GREATER VIRUNGA
TRANSBOUNDARY COLLABORATION

# CONSERVING FLAGSHIP SPECIES: A CATALYST FOR IMPROVED PROTECTED AREA MANAGEMENT AND INCLUSIVE GROWTH IN THE GREATER VIRUNGA LANDSCAPE

## ANNUAL CONSERVATION STATUS REPORT 2017

Three Countries, One Landscape

## About GVTC and its Role in the conservation of GVL flagship species

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 2017 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 2017 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 enough 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. By working together and taking stock of the effects in the 2017 ACSR, we have seen success in the fight against poaching and wildlife crime and improved conservation in the Greater Virunga Landscape[1].


[1] ©2019 Greater Virunga Transboundary Collaboration

<Citation> Greater Virunga Transboundary Collaboration Annual Conservation Status Report 2017

## Foreword

The Greater Virunga transboundary Collaboration (GVTC) presents to you yet another edition of the series of Annual conservation Status reports. 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 wildlife and fauna such as the mountain gorilla, elephants, and chimpanzee as well as birds and plants, we wish to bring to you, in this 2017 ACSR edition the collective effort of the state and non-state parties in conserving flagship species as a catalyst for improved protected area management and inclusive growth in the GVL.

The theme of the third ACSR 2017 edition "Conserving Flagship Species 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 2017 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. Andrew Seguya

The Executive Secretary

Greater Virunga Transboundary Collaboration Executive Secretariat

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## Collaborative efforts in Recovery of flagship species; status of the population and habitat in Greater Virunga Landscape

The Greater Virunga Landscape (GVL) is a network of Protected areas that straddles the boundaries, in the central Albertine rift, of Democratic Republic of Congo (DRC), Rwanda and Uganda managed all together under a transboundary framework set up by the three partner states under the Greater Virunga Transboundary Collaboration (GVTC) Treaty.

The 2017 Annual Conservation Status Report is the third in series and will mainly measure the success in the conservation of GVL flagship species through the collaborative efforts of the Partner States and their non state partners unlike the first publication in 2015 which put together the baseline information on four conservation indicators agreed by partners as the measure of success for conservation and tourism development while the 2016 focused on the collective measures of success against poaching and wildlife crime.

The GVL has seven protected areas (PAs), namely the Semuliki National Park, Rwenzori Mountains National Park, Queen Elizabeth National Park, Bwindi Impenetrable National Park and Mgahinga Gorilla National Park in Uganda, Volcanoes National Park in Rwanda with their backbone of Virunga National Park in DRC plus Sarambwe Game Reserve in DRC. These PAs are of international significance and include three World heritage sites, a Ramsar sites, two Man and Biosphere reserves and Important Bird Areas and are a host of threatened and migratory species including lions, hippopotamus, chimpanzees, golden monkey, leopards, Okapi, golden cats, crowned eagles, buffaloes, lesser flamingoes, vultures, Rwenzori duikers, sitatunga, mountain gorillas, and elephants.

Successful conservation of GVL requires the Partner States and their non state partners, collaboratively measure the status /trends of the species in GVL. Given the diverse nature of GVL, it would take tremendous effort in time, human and financial resources to measure the trends of each of the species in GVL. Learning from the United Nations Convention of Biodiversity (CBD) indicators, the GVL partners selected some key representative species, here in referred as "***Flagship Species***" whose successful measure of population trends would be a success representative of changes in biodiversity and relative effective measure to maintain the biodiversity of GVL.

The GVL Partners key stakeholders, sitting in Entebbe, Uganda, in January 2015, selected Elephants and Mountain Gorillas as the GVL flagship species based on the long term monitoring good data. Elephants are also the flagship species of CITES[2], the treaty regulating the international trade of endangered species while the Mountain Gorillas are a flagship

[2] https://howtoconserve.org/2016/05/06/conservation-success-stories-flagship-species/

species of the Virunga[3] because of the dedicated conservation initiatives to recover the species from decline in numbers. After a dramatic decline in numbers following their scientific discovery in 1902, dedicated conservation initiatives have ensured that mountain gorilla numbers are now slowly increasing

In addition, Hippos were chosen but not included in the baseline report because there was no good data then. The 2017 ACSR has considered Hippos because since then, there has been efforts to collect good data on this species.

