



GREATER VIRUNGA
TRANSBOUNDARY COLLABORATION



WORKING TOGETHER TO FIGHT POACHING AND WILDLIFE CRIME IN GREATER VIRUNGA LANDSCAPE

ANNUAL CONSERVATION STATUS REPORT 2016



Three Countries, One Landscape



ABOUT GVTC AND ITS ROLE IN THE FIGHT AGAINST POACHING AND WILDLIFE

The Greater Virunga Landscape (GVL) is abound with both terrestrial and aquatic resources that cut across an imaginary transboundary line across the Democratic Republic of Congo (DRC), Rwanda, and Uganda. The resources of this landscape have attracted many stakeholders, locally, nationally, regionally, and internationally with different interests that range from preservation, sustainable utilization, and conservation. Along this continuum of interests, the three Governments realized a need to put in place a framework of programmes, plans, and activities, referred as Greater Virunga Transboundary Collaboration (GVTC) that would work together to conserve the Greater Virunga landscape, fight poaching and wildlife crime and uphold the regional shared interest as stipulated in the GVTC treaty.

Working Together for Improved Conservation is the central theme for the 2016 Annual Conservation Status Report (ACSR) of GVTC. The 2016 ACSR highlights the collective efforts of the three countries to fight poaching and wildlife crime in the GVL, offers a historical perspective of the issues and contextualizes its impact on the natural resources in the GVL where collective efforts have often either failed or have been corrupted to support illicit organized wildlife crime.

The first section of the 2016 ACSR report describes efforts in law enforcement to prevent poaching and wildlife crime and how these efforts complement demand reduction and support strategies in building community and livelihoods through the fight against poaching and wildlife crime. The second section reports on how the critical wildlife resources have responded to the combined effort achievements gained against poaching and wildlife crime.

The data for measuring the success of working together was provided by the stakeholders or was received through remote sensing or through studies commissioned by the GVTC. Where there was not sufficient data to cover the entire GVL, pilot case studies were used in the anticipation that the data gaps will be covered in the future ACSR series. The information generated was reviewed by the ACSR technical working group (TWG) and validated by sharing a draft report with some of the key stakeholders.

The TWG comprised of delegates from the Institut Congolais pour la Conservation de la Nature (ICCN), Rwanda Development Board (RDB), Uganda Wildlife Authority (UWA), Wildlife Conservation Society (WCS), International Gorilla Conservation Programme (IGCP), Institute of Tropical Forest Conservation (ITFC), GVTC Executive Secretariat supported by Dr. Katherine Warner, and the Environment and Climate Change Technical Advisor at the Netherlands Embassy in Kampala. The TWG comprised of James Byamukama, Anna Behm Masozera, Fidele Ruzigandekwe, Simon Nampindo (PhD), Robert Bitariho (PhD), Joel Wengamulay, Abel Musana, Susan Namuli, Ismael Ochen, and Elyse Ukobizaba.

In this edition of the Annual Conservation Status Report, the phrase "working together" includes and refers to the following partners: ICCN, RDB, UWA, WCS, IGCP, and ITFC. (add logos as in the 2015 ACSR)

By working together and taking stock of the effects in the 2016 ACSR, we have seen success in the fight against poaching and wildlife crime and improved conservation in the Greater Virunga Landscape.



Kingdom of the Netherlands



Foreword

The Greater Virunga transboundary Collaboration (GVTC) presents to you yet another edition of the series of Annual Conservation Status Reports (ACSR). The GVTC state parties and their partners, through the ACSR series wish to continuously, on an annual basis, bring to its stakeholders and other interested parties, the success stories of their combined efforts and their results to improved conservation and tourism development in the Greater Virunga landscape (GVL).

Recalling that the Greater Virunga Landscape (GVL) is the most diverse fragile eco-region of Africa with endangered species such as the mountain gorilla, elephants, and chimpanzee as well as birds and plants, we wish to bring to you, in this 2016 ACSR edition the collective effort of the state and non state parties in fighting poaching and wildlife crime and the success they have made.

Building on the 2015 ACSR unique diversities and partnerships, the theme of the ACSR 2016 edition "Working Together to Fight Poaching and Wildlife Crime in Greater Virunga Landscape has been carefully chosen to particularly point out the critical role played by the Protected Area law enforcement patrol men and women and communities in fighting poaching and wildlife crime. These unsung heroes have been brought to the forefront to demonstrate their great contribution to GVL improved conservation and tourism development. Recounting the hilly, rugged and forested terrain of GVL, if you position yourself moving with the law enforcement teams, then the patrol coverage and the frequency with which they have come back to the same square kilometer per month would show their high commitment to conservation.

Keeping the partners working together and publishing their success conservation results is the core responsibility of the Greater Virunga transboundary Executive Secretariat (GVTC-ES). GVTC-ES wishes to commit itself to its renewed commitment in ensuring that this 2016 ACSR will stimulate you to join the fraternity of partners committed to the improved conservation and tourism development in GVL

It is with greater pleasure that I present to you this publication, which show cases the importance that GVTC state parties and their partners attach to fighting poaching and wildlife crime


Dr. Muamba Tshibasu Georges
The Executive Secretary
Greater Virunga Transboundary Collaboration



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Executive Summary

The Greater Virunga Landscape (GVL) is the richest and most biodiverse ecosystem in Africa. This richness, however, is threatened by depletion of species and habitat loss through poaching, illegal trade in fauna and flora, overfishing, mining (extractive industries), and wild fires.

The focus of the 2016 Annual Conservation Status Report (ACSR) is on poaching and wildlife crime (illegal trade of fauna and flora). “Poaching” is defined as any illegal activity that contravenes the laws and regulations established to protect natural resources including the illegal harvest of wildlife with the intention of possessing, transporting, consuming, trading, and using its body parts.¹

“Wildlife” means all fauna and flora. “Fauna” refers to animals, birds, and fish. “Flora” are plants, and “crime” refers to acts committed contrary to national laws and regulations intended to protect natural resources and to administer their management, use, and subsequent acts like processing of fauna and flora into products for sale, their transportation, concealment, and laundering of financial benefits accruing from the crime.

Poaching and wildlife crime are serious crimes that require firm and strengthened national measures and enhanced regional and global response. The GVTC state parties and their partners have recognized the need to reduce demand for illegal wildlife products through mutually exclusive approaches of law enforcement and support for community livelihood.

Law enforcement in the GVL is largely done through ranger patrols. Analysis of ranger based patrol data has revealed that within mountain gorilla parks, patrols are more likely to return to the same square kilometer of an area at least once every month within 12 months of the year around the periphery of the park. The intensity of patrols gradually reduces towards the center of the protected area (PA) and transboundary borders. While the intensity of patrols was observed to be low in PAs not inhabited by mountain gorillas, the trend was the same as in gorilla parks, being lowest towards the transboundary borders.

Poaching and wildlife reduction strategies in the GVL have been realized to be influenced by several contextual factors that include increasing population, livelihood and dependency on natural resources, land use outside PAs, conflicts within and outside PAs, extractive industries, and climate change, with some of the effects and evidence summarized in Table 1.

Together, the state parties and their partners in the GVL have put up tremendous efforts in conservation of natural resources, especially against poaching and wildlife crime. Results show that there was a decline in the number of snares discovered and destroyed—dropping to 1,310 in 2016 from 4,240 in 2015. Equally, deforestation based on satellite imagery analysis has shown that the rate of deforestation has significantly dropped from over 100 square kilometers in 2001 to a negligible 15 square kilometers in 2016.

¹ Lindsey, P., Balme, G., Becker, M., Begg, C., Bento, C., Bocchino, C., Dickman, A., Diggle, R., Eves, H., Henschel, P., Lewis, D., Marnewick, K., Mattheus, J., McNutt, J. W., McRobb, R., Midlane, N., Milanzi, J., Morley, R., Murphree, M., Nyoni, P., Opyene, V., Phadima, J., Purchase, N., Rentsch, D., Roche, C., Shaw, J., van der Westhuizen, H., Van Vliet, N., and Zisadza, P. (2012). “Illegal hunting and the bush-meat trade in savanna Africa: drivers, impacts and solutions to address the problem.” FAO, Panthera/Zoological Society of London/ Wildlife Conservation Society report, New York.



TABLE 1: CONTEXTUAL FACTORS INFLUENCING POACHING AND WILDLIFE CRIME IN THE GVL

SN	Contextual Factor	Effect/Evidence
1	Increasing Population	Deforestation observed from satellite imagery close to areas with high population reveal a thin boundary line between agricultural fields and the PA boundaries.
2	Livelihood and dependency	According to PA managers, communities benefiting from conservation enterprises are less likely to engage in poaching compared to those communities that have little or no access to conservation enterprises.
3	Land use changes outside the PAs	Some encroachment observed from satellite imagery within the PAs—an extension of agricultural practices outside the PAs.
4	Conflicts inside and outside the PAs	Massive deforestation in areas around Beni Town is a result of communities creating a buffer from armed insurgency activities by the Allied Democratic Forces. Results show a spatial overlap between areas with high human-wildlife conflict due to crop raiding and the resulting food insecurity. Such communities are likely to turn to poaching for securing food or kill animals in retaliation.
5	Extractive industries	Over 80% of the GVL is covered with oil concession blocks. Biodiversity sensitive modeling shows that the entire GVL is biodiversity sensitive though areas around Lake Edward are the most biodiverse sensitive. Roads built to facilitate extraction will open up pristine areas and potentially exposing them to poachers. The increase of population with different cultures associated with these industries is most likely to increase demand for illegal wildlife products.
6	Climate change	Results show that there has been a gradual decline of glaciers in the three peaks of Rwenzori Mountains, a signal for climate change. Climate change may increase human-wildlife conflicts if rising temperatures, droughts, and floods result in wildlife foraging outside the PAs. Communities facing crop and water loss may either poach for food or do retaliatory killing of wildlife.

In one case study in Queen Elizabeth National Park, 282 suspects involved in poaching were prosecuted with 82% convicted. Out of those convicted, 5 cases were ivory dealers. Also ivory confiscated in the GVL countries was on the decline. In Kampala, the amount of confiscated ivory dropped to 389 kilograms in 2016 from 2,813 kilograms in 2015.

The mountain gorilla census was conducted in the Virunga massif and big mammal census was also conducted in the savanna parts of the GVL PAs. The results will come out later in 2017.

While collective efforts through law enforcement have posted good anti-poaching and wildlife crime results, there is need to raise the bar to rid the GVL of poaching and wildlife crime that result in wildlife loss and habitat degradation. The role of GVTC-ES in coordination, mediation, brokering, information gathering, and sharing for adaptive management through the Annual Conservation Status Report and other media is imperative to ensure that "Working Together to Fight Poaching and Wildlife Crime in Greater Virunga Landscape" leads to improved conservation and inclusive growth



Working Together to Fight Poaching and Wildlife Crime in Greater Virunga Landscape

The Greater Virunga Landscape (GVL) is the richest and biodiverse ecosystem in Africa. This richness, however, is threatened by depletion of species and habitat loss through poaching, illegal trade in fauna and flora, overfishing, mining (extractive industries), and wild fires. The focus of the 2016 Annual Conservation Status Report (ACSR) is on poaching and wildlife crime (illegal trade of fauna and flora).

For purposes of the 2016 ACSR, “poaching” is defined as any illegal activity that contravenes the laws and regulations established to protect natural resources including the illegal harvest of wildlife with the intention of possessing, transporting, consuming, or selling it and using its body parts. “Wildlife” means all fauna and flora. “Fauna” refers to animals, birds, and fish. “Flora” are plants, and “crime” refers to acts committed contrary to national laws and regulations intended to protect natural resources and to administer their management, use, and subsequent acts like processing of fauna and flora into products for sale, their transportation, concealment, and laundering of financial benefits accruing from the crime.

Poaching and wildlife crime in GVL dates back to the 1860's and became rampant with the arrival of Europeans who were hunting either for sport or to feed the large workforces that were involved in infrastructure development, commercial agriculture, mining and the military

Poaching and Wildlife crime in the GVL dates back to the 1860's and became rampant with the arrival of the Europeans, who were hunting either for sport or to feed the large workforces that worked on commercial agricultural farms, on building infrastructure, mining, and the military. Poaching and wildlife crime has shaped the collective conservation efforts in GVL for almost a century. The Virunga National park was formed in 1925 to stop sport hunting of mountain gorillas in the Virungas. In 1985, the killing, presumably by poachers, of world-renowned researcher Dianna Fossey in Volcanoes National Park demonstrated that poaching was a life and death issue. Fossey's murder brought attention to the impact of poaching on the mountain gorillas (Fossey's grave lies besides the graves of twenty-five mountain gorillas killed by poachers) and galvanized stakeholders to work together in their efforts to protect and conserve the mountain gorillas. These efforts have resulted in an increase in the population

of mountain gorillas and have made a major contribution to the conservation of the GVL. However, in spite of these efforts poaching and wildlife crime continues to threaten wildlife; the mountain gorilla is designated as a critically endangered species while the Virunga National park has been on the list of World Heritage Sites in Danger for the last twenty years.



