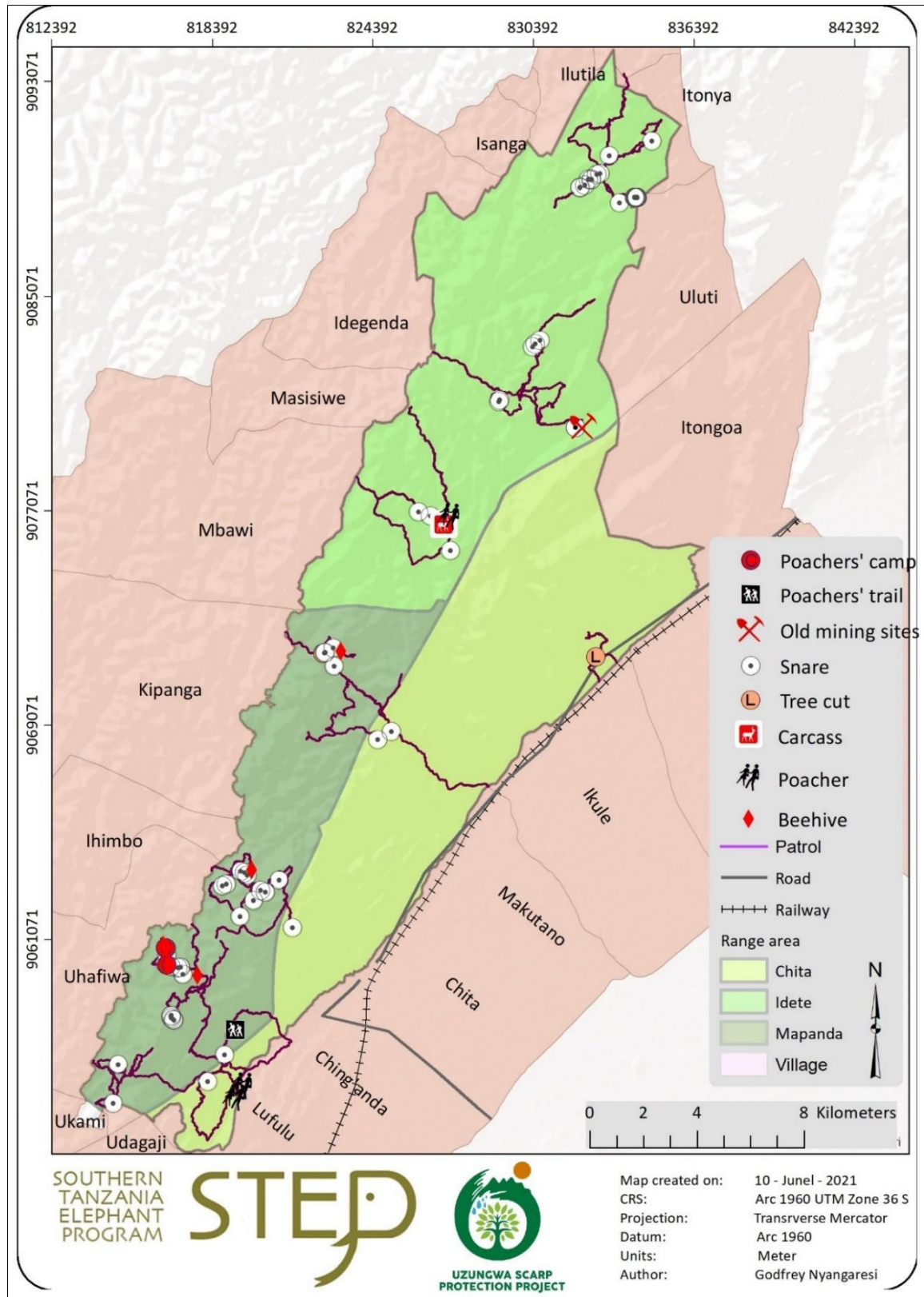
Confiscated item	Frequency	Percentage (%)
Machete	25	8.7
Bush knife	42	14.6
Crosscut saw	6	2.1
Axe	12	4.2
Spade	2	0.7
Bushmeat	1	0.3
Spear	2	0.7
Gun	1	0.3
Skin	1	0.3
Snare	183	63.5
Pieces of timber	13	4.5
<b>Total</b>	<b>288</b>	<b>100.0</b>



**Figure 8:** Confiscated items handed over by VNRCs.

**f. Spatial distribution of the encountered signs of illegal activities**

Figure 9 depicts the spatial distribution of the recorded signs of illegal activities. The map shows the exact locations of the patrols and the recorded events. Snaring was the most recorded activity throughout the patrol period in the range area in the reserve. Logging incidents were recorded only in the Chita range. The patrol team re-visited the mining site discovered in June 2020 at Itongoa FMU and found no further development of the mining activities in the area.