A flagship species is a species selected to act as an ambassador, icon or symbol for a defined habitat, issue, campaign or environmental cause[4]. By focusing on, and achieving conservation of that species, the status of many other species which share its habitat or are vulnerable to the same threats - may also be improved. Flag ship species are usually relatively large, and considered to be 'charismatic'.

***"A flagship species acts as an ambassador for a defined habitat whose conservation success represents the conservation success of other many species that share the same habitat or Vulnerable to the same threats. The flagship species of GVL are Elephants, Mountain Gorillas and Hippos"***

The Elephants are distributed through the entire GVL, however, because some parts of GVL are forested, sufficient data is available and limited to the Savanah parts of Virunga National Park that are contagious with the Savanah parts of Queen Elizabeth National park thus making it one Elephant Habitat (Figure 1). Therefore, the Savanah elephants are the flagship species considered under the 2017 ACSR consideration.

On the other hand, the mountain gorillas have their ecological habitat limited to mountain forests of Bwindi Impenetrable National Park and Virunga Massif that comprise of Mikeno Sector of Virunga National Park, Volcanoes National Park and Mgahinga Gorilla National Park. The Hippos are mainly found along the shores of Lake Edward and the connecting rivers of Ishasha and Kazinga channel that connects Lake Edward to Lake George (figure 1).

[3] http://wwf.panda.org/knowledge_hub/endangered_species/great_apes/gorillas/mountain_gorilla/

[4] http://wwf.panda.org/our_work/wildlife/flagship_keystone_indicator_definition/