Poaching and wildlife crime is now considered a "serious crime" by the United Nations General Assembly under resolution 69/314, "Tackling Illicit Trafficking of Wildlife" 2015 that calls for firm and strengthened national measures, and an enhanced regional and global response. It urges States to reduce demand for illegal wildlife products by using targeted strategies to influence consumer behavior, and emphasizing that the protection of wildlife must be part of a comprehensive approach to achieve sustainable development and sustainable livelihoods. The African Union (AU) Executive Council Decision EX. CL/Dec. 832 (XXV) of 2014 reasserted that in many African countries the livelihoods and socio-economic development of communities, in both rural and urban areas, depends heavily on the use of wild fauna and flora. Thus the loss of African wildlife due to poaching affects the livelihoods of African people directly or indirectly. Additionally, wildlife crime deprives African States of revenues, hinders economic growth, and therefore calls for strategic solutions to combat illegal exploitation and trade in African wildlife.

The ICCN, the RDB, and the UWA, together with their key partners, have adopted law enforcement strategies for demand reduction and for supporting communities and their livelihoods, as mutually supportive approaches for fighting poaching and wildlife crime. Plumptre et. al (2014)², quoting Laurence et.al (2012), noted that "where poor enforcement exists, there is often a marked degradation in biodiversity". This report therefore examines the effectiveness of law enforcement, its contextual effects, and its results on key conservation indicators in relation with the other approaches.

LAW ENFORCEMENT EFFECTIVENESS IN THE GREATER VIRUNGA LANDSCAPE

In the GVL, the stringency of law enforcement varies from areas where mountain gorillas live and the non-gorilla parks. In the gorilla parks, habituated gorillas are monitored on a daily basis and this is supplemented with regular patrols. Whilst in other parts of the parks, only regular patrols are conducted. As a result, law enforcement effort and its effects were analyzed along this divide.

The communities adjacent to the protected areas constitute, theoretically, the first line of defense in combatting poaching and wildlife crime, at the same time they are the main source of poaching activity.

Figure 1 shows that within gorilla parks, patrols are more likely to return to each square kilometer of an area at least once every month for twelve months around the periphery of the park, and gradually decrease in intensity towards the center of the park, leaving a patrol hole within the center of the parks and along the international boundaries. On a large scale, this contrast is easily seen when individual patrol visits per square kilometer is put into consideration (figure 2): on a scale of 1 to 594 visits annually, the highest frequency is on the periphery of the parks. The Protected Area Authorities (PAA) consider situation as reflective of correlating intelligence reports with actions or signs of poaching. The PAAs explained that while the communities adjacent to the protected areas constitute, theoretically, the first line of defense in combatting poaching and wildlife crime, at the same time they are the main source of poaching, and hence the need to concentrate patrol efforts along the communities and deter them from entering the parks.

² Plumptre, A.J., Fuller, R.A., Rwetsiba, A., Wanyama, F., Kujirakwinja, D., Driciru, M., Nangendo, G., Watson, J.E.M., and Possingham, H.P. (2014). "Efficiently targeting resources to deter illegal activities in protected areas". Journal of Applied Ecology. British Ecological Society.

FIGURE 1: FREQUENCY OF PATROLS ON A MONTHLY BASIS WITHIN A SQUARE KILOMETER UNIT CELL WITHIN GORILLA PARKS

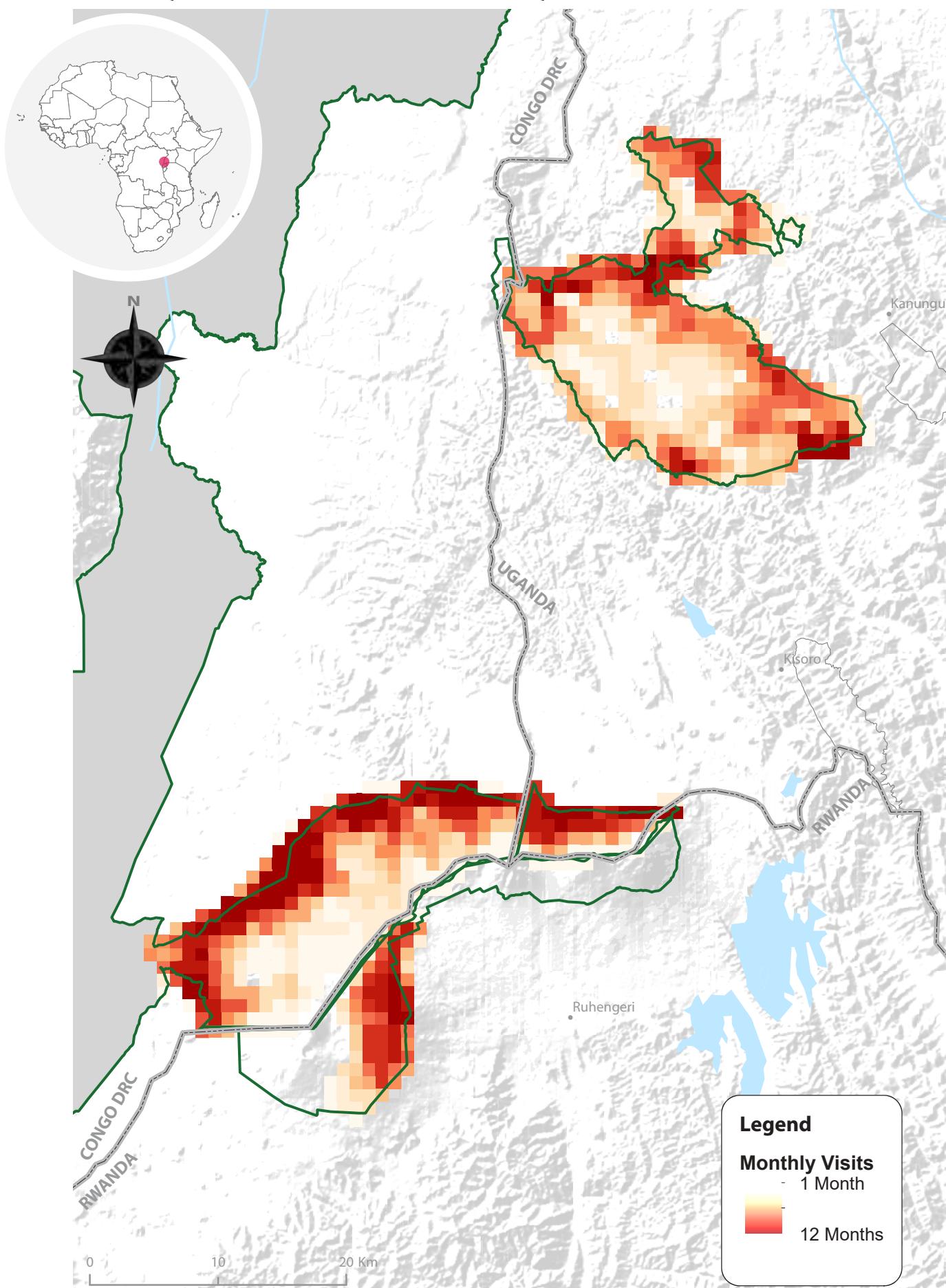
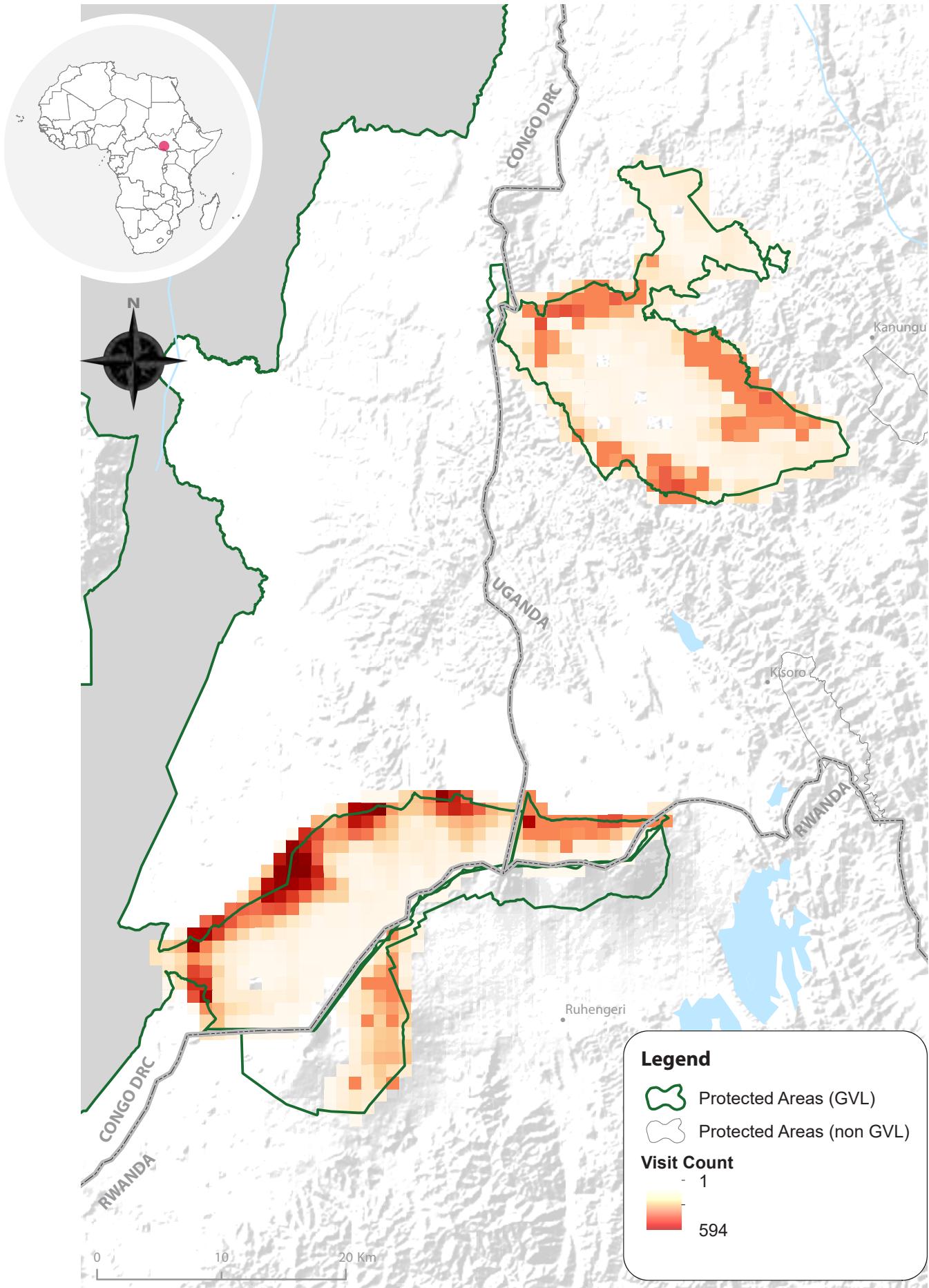


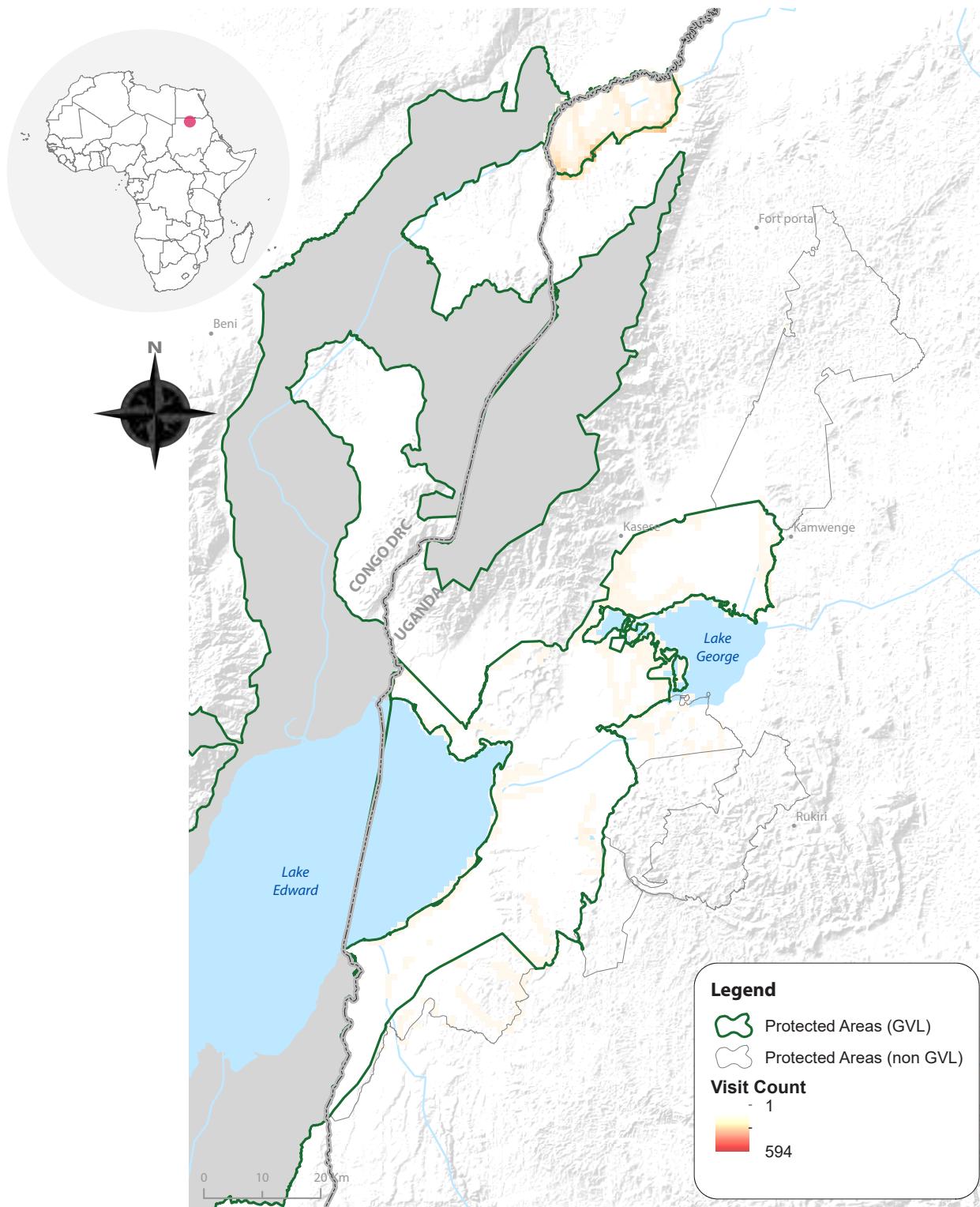
FIGURE 2: NUMBER OF PATROL VISIT COUNTS PER SQUARE KILOMETER UNIT CELL WITHIN GORILLA PARKS