**Figure 9: Spatial distribution of the encountered signs of illegal activities at USFNR for the last six months.**



#### ***g. Wildlife species encountered during patrols***

Several key wildlife species were encountered and recorded during patrols of this global biodiversity hotspot (Appendix 3). The patrol team recorded 12 groups of forest vertebrates from 10 different species. Herptiles (the endemic Horned bush viper, Puff adder, Slug eater, and a Ruby-eyed tree frog which is vulnerable species of forests of the Eastern Arc chain in eastern Tanzania) were frequently encountered followed by primates (Udzungwa-endemic Sanje Mangabey and Red colobus; also Black and White colobus), and antelopes (Red duiker and Bushbuck) while the insectivores (Aardvark) were least encountered. Most of the animals were encountered in Mapanda and Idete range areas. Figure 10 shows some of the encountered wildlife species.



**Figure 10:** Horned Bush Viper (left) at Mbawi FMU and Ruby-eyed tree frog (right) at Itonya FMU.

#### **PATROL CHALLENGES**

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- Rainfall was the main challenge, especially from October 2020 to March 2021. The patrol team made use of field survival skills to manage patrols during the rainy season. In addition, the team had to work while it was raining and had malfunctioned electronic devices (GPS and digital camera) on patrol days. Despite these challenges, patrol teams intervened in different poaching activities during the rainy season. Sleeping bags, raincoats, and gumboots were useful in these situations.
- Insufficiency of funds due to the COVID-19 pandemic was the challenge facing USNFR and as a result, no patrol was conducted during September and October 2020. Similarly, single patrols were conducted from November 2020 up to March 2021.

#### **LESSONS LEARNT DURING THIS PERIOD**

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- TFS and local communities adjacent to the USNFR acknowledged the contribution of these patrols to the conservation status of the reserve particularly when the anti-poaching operations ceased for two months (September to October 2020).
- Based on the mentioned patrol results, despite the decrease of person-days, the patrol teams had greater coverage and intervened more frequently in illegal activities compared to this period of the previous three years.
- Forest encroachment has been noticed during the rainy season in the patrolled areas (one cultivated farm with maize and beans was encountered during the March 2021 patrol).



## APPENDICES

**Appendix 1: Summary of patrol results.**

Month	Patrolled-area	# of Patrol	# of Patrol days	# of Participants	Person-days	Coverage (km)	Sign of illegal activities	# of Illegal signs	Arrest
Nov.	Kalanga, Maw, Ikeler	1	5	10	50	38.4	Snaring, Logging, Charcoaling	20	0
Dec.	Akimbo, Uhafiwa	1	5	10	50	29.2	Snaring	22	0
Jan.	Akimbo, Uhafiwa, Lufulu	1	5	11	55	36.7	Poachers' Camps, Snaring, Farming	29	2
Feb.	Ilutila, Itonya, Uluti	1	5	10	50	36.4	Snaring	39	
Mar.	Idegenda, Makutano, Masisiwe, Maw	1	7	10	70	35.0	Snaring	26	1
Apr.	Idegenda, Itongoa, Masisiwe, Uluti	2	13	10	130	81.4	Poachers' Trail, Snare, Mining	47	0
	<b>Total</b>	<b>7</b>	<b>40</b>	<b>61</b>	<b>405</b>	<b>257.1</b>		<b>183</b>	<b>3</b>

**Appendix 2: Encounter rates of signs of illegal activities by range areas.**

Sign of illegal activity		Range area			Total	Encounter rate (#Illegal Activity/km)
		Idete	Mapanda	Chita		
Habitat disturbance	Beehive	1	11	0	12	0.047
	Mining site	1	0	0	1	0.004
	New charcoal kiln	0	0	1	1	0.004
	New sawing site	1	0	1	2	0.008
	New Tree cut	1	0	1	2	0.008
Hunting	Poacher	1	0	2	3	0.012
	Poacher escape	0	0	1	1	0.004
	Poachers' camp	1	2	0	3	0.012
	Poachers' trail	0	0	1	1	0.004
	Snare	91	51	41	183	0.711
	<b>Total</b>	<b>97</b>	<b>64</b>	<b>9</b>	<b>170</b>	

**Appendix 3: Wildlife species encountered during patrols.**

Common Name	Location (FMU)	Range area	# of the group encountered	Est. # of individual per group	Encounter rate
<i>Primates</i>					
Red colobus	Akimbo	Mapanda	1	16	0.004
Black and white colobus	Uhafiwa, Lufulu	Chita, Mapanda	2	25	0.008
Sanje Mangabey	Chita	Chita	1	20	0.004
<i>Insectivores</i>					
Aardvark	Ilutila	Idete	1	1	0.004
<i>Antelope</i>					
Red duiker	Uhafiwa	Mapanda	2	2	0.004
Bushbuck	Itonya	Idete	1	1	0.008
<i>Herptiles</i>					
Horned bush viper	Maw	Idete	1	1	0.004
Puff adder	Akimbo	Mapanda	1	1	0.004
Slug eater	Itonya	Idete	1	1	0.004
Ruby-eyed tree frog	Itonya	Idete	1	1	0.004
<b>Total</b>			<b>12</b>	<b>69</b>	

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