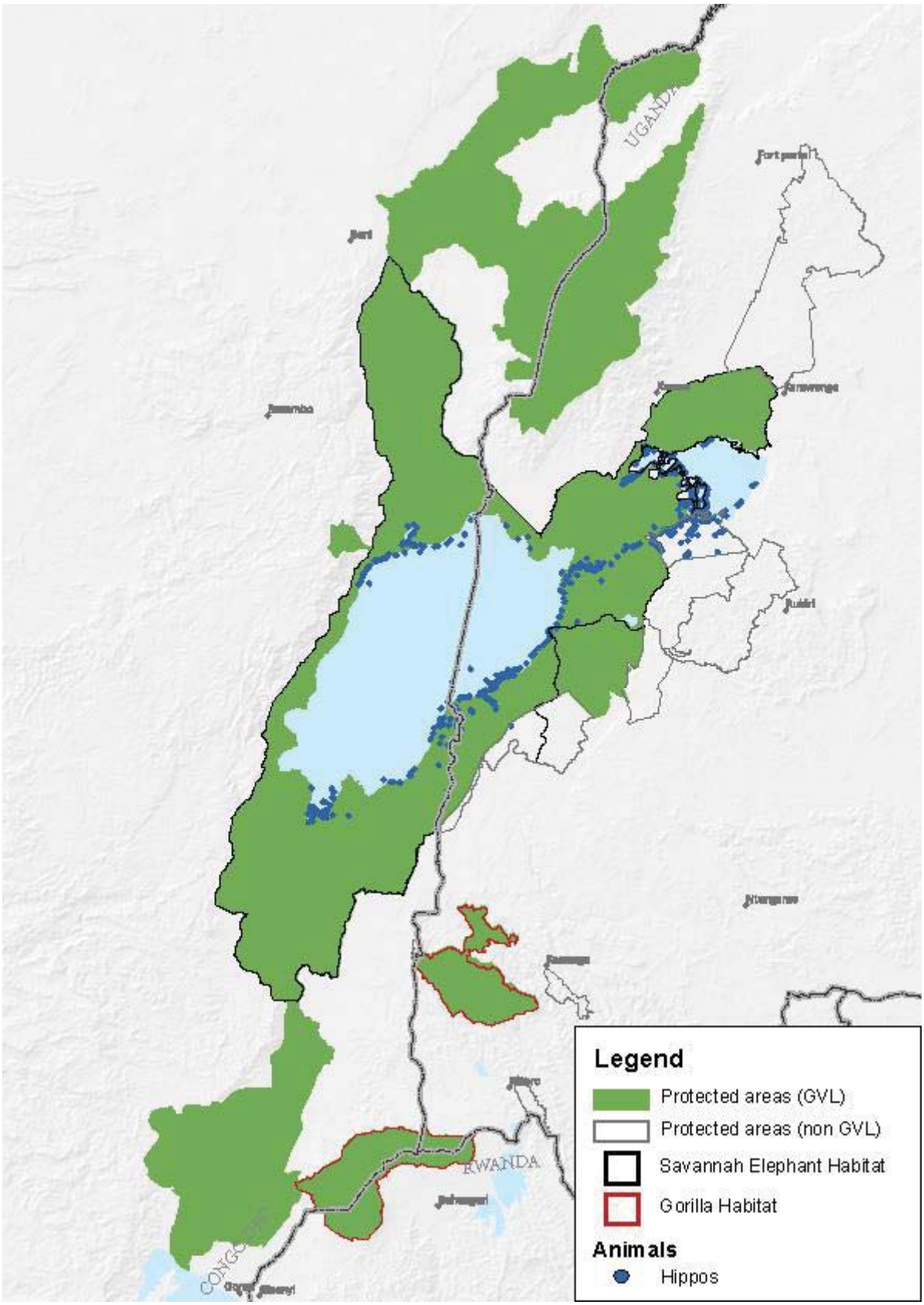
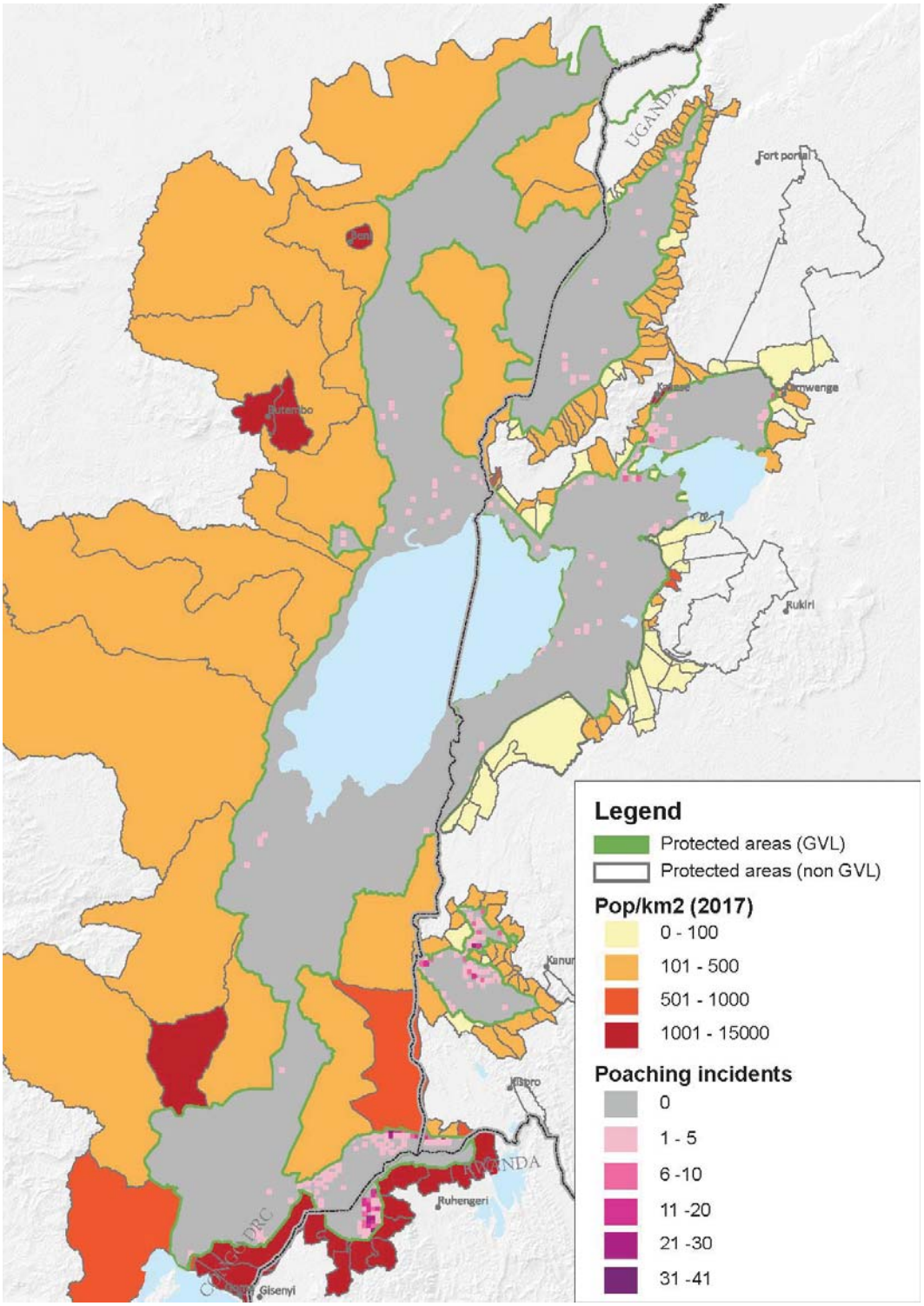