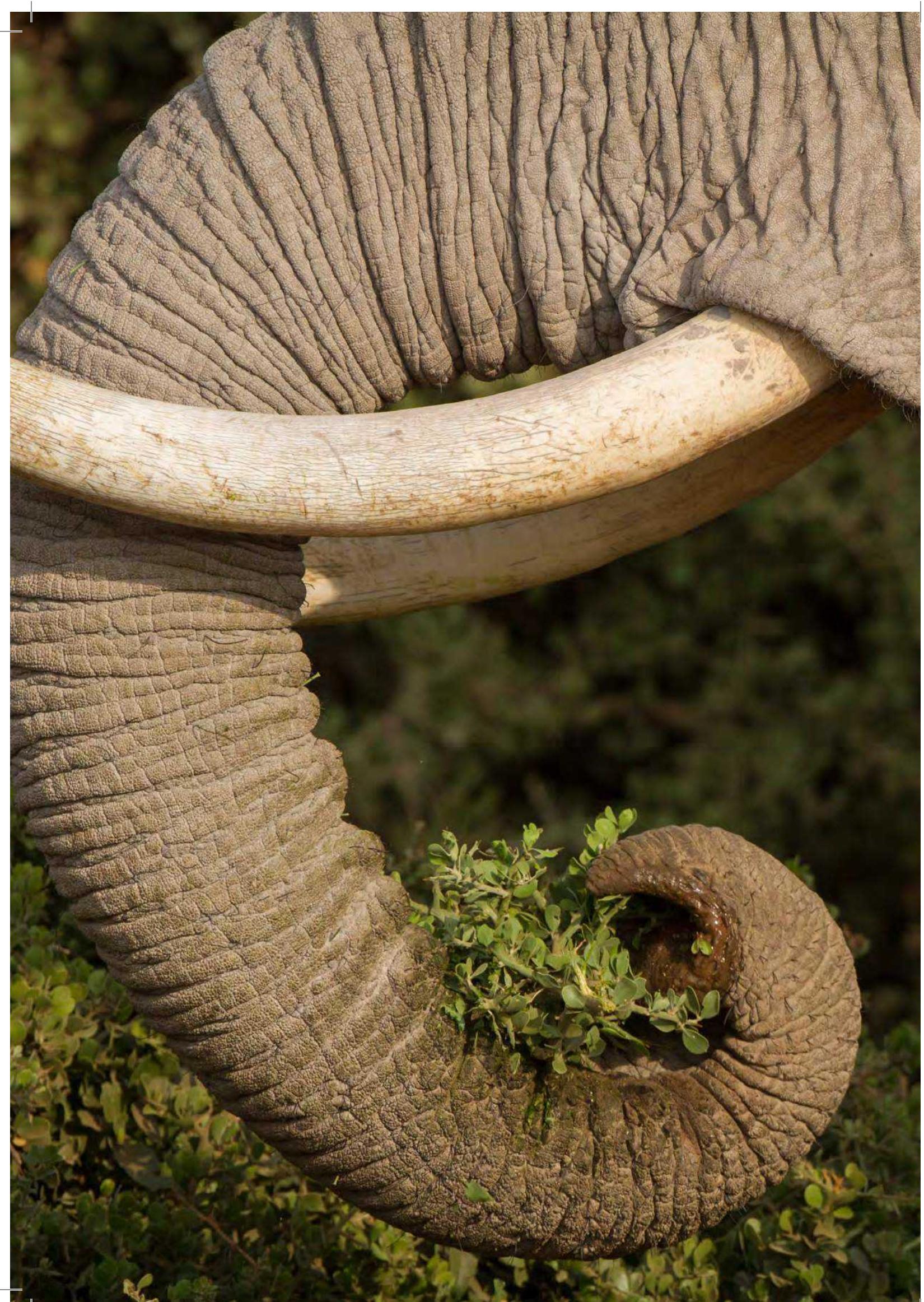
Source of data: RBM from ICCN, RDB, and UWA
Map creation by Geo Gecko

Outside the gorilla parks, within the limits of the available data, patrol intensity was low within Queen Elizabeth National Park (QENP) while it was high around areas that border communities and patrol trails in Semuliki National Park (figure 3). In both cases, the lowest patrol intensity was at the transboundary borders, which the conservation managers have attributed to insecurity that has limited coordinated transboundary PA patrols. Considering patrol counts of 1 to 594 in 2016, it was unlikely to have repeat patrol in the same square kilometer within the year.

FIGURE 3: PATROL INTENSITY—FREQUENCY OF MONTHLY PATROLS WITHIN A 1 SQUARE KILOMETER UNIT CELL OF NON-GORILLA PARKS

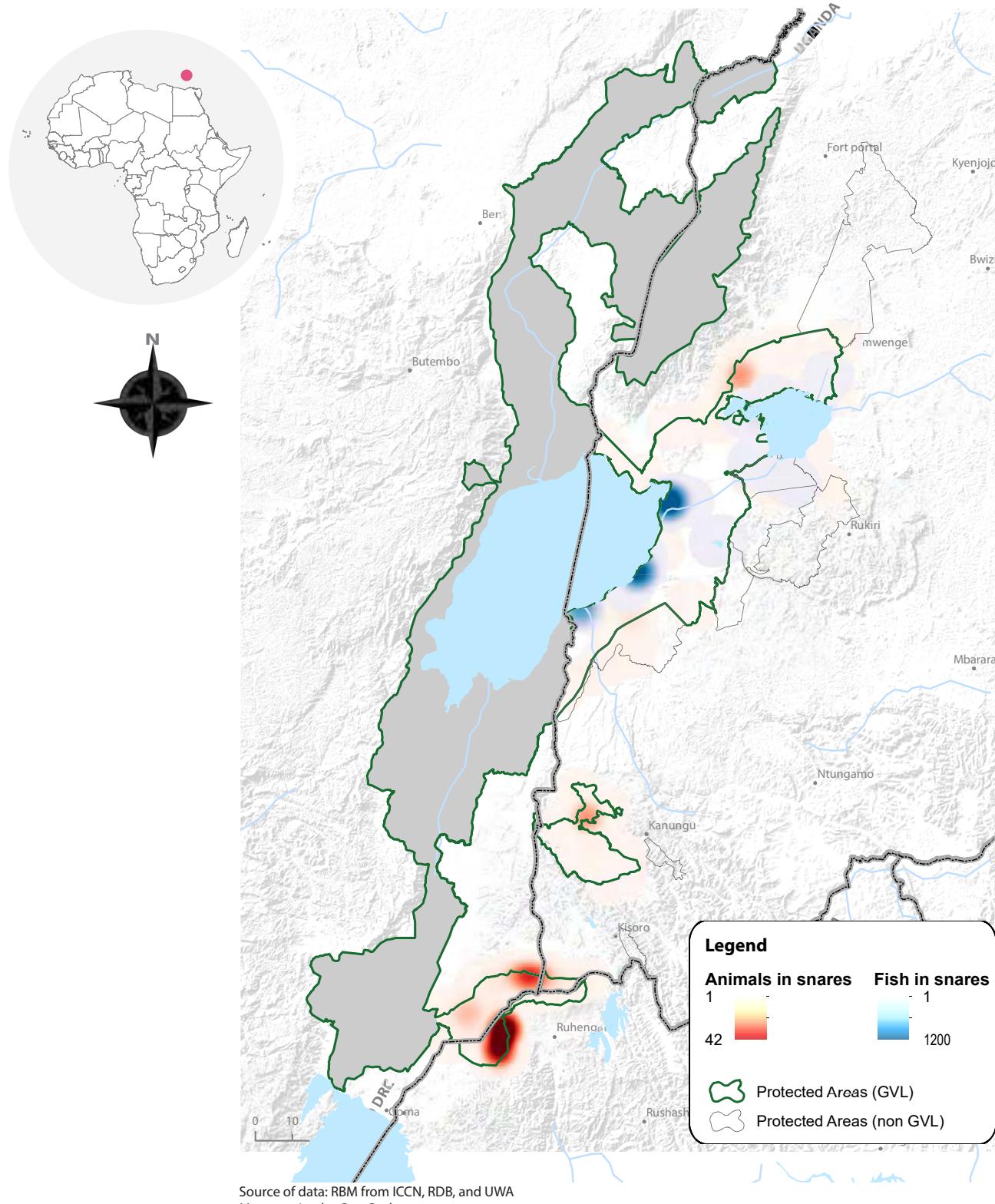


Source of data: RBM from ICCN, RDB, and UWA
Map creation by Geo Gecko



The number of patrol efforts correlate with incidences of poaching and wildlife crime in areas where either poaching signs like snares or animals found in snares or harvested plants were found. Using the number of snares found per square kilometer, a poaching hotspot map was produced (figure 5). While theoretically, one would have expected to find more snares in areas with high intensity of patrols, on the contrary, results revealed that there was little spatial overlap between patrol intensity and snares. These results point to the fact that law enforcement through patrols alone cannot deter poaching and wildlife crime, but rather multiple approaches need to be adopted.

FIGURE 5: THE 2016 POACHING HOTSPOTS (BASED ON SNARE COUNTS PER UNIT AREA)



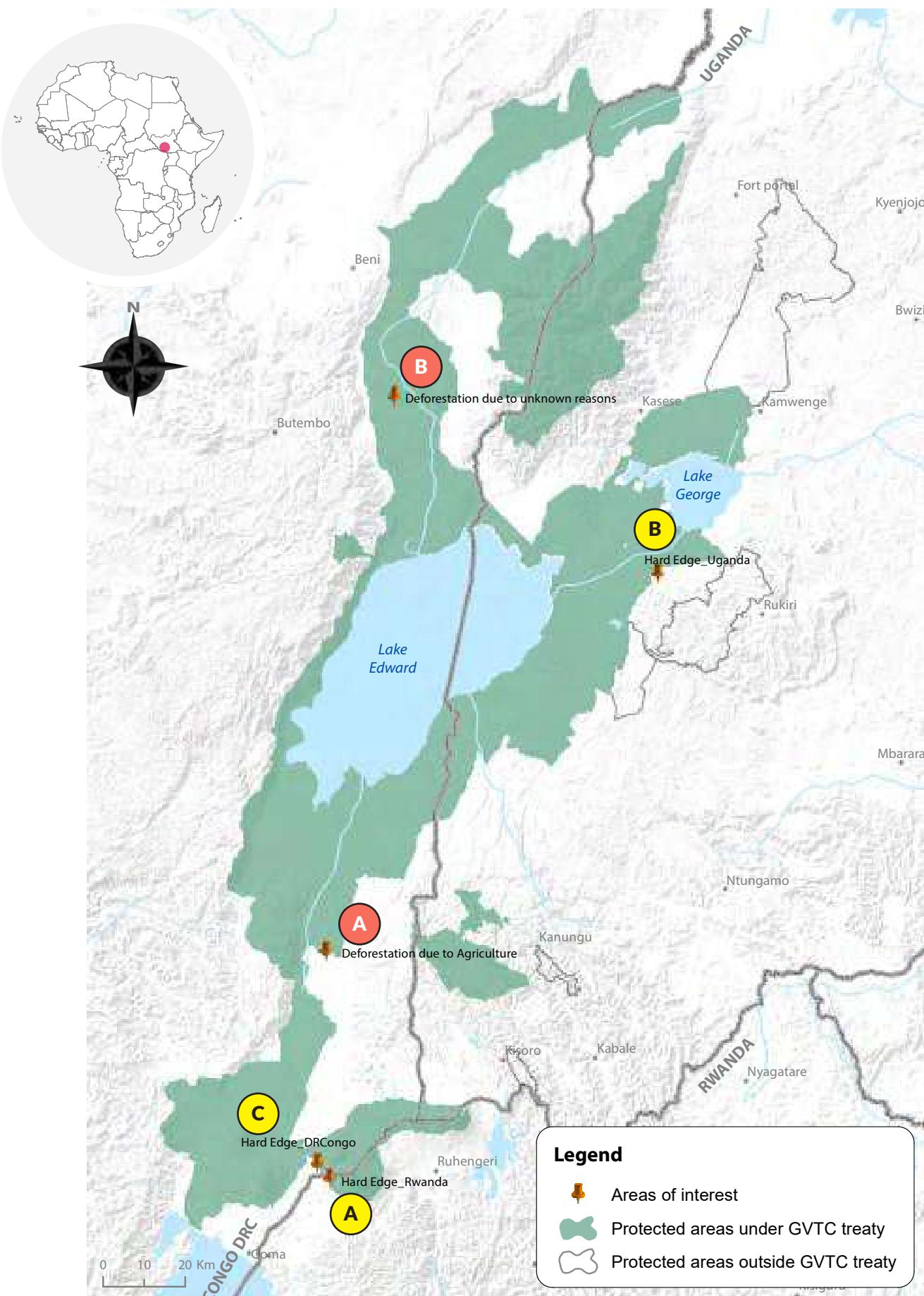
Dynamic Challenges in Fighting Poaching and Wildlife Crime

AN INCREASING POPULATION

The GVL is known to have the highest rural population density in Africa, ranging from 100 to over 1000 persons per square kilometer (2015, ACSR). Based on the 2015 ACSR's population density map, satellite image analysis revealed evidence of population pressure on GVL Protected Areas (PAs) (figure 6). Within the PAs, there was evidence of deforestation in 2016 due to agriculture or other unknown reasons. Outside the PAs, there were some areas with no buffer between human agricultural activities and the PAs (hard edges) as illustrated with the following images.

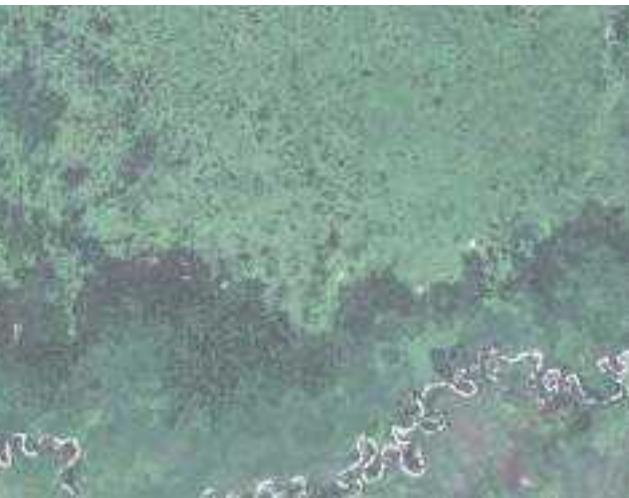


FIGURE 6: EVIDENCE OF POPULATION PRESSURE ON GVL PROTECTED AREAS (PAs)



Source of data: RBM from ICCN, RDB, and UWA
Map creation by Geo Gecko

A



Site within the PA as in 2010



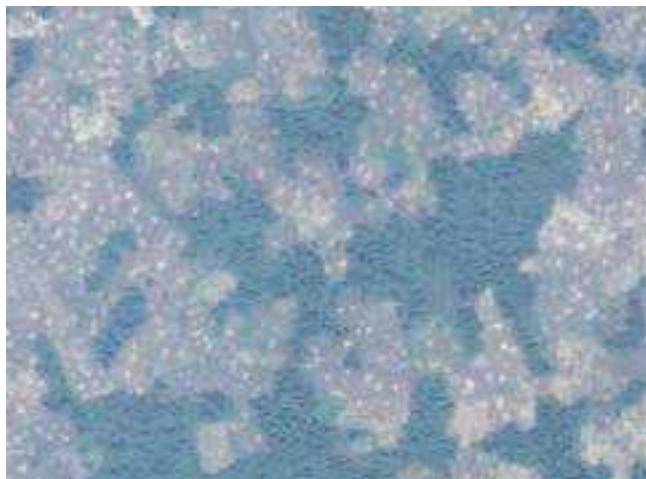
Same site as in photo 1 showing deforestation as by December 2016

SOURCE OF DATA: GEOGECKO

B



Site before deforestation in 2012



Same site showing level of deforestation in 2016

SOURCE OF DATA: GEOGECKO

source: Google Earth, accessed September, 2017

At an average growth rate of 3% per annum (2015 ACSR), deforestation is expected to rise or be stopped at a very high cost that the PAs may not be able to sustainably afford.

iii. Hard edge (Volcanoes NP)



Hard edge case in Rwanda

SOURCE OF DATA: GEOGECKO



Hard edge in Uganda

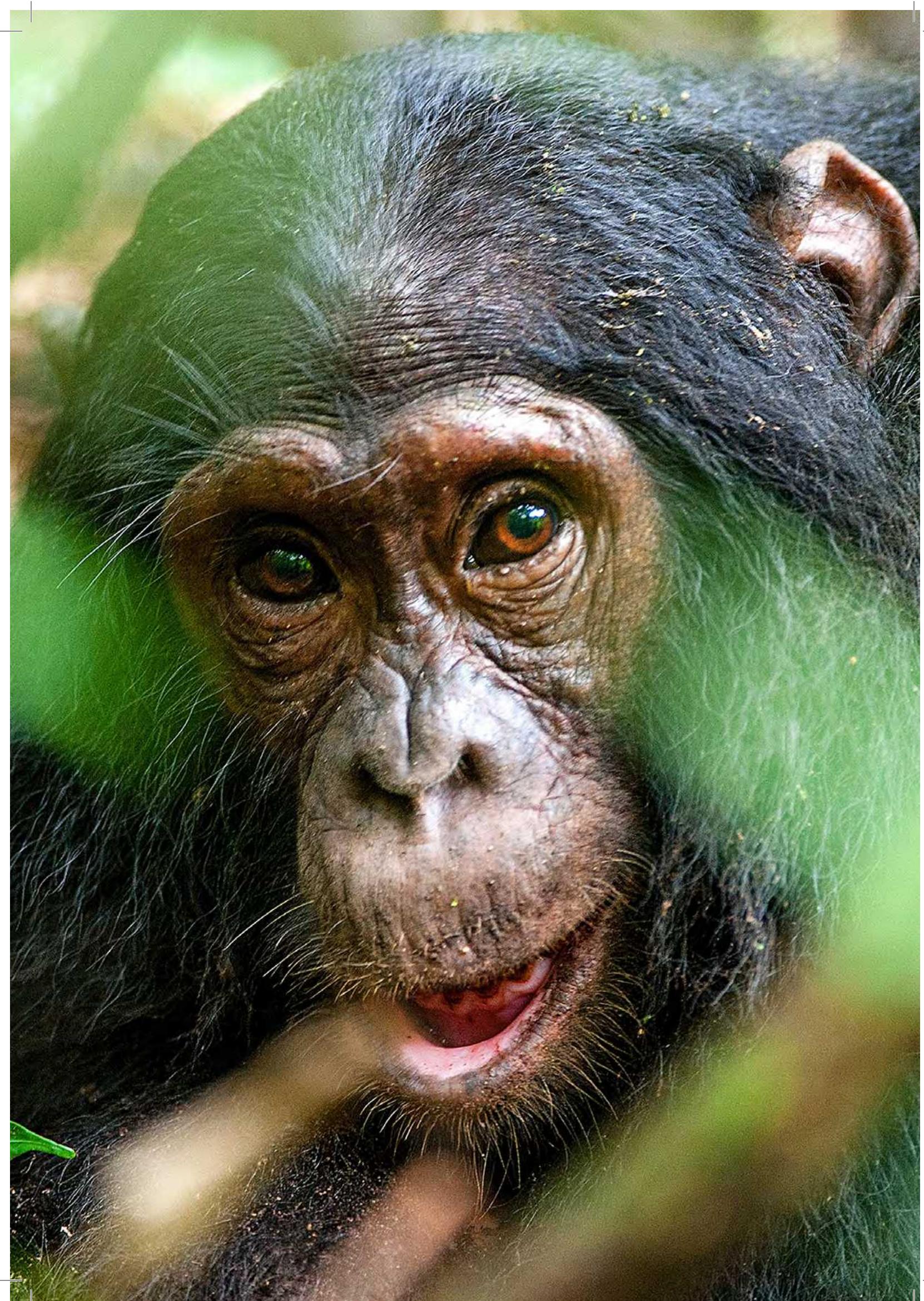
SOURCE OF DATA: GEOGECKO



Hard edge in DRC

SOURCE OF DATA: GEOGECKO

source: Google Earth, accessed September, 2017



The hard edges in all the party states are evidence that unless population growth rates are checked, the thin boundary that divides the park from the community will soon yield to population pressure and collapse, leading to poaching (expansion of agricultural activities) within the PAs or political pressure to reassign some parts of the PAs.

The state parties and their partners need to create awareness in frontline communities and to sensitize them so that they realize that the long-term worth of conserving the PAs by far outstrips the short-term income from poaching. It is widely believed that people will participate in conservation of the wildlife around them if it is in their own interests to do so. Populations should be shown ways to benefit from the conservation of PAs. For example, the GVL PAs attract tourists and this comes with associated economic ventures and employment as well as payments for ecosystem services that boost conservation efforts. By demonstrating the economic benefits of conservation, the community is more likely to support wildlife conservation and provide necessary support against poaching. Local communities will also add an important advocacy voice against wildlife poaching and trafficking, as they will be able to speak from own experience of the losing vital natural resources.



LIVELIHOODS AND DEPENDENCY

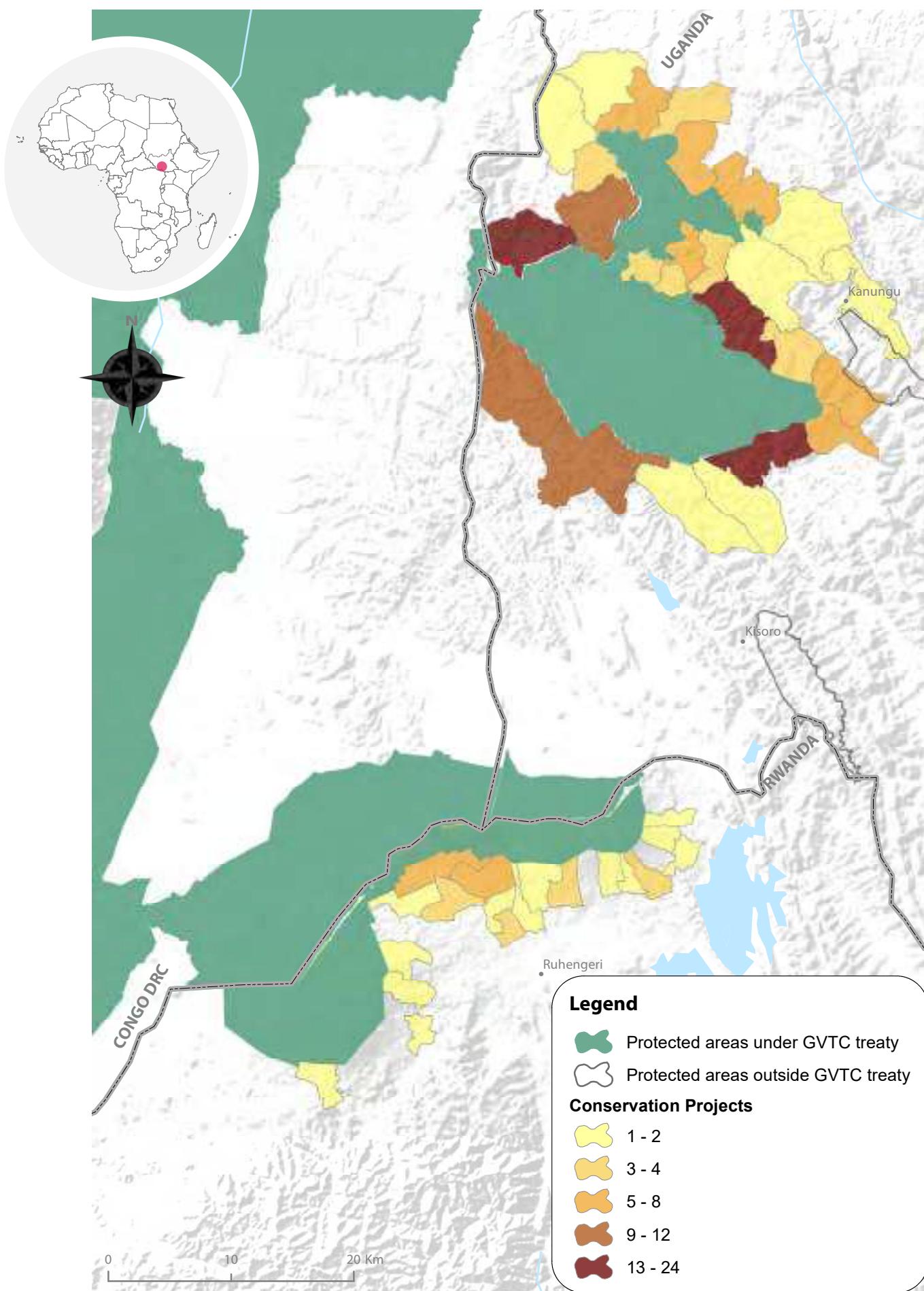
There are 5 to 24 conservation projects in each of the neighboring parishes and sectors around BINP in Uganda and VNP in Rwanda respectively

Taking a case study from conservation livelihood enterprise initiatives around BINP and VNP, it was learned that there are 5 to 24 conservation projects in each of the neighboring parishes and sectors around BINP in Uganda and VNP in Rwanda respectively (Figure 7). The key output of this was to produce a framework theory of change on what appears to be the most important elements of initiatives that aim to engage communities in the fight against poaching and wildlife crime. Interestingly, it was only in the pilot study area that a positive spatial correlation between 2016 poaching hotspots (figure 5) and the conservation livelihood enterprises was

observed. Therefore, increasing livelihood incentives reduces population dependency on poaching and wildlife crime. For example, community leaders from the pilot study areas, as confirmed by PA managers, agreed that benefits from tourism revenue sharing and provision of alternative livelihoods have incentivized their communities to fight poaching and wildlife crime with strong local-level law enforcement and participation. The PA managers from the pilot areas reported significant rise in intelligence reports and effective anti-poaching patrols from reformed poachers and other community-organized groups, who were incentivized through these conservation livelihood enterprises that require less energy than poaching.