UGANDA
RWANDA
Legend
Protected areas (GVL)
Protected areas (non GVL)
Savannah Elephant Habitat
Gorilla Habitat
Animals
Hippos

*Figure 1*

## Dynamic Challenges in Conservation of GVL flagship species

### An Increasing Population

*Figure 2:*



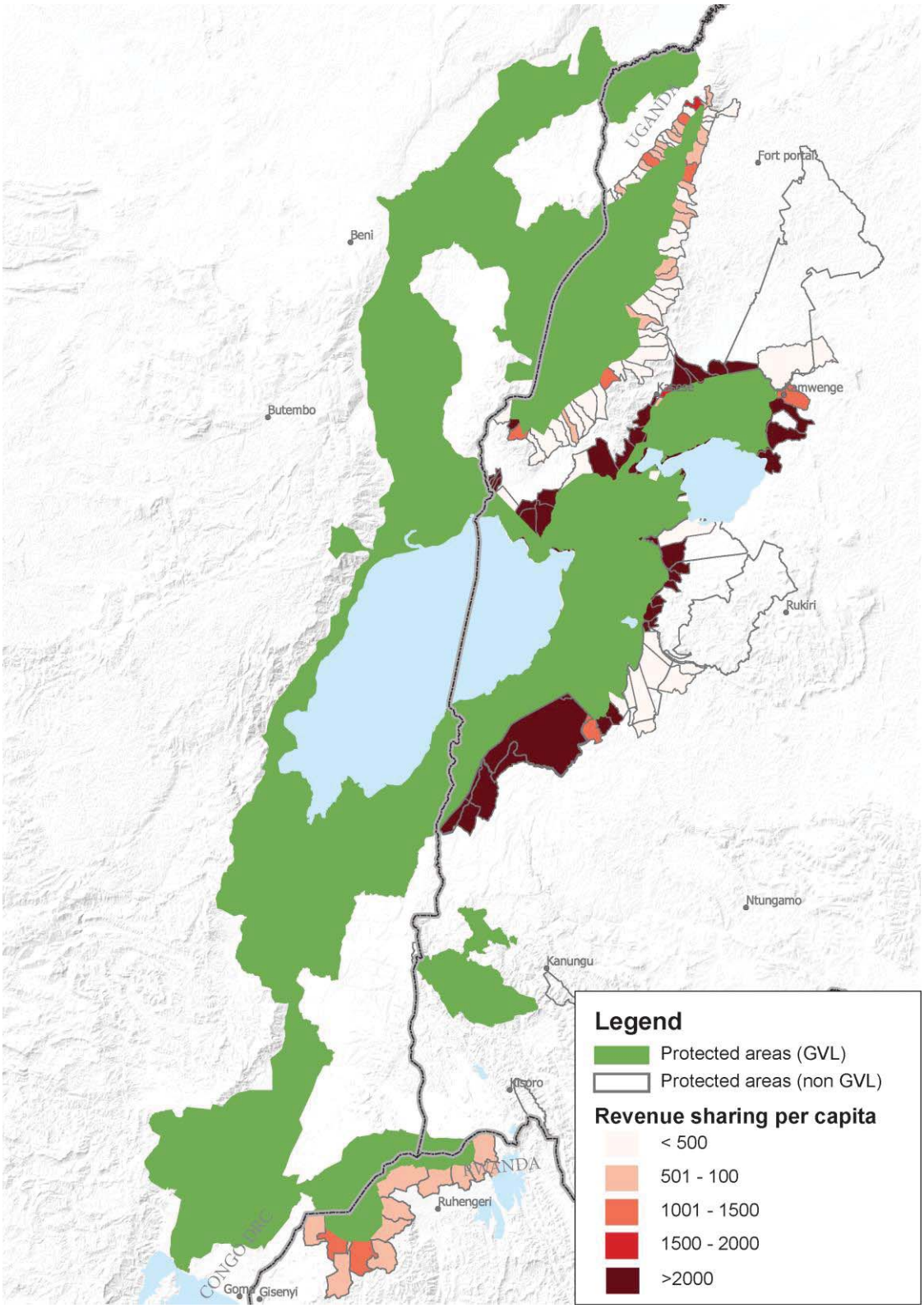
Since the first ACSR publication of 2015, no other national census has taken place in any of the GVTC State Parties. Aware that the population growth was reported then at an average of 3% per annum, there is no doubt that there is population increase in the region. However, the human movement and migration have kept dynamic since then till 2017 being influenced by high dependence of the PA adjacent communities on natural resources, the sporadic armed conflicts in some parts of Virunga that has led to internal displacement and refuges and the search for more land for agriculture. It follows that this population dynamic will continue to be the underlying cause of conflicts in the region, either between communities or between communities and wildlife or armed conflicts. The partner states under GVTC has put in place mechanisms that include policies like revenue sharing, compensation against wildlife damage or even area-based rules like forest resource use agreements to counter the effects of this population dynamic as will be illustrated in the subsequent sections of this report.