FIGURE 7: CONSERVATION ENTERPRISE DISTRIBUTION IN THE GVL



Source of data: Institute of Tropical Forest Conservation, Volcanoes National Park, and Bwindi Conservation Trust
Map creation by Geo Gecko

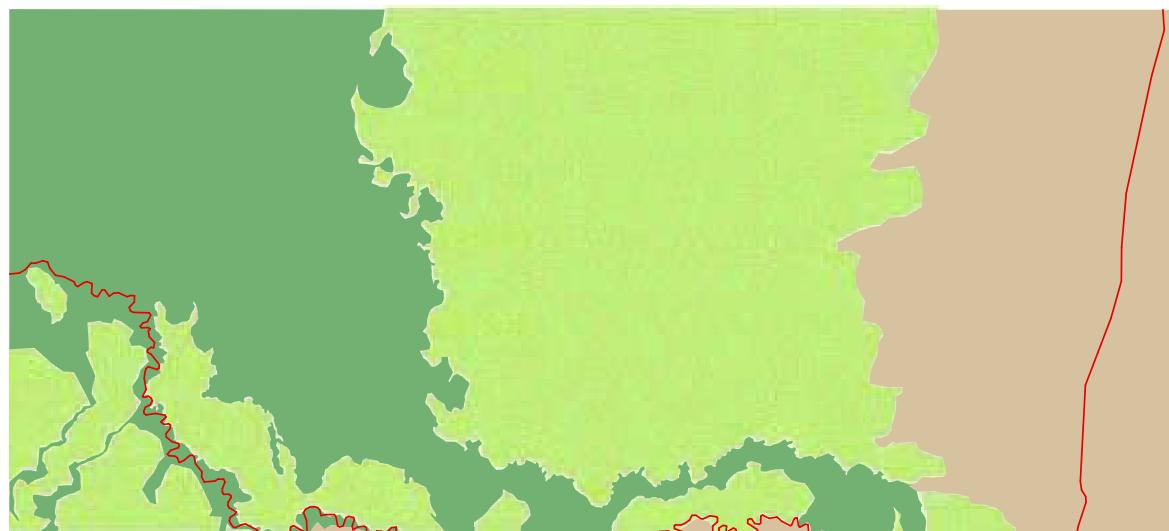
LAND USE CHANGES (OUTSIDE OF THE PROTECTED AREAS)

Changes to land use outside the PAs may lead to poaching, especially due to encroachment. Tracking deforestation from agriculture in figure 6, a land cover and land use change map series for 2006, 2010 and 2014 was analyzed to study how land use outside the park may contribute to deforestation. Results shown in figures 8, 9, and 10 illustrate that agricultural land from outside the park gradually extended into the park between 2006 and 2010, and this encroachment expanded very quickly from 2010 to 2014. The PA in this pilot case study was 31.35 square kilometers and intact in 2006. By 2014, the agricultural expansion had covered 26.61 square kilometers, a loss of 85% of the study area to agriculture. No expansion has been noticed from 2014 to 2016. Even if the 85% habitat loss were to be restored, it will take many years to bring this area back to its original state.

FIGURE 8: LAND USE MAP 2006



FIGURE 9: LAND USE MAP 2010

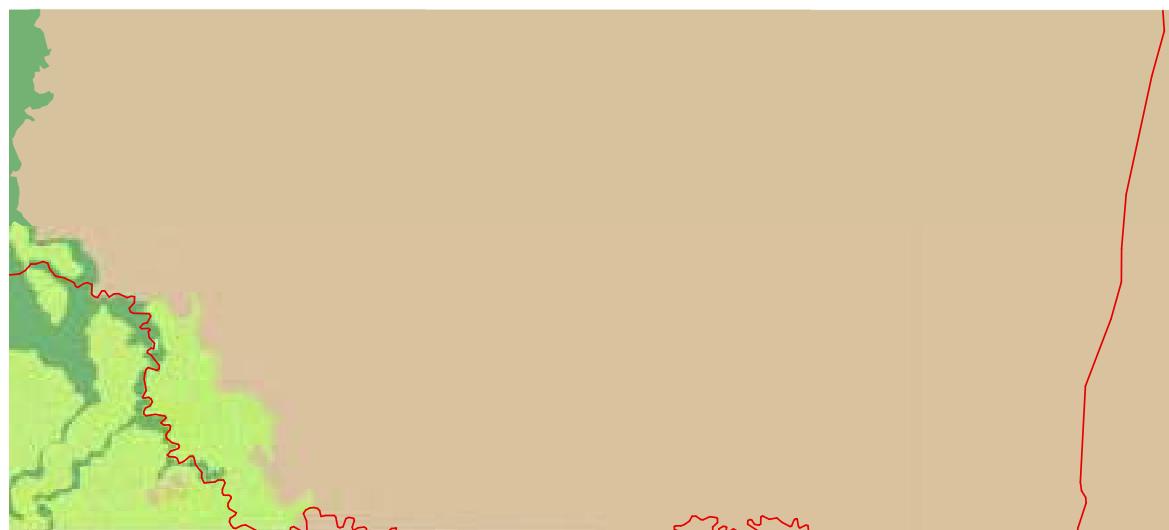


SOURCE OF DATA: GEOGECKO

Legend

- Protected area Boundary
- Forest
- Grassland
- Agriculture

FIGURE 10: LAND USE MAP 2014



SOURCE OF DATA: GEOGECKO

Legend

- Protected area Boundary
- Forest
- Grassland
- Agriculture

CONFLICTS INSIDE AND OUTSIDE THE PARKS

The impact of transboundary conflicts on poaching and wildlife crime, both inside and outside a park, is illustrated by a case study of the Allied Democratic Forces (ADF), an armed group that originated in Uganda and now resides in DRC. The second case study concerns a conflict between humans and wildlife and is about food insecurity. This case study is based on a study of natural resource conflicts in the GVL and was commissioned by GVTC in 2016.

Case study 1: Armed Militia of ADF

Civil society groups operating in GVL noted that in order to create a buffer against the ADF's use of the forest cover in Virunga National Park and to protect the towns from raids, the Beni community engaged in massive deforestation around Beni Town and in the northern part of the Virunga National Park. Using satellite imagery analysis, deforestation as a measure of poaching (habitat loss) was documented over time. Results show that between the years 2001 (when deforestation was first reported) and 2015 there was an accumulated habitat loss of 46% of the 127 square kilometers pilot study area (see figures 11 and 12).

FIGURE 11: BENI CONFLICT

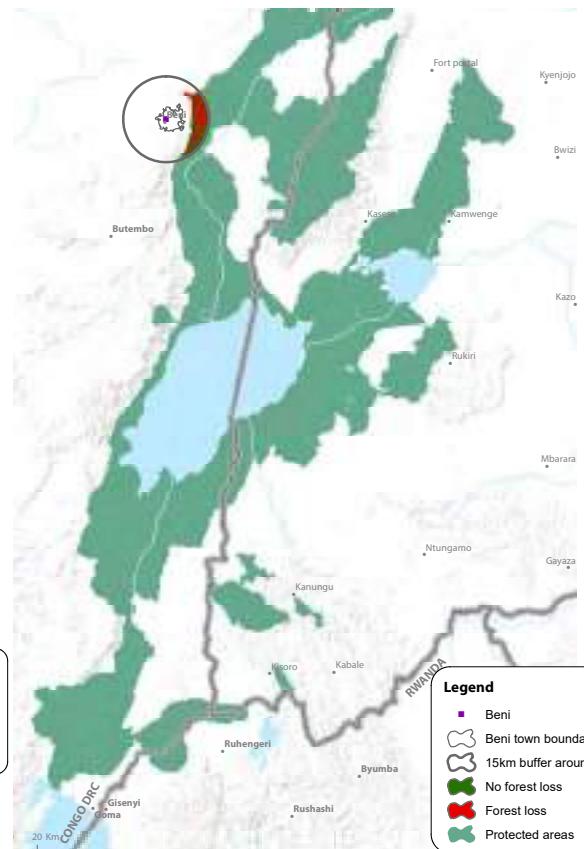
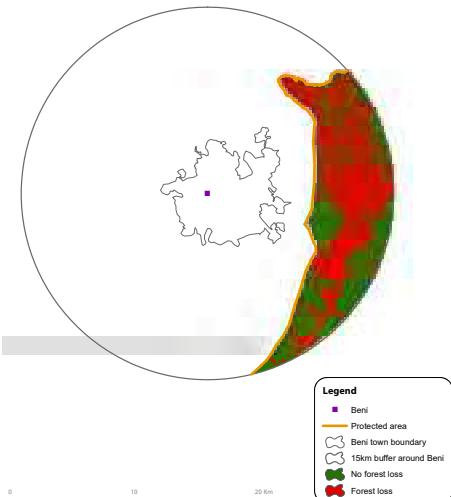


FIGURE 12: BENI CONFLICT MAP DETAIL



Source of data: Global Forest Watch
 Map creation by Geo Gecko

Case study 2: Human wildlife conflicts (HWC) and Food Insecurity

Though not well recorded and often hidden, conflicts between humans and wildlife are a well-known cause of retaliatory killing of wildlife. Such as the infamous case of a woman who killed a mountain gorilla that was feeding on her banana garden in BINP. Eilu et al (2017) in a study commissioned by GVTC to understand the causes of natural resource based conflicts in the GVL, revealed that crop raiding by wild animals from the GVL PAs resulted in a loss of USD 49 – 103 per household per annum and on average 0.75 acres of crop loss per household.³ Results show that 65% of the households

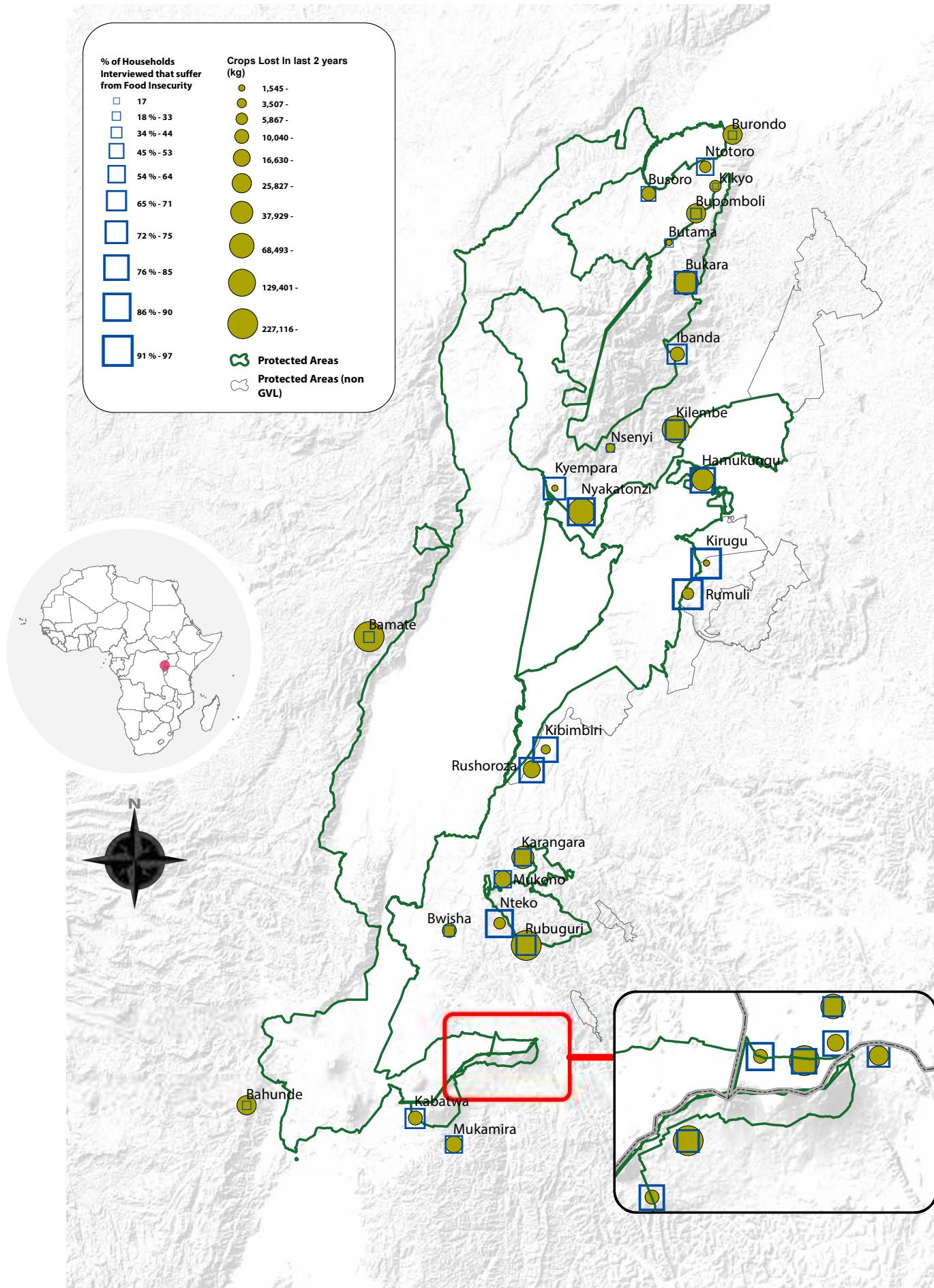
(n = 1,041 households) suffered food insecurity by losing 1,995,581 kilos of crop to crop raiding by wild animals from the PAs. The spread and extent of HWC and food insecurity was mapped and is expressed in figure 13. Using the data from this study, a map was produced (figure 13) which shows that HWC and associated food insecurity is widespread within the GVL. Although the study did not relate HWC and food insecurity to poaching and wildlife crime, it did reveal that 68% of the communities are dependent on natural resources. This implies that these communities are engaged in poaching and wildlife crime to compensate for losses resulting from crop raiding by wild animals.

The communities Crop raiding by wild animals from GVL PAs on community fields resulted in a loss of USD 49 – 103 per household per annum and on average 0.75 acres of crop loss per household. Results show that 65% of the households (n = 1,041 hh) suffered food insecurity losing 1,995,581 kilos of crop due to crop raiding by wild animals from the PAs.



³ Eilu, G. (2016). Baseline Survey of Conflict on Access to Natural Resources in the Greater Virunga Landscape. GVTC. Unpublished

FIGURE 13: GVL HWC AND FOOD INSECURITY LOCATIONS AND MAGNITUDE





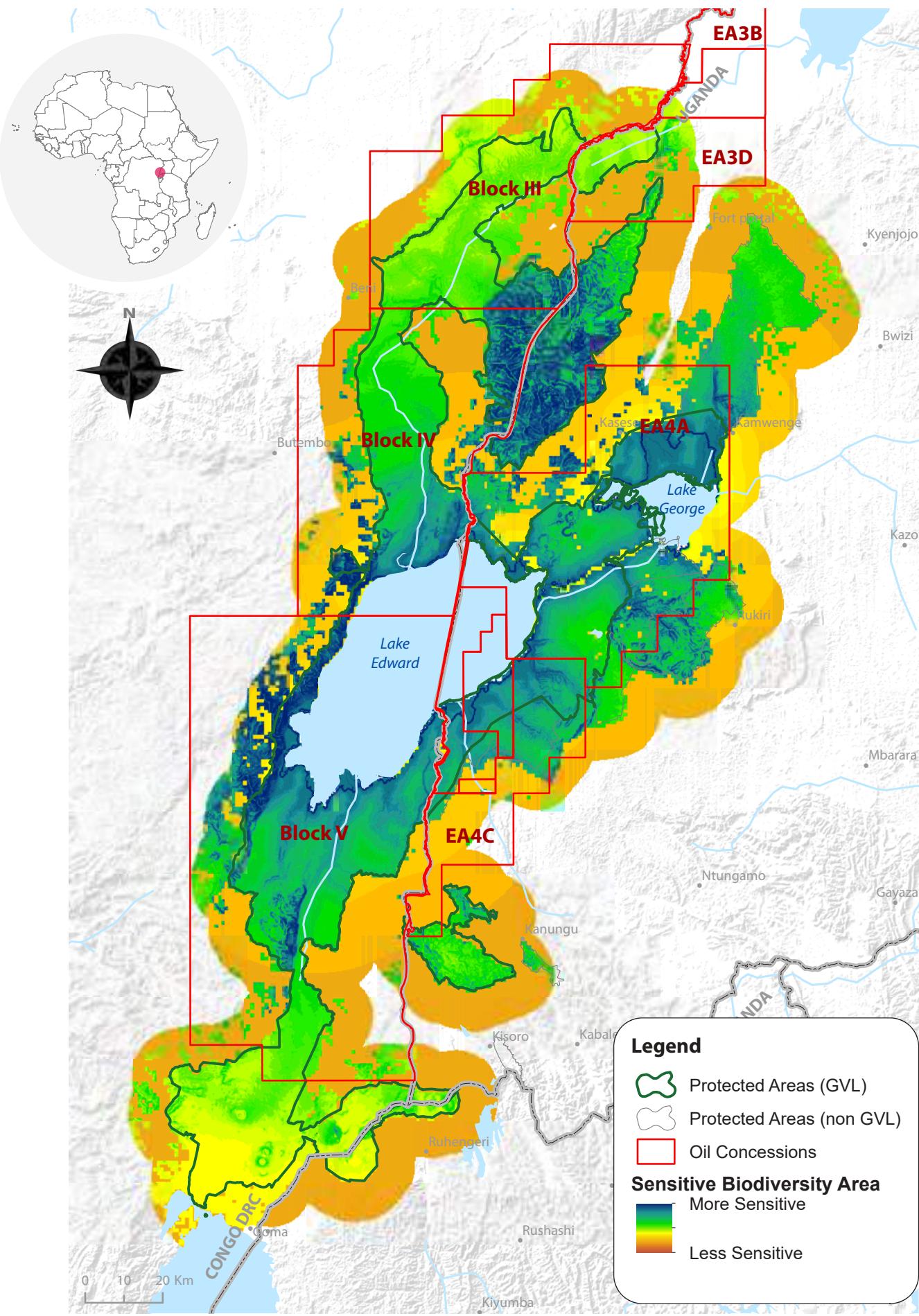
EXTRACTIVE INDUSTRIES

Oil extractive concessions cover almost the entire GVL. A GVL biodiversity sensitive map (figure 14) shows that while the most sensitive areas are around Lake Edward, in general the entire GVL is a bio-sensitive area.

Oil exploration has been conducted and is still ongoing in Uganda with a success factor of 80%. DRC has stopped oil exploration in VNP. However, if there is successful oil production in Uganda and if the proposed oil refinery becomes operational, there will be pressure for oil production in the VNP as well.

Accompanying oil exploration and extraction are roads that open pristine areas and bring an elevated risk of poaching and wildlife crime, as poachers can easily access PAs and transport their illegal items. The extractive industries also increase the human population within and outside the PAs, and bring in low level cadres who are likely to poach or stimulate poaching by creating demand for wild meat and forest products.

FIGURE 14: ECOLOGICAL SENSITIVITY MAP OF GVL



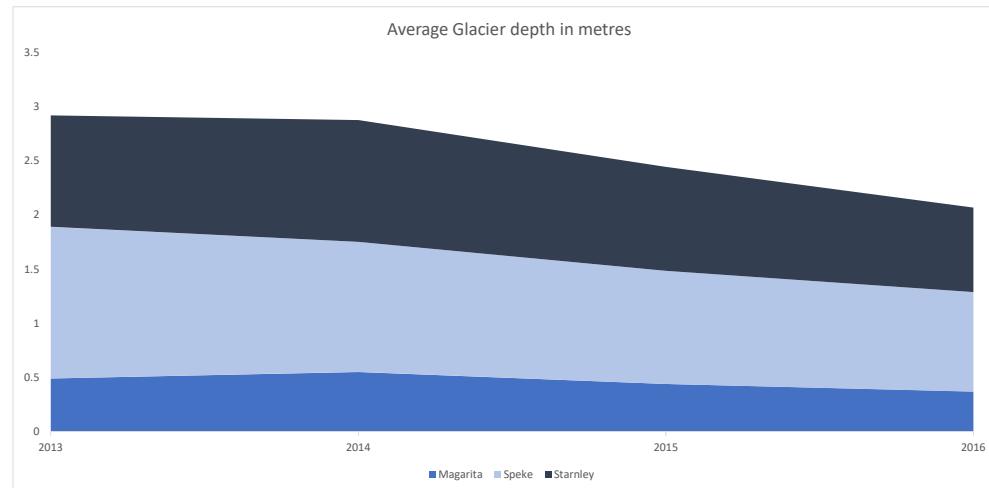
Source of Data: WCS/GVTC study oil impacts in GVL
Map creation by Geo Gecko



CLIMATE CHANGE AND NATURAL DISASTERS

Climate change influences poaching in numerous ways. Climate change may increase HWC if rising temperatures, droughts, and floods result in wildlife foraging outside the parks. Similarly, communities facing loss of water, crops, and fields enter the parks to collect water and forest products, and directly or indirectly contribute to poaching and wildlife crime. A current example is that of the glacier loss recorded by UWA over the last 4 years indicating a gradual decline in glaciers of the three peaks of Rwenzori Mountains (Figure 15 and Table 1) a sign of increasing temperatures that relates with probable climate change. This situation may be associated with the frequent floods that have hit this region and left homesteads destroyed and gardens washed away. It is most likely that such homesteads are likely to do poaching in the parks to get food and building poles.

FIGURE 15: MT. RWENZORI PEAKS GLACIER LOSS TRENDS



Source of Data: RBM data from Rwenzori National Park, UWA

TABLE 1: MT. RWENZORI GLACIER LOSS OVER TIME IN METERS

Name	2013	2014	2015	2016
Margherita	0.49	0.55	0.44	0.37
Speke	1.4	1.2	1.04	0.918
Stanley	1.02	1.12	0.95	0.78



TOGETHER WE CONSERVE OUR NATURAL HERITAGE

TRENDS: STATUS OF KEY SPECIES

MOUNTAIN GORILLAS



Mountain gorillas are endemic to and only found in the Greater Virunga Landscape in two isolated populations.

One of the direct threats to mountain gorillas is injury or death from wire or rope traps (snares) set by people in the forest to target duiker or other small antelope for wild meat or bush meat.

In 2016, at least 1,310 snares were discovered, destroyed, and recorded through by rangers in the transboundary Virunga Massif and Bwindi Impenetrable National Park . In 2016, one mountain gorilla is known to have been killed by a snare.

Habituated mountain gorilla groups and individuals were monitored routinely with demographic information such as known births, deaths, and interactions/transfers were recorded in all mountain gorilla parks. The results from the 2015/2016 survey of mountain gorillas, select large mammals and illegal activities in the Virunga Massif are forthcoming.

The field work for the survey of mountain gorillas, select large mammals and illegal activities in Bwindi Impenetrable National Park, and if possible, adjacent Sarambwe Nature Reserve is expected in 2018.



ELEPHANTS



The elephant population trends estimates are made every two years when a big mammal census is jointly carried out in the GVL by ICCN and UWA with support from WCS in the GVTC framework. The last census was conducted in 2015 and results are expected to be published by late 2017 and therefore will be published in the 2017 ACSR. The big mammal census, which is conducted in the savannah parks (part of VNP and QENP), is supplemented by abundance estimates made through a consortium of partners coordinated by IGCP in the GVTC framework as well. The elephant population trends in the Virunga massif are also expected to be published by late 2017 and will be included in the 2017 report. This leaves a gap for accounting for the elephants in the Northern part of GVL that covers Semuliki National Park, Rwenzori National Park and the Northern sector, especially the mountainous and forested part of the VNP.





TRENDS: AREA UNDER CONSERVATION

About 95.5% of the total conservation area (960,079 ha) in the GVL is World Heritage Site (WHS) (VNP, BINP and RNP). Results from satellite image analysis from 2001 to 2015 show widespread deforestation in the WHS except for BINP (figure 18) which covers 5.9% (56,790 ha) of the total area (figure 18). VNP has remained on the list of World Heritage in Danger for the last two decades because poaching through deforestation undermines criteria X of the WHS (Box 2).

Working together in the GVL, key conservation efforts have resulted in declining deforestation rates within PAs (figure 16) and outside the PAs (within 15 kilometer buffer zone [figure 17]), and is the main reason for convincing the World Heritage Committee to keep VNP on the list of World Heritage in Danger.

Box 2: World Heritage Committee criteria x (10) for selection of WHS

“To contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation. The protection, management, authenticity and integrity of properties are also important considerations”

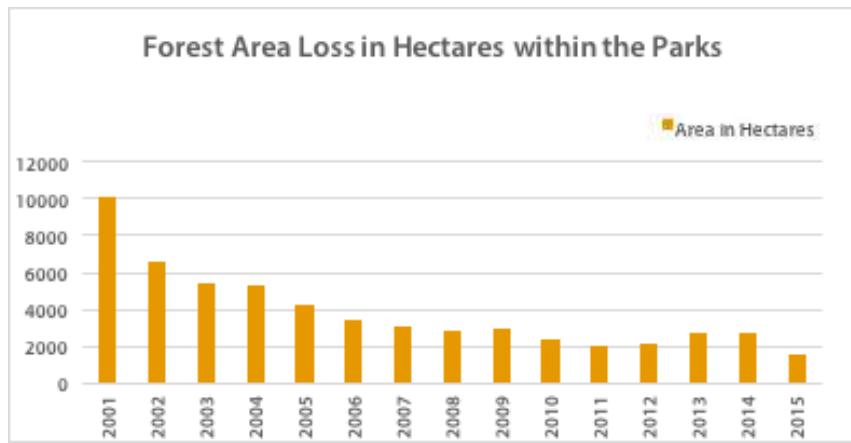


FIGURE 16: GVL DEFORESTATION TRENDS WITHIN PAs FROM 2001 TO 2015

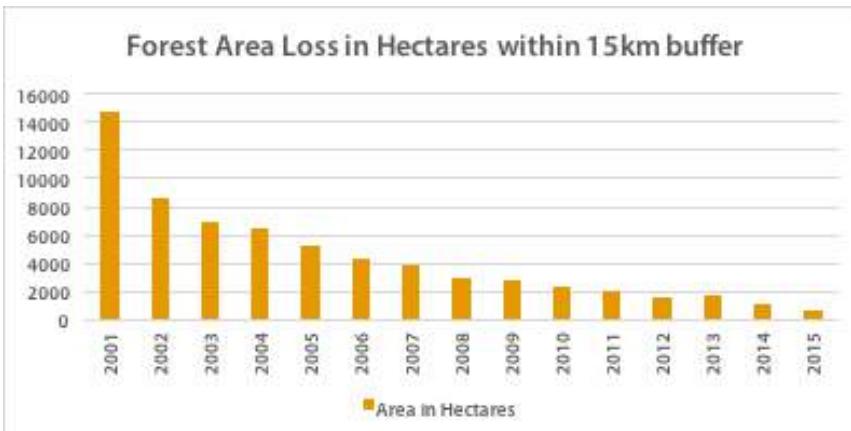
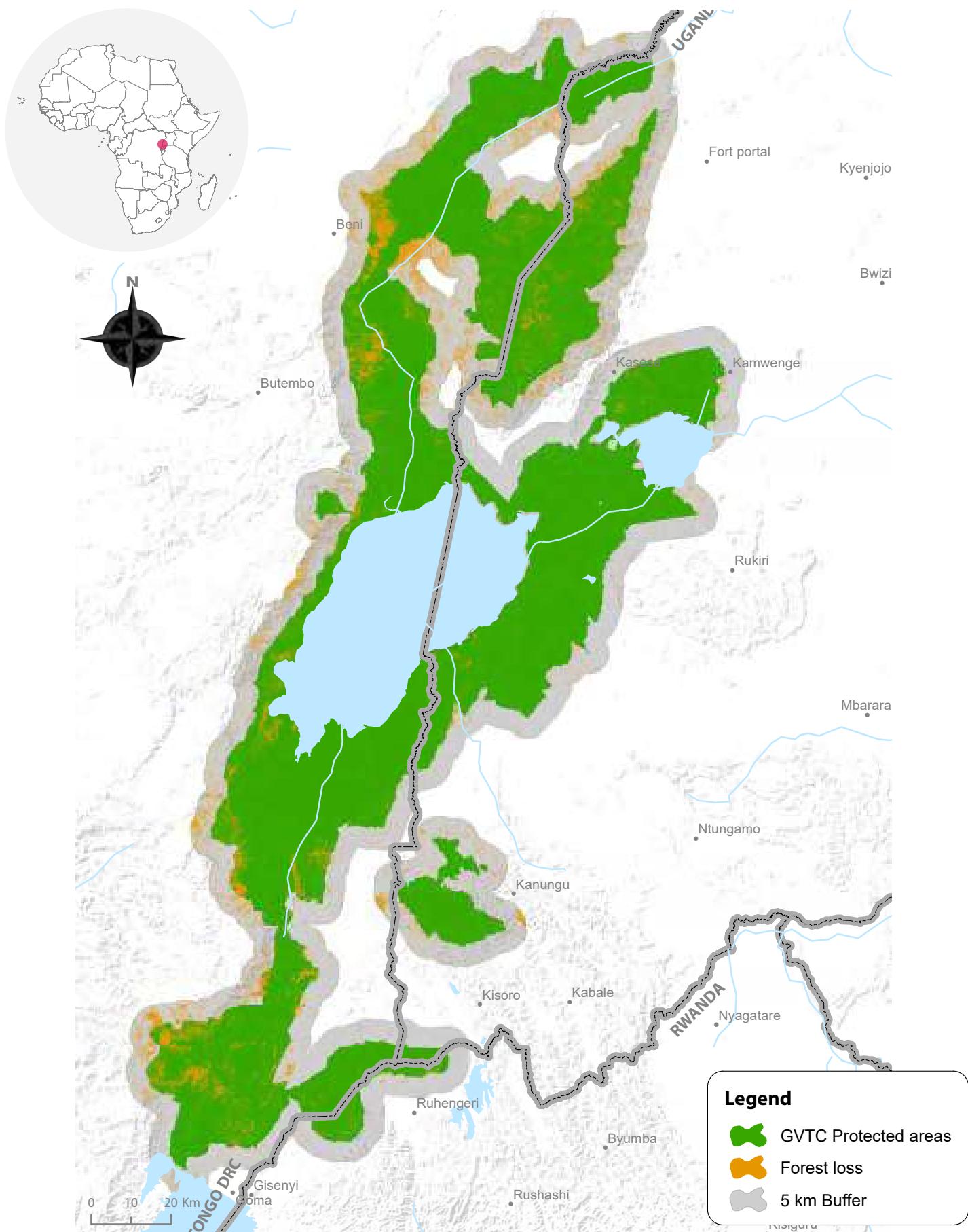


FIGURE 17: GVL DEFORESTATION TRENDS WITHIN A 15 KM BUFFER FROM 2001 TO 2015

FIGURE 18: GVL 2016 DEFORESTATION MAP



Source of Data: Global Forest Watch
Map creation by Geo Gecko

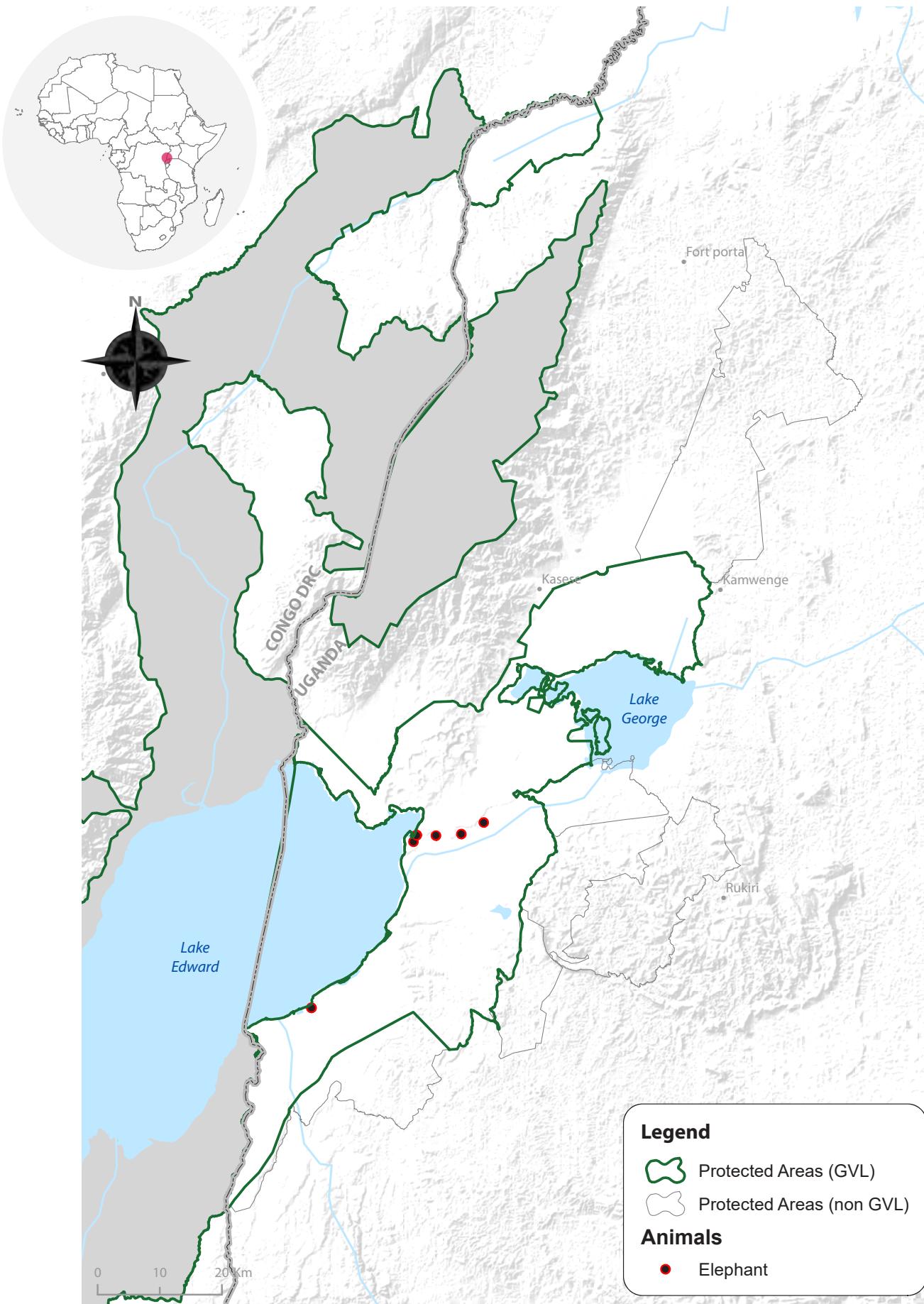
TRENDS: ILLEGAL WILDLIFE TRADE AND POACHING

POACHING

In 2016, QENP in the GVL prosecuted 282 suspects involved in poaching, of which 82% (232) were convicted. Five of the convicted poachers were dealers in ivory. In the same period under review, 11 elephant carcasses were recorded of which 6 died out of poaching. In the Gorilla parks, 65 carcasses of mammals were recorded of which two (2) gorillas suffered natural death while one (1) was caught up by a snare. The geographical spread of the carcasses is shown in figures 20 and 21 respectively. The number of elephant carcasses, recorded in 2016, was half the annual average in the last five years. These results of prosecution and halving the number of detected carcasses shows good results and illustrates the effectiveness of combined efforts in combating poaching.

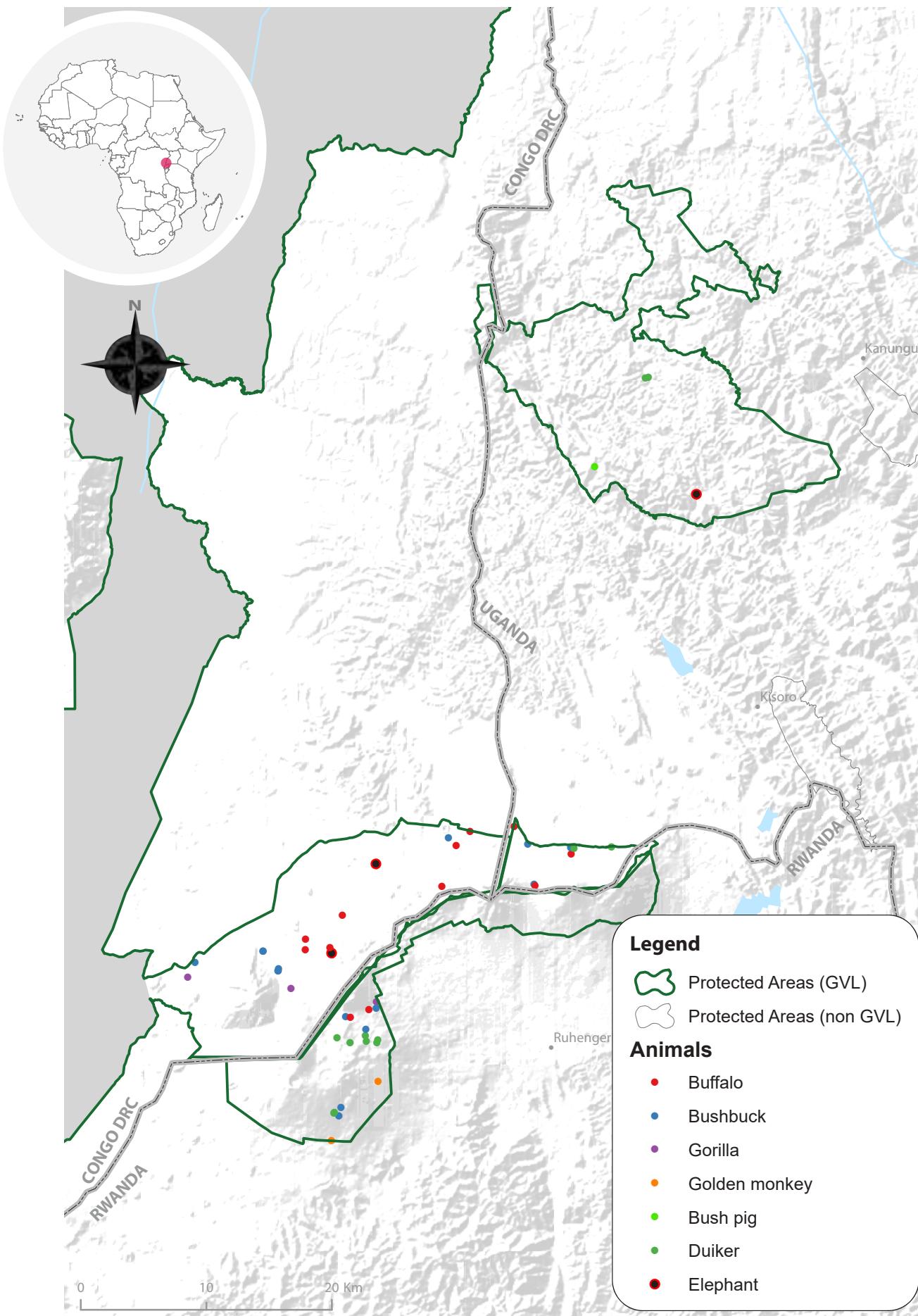


FIGURE 19: DISTRIBUTION MAP SHOWING ANIMAL CARCASSES IN QENP SIGHTED IN 2016



Source of data: RBM from QENP, UWA
Map creation by Geo Gecko

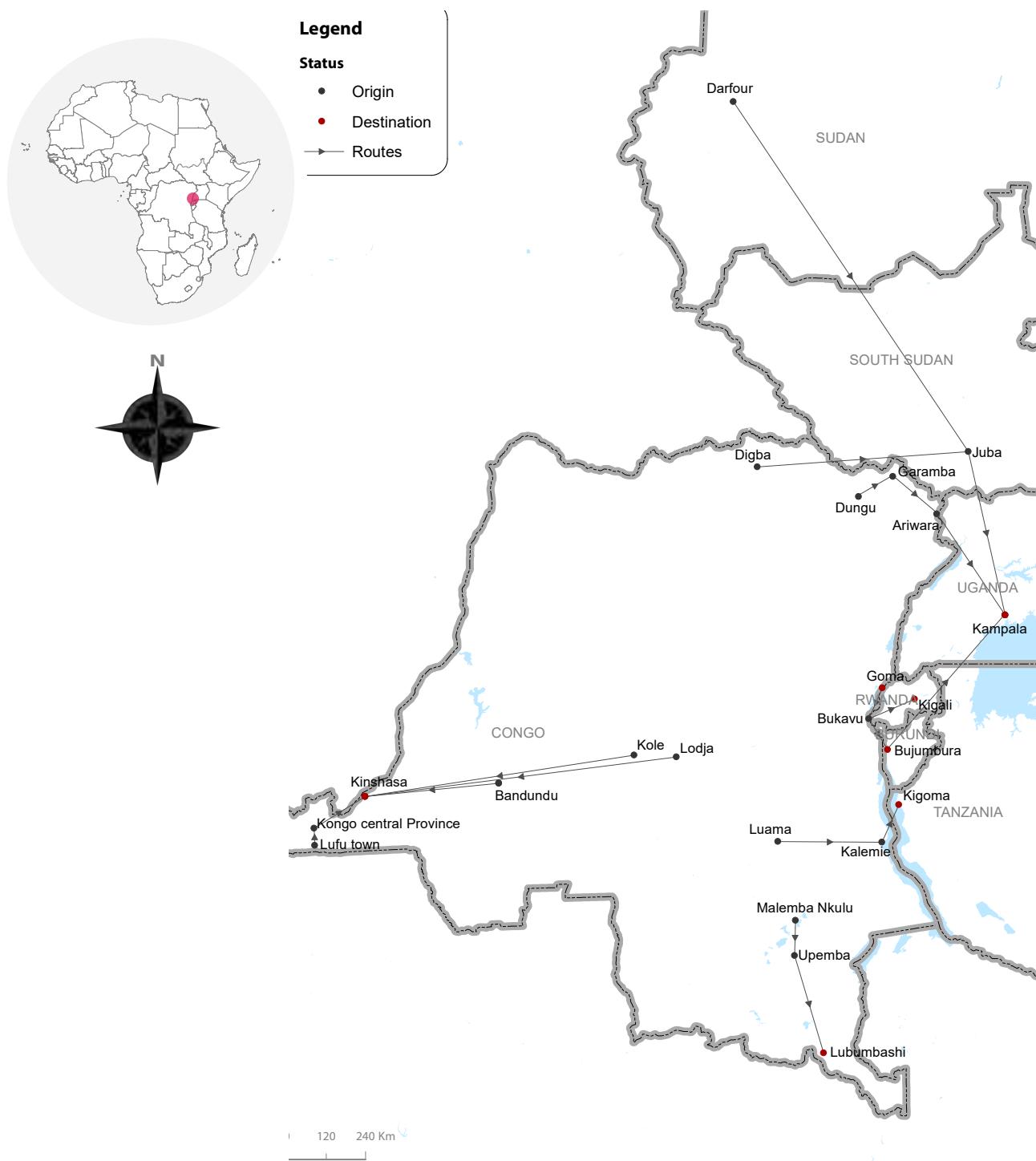
FIGURE 20: DISTRIBUTION MAP SHOWING ANIMAL CARCASSES IN VIRUNGA MASSIF AND BINP SIGHTED IN 2016



WILDLIFE TRADE

As was the case in the baseline 2015 ACSR, Uganda continued to be the main traffic transit route for wildlife trade in fauna and flora. The main routes that feed into Uganda are mainly from South Sudan and Burundi (figure 22). However, ivory confiscated in Kampala in 2016 dropped to 389 kilograms compared to 2,813 kilograms of 2015.

FIGURE 21: MAIN TRAFFICKING ROUTES IN THE GVTC PARTY STATES

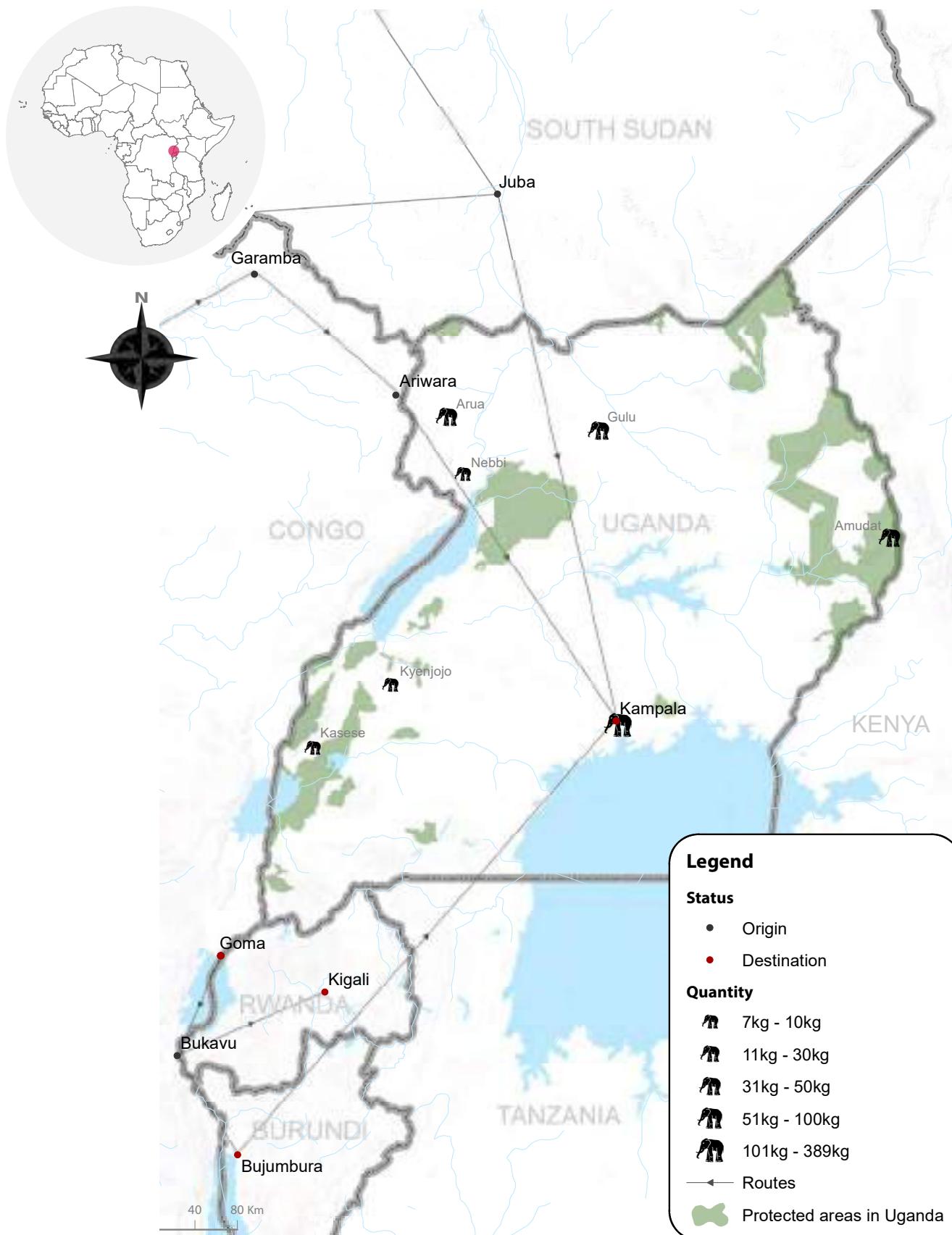


Source of data: RBM from ICCN, RDB, and UWA
Map creation by Geo Gecko



WORKING TOGETHER TO FIGHT POACHING AND WILDLIFE CRIME IN GREATER VIRUNGA LANDSCAPE
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FIGURE 22: MAJOR TRAFFIC ROUTES THAT CONNECT TO KAMPALA/ENTEBBE IN UGANDA

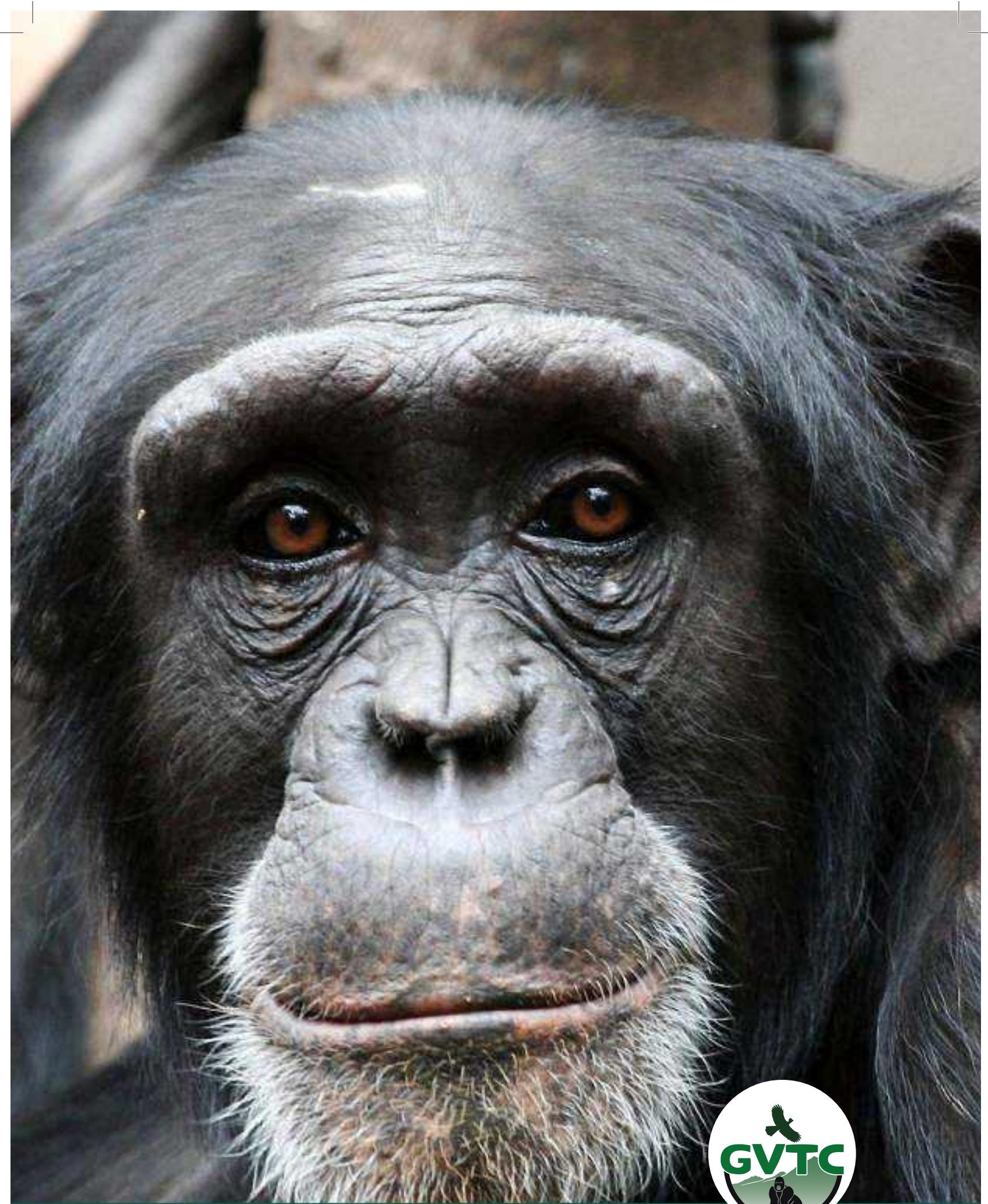


WAY FORWARD

The 2016 ACSR has demonstrated that collective efforts through law enforcement have posted good anti-poaching and wildlife crime results. There is need to maintain and sustain state parties and their partners' collective law enforcement efforts to raid GVL of poaching and wildlife crime that result in wildlife loss and habitat degradation. The role of GVTC-ES in coordination, mediation, brokering, information gathering and sharing for adaptive management through the ACSR and other media is imperative to ensure that "*Working Together to Fight Poaching and Wildlife Crime in Greater Virunga Landscape*" leads to improved conservation and inclusive growth.

The subsequent reports will focus and detail success stories of key improved conservation indicators, with the 2017 ACSR focusing on trends of key conservation species in GVL.





GREATER VIRUNGA
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