**Livelihoods and Dependency**

The conservation of flagship species is essential for the sustainable livelihood of the communities living in the parishes (Uganda), sectors (Rwanda) and groupments (DRC) administrative units adjacent to the GVL Protected Areas. The flagship species are part of the regions big five tourism attractions species of GVL. All the Partner states have got a revenue sharing policy with the neighboring communities based on the tourism revenues collected from the PA.

Using case study of revenue sharing of Volcanoes national Park representing gorilla habitat and Queen Elizabeth National Park representing Elephant and Hippo habitats, the revenue sharing per capita in the sectors and parishes (figure 3) was on average above X and Y respectively. The Protected Area Managers of the Pas in the case study PAs have reported increased support of the communities in the beneficiary communities towards the conservation of the flagship species that is attributed to revenue sharing.

*Figure 3: Revenue sharing*



## Land Use Changes (outside of the protected areas)

The land outside the Elephants, Mountain Gorillas and Hippos habitats is largely under intensive agriculture which has closed the migratory routes for flagship species. In some other cases, the communities have extended their agricultural activities inside the parks while in other instances, the animals have been attracted by the crops grown in the fields so close to the park edge. The flagship species are also caught up in conflicts arising from unclear national boundaries. As a result, there exists human wildlife conflicts expressed in form of encroachment and crop raids as seen in figure 4. The GVL has also has had armed conflicts that have also impacted on the conservation of species. Some of these armed conflicts have stayed long while others are sporadic and are on and off.

A close look has been taken at Bwindi Impenetrable National Park and Mgahinga Gorilla National Park where Mountain gorillas ranging outside the park has been monitored for quite some time. Results show that on average, gorillas ranged out of the park 10 times every month in Bwindi Impenetrable National Park (figure 5) and 5 times every month in Mgahinga Gorilla (figure 6).

The GVTC party states and their partners has responded to these human wild life conflicts by putting in place several measures, on a case by case basis, that include electric fences, Mauritius thorn hedges, stone walls, ditches while on the other hand the communities have responded by established of volunteer groups to chase the animals in a harms way or guard their crops from raids.

*Figure 5 and 6: infographics for crop raids in Bwindi and Mgahinga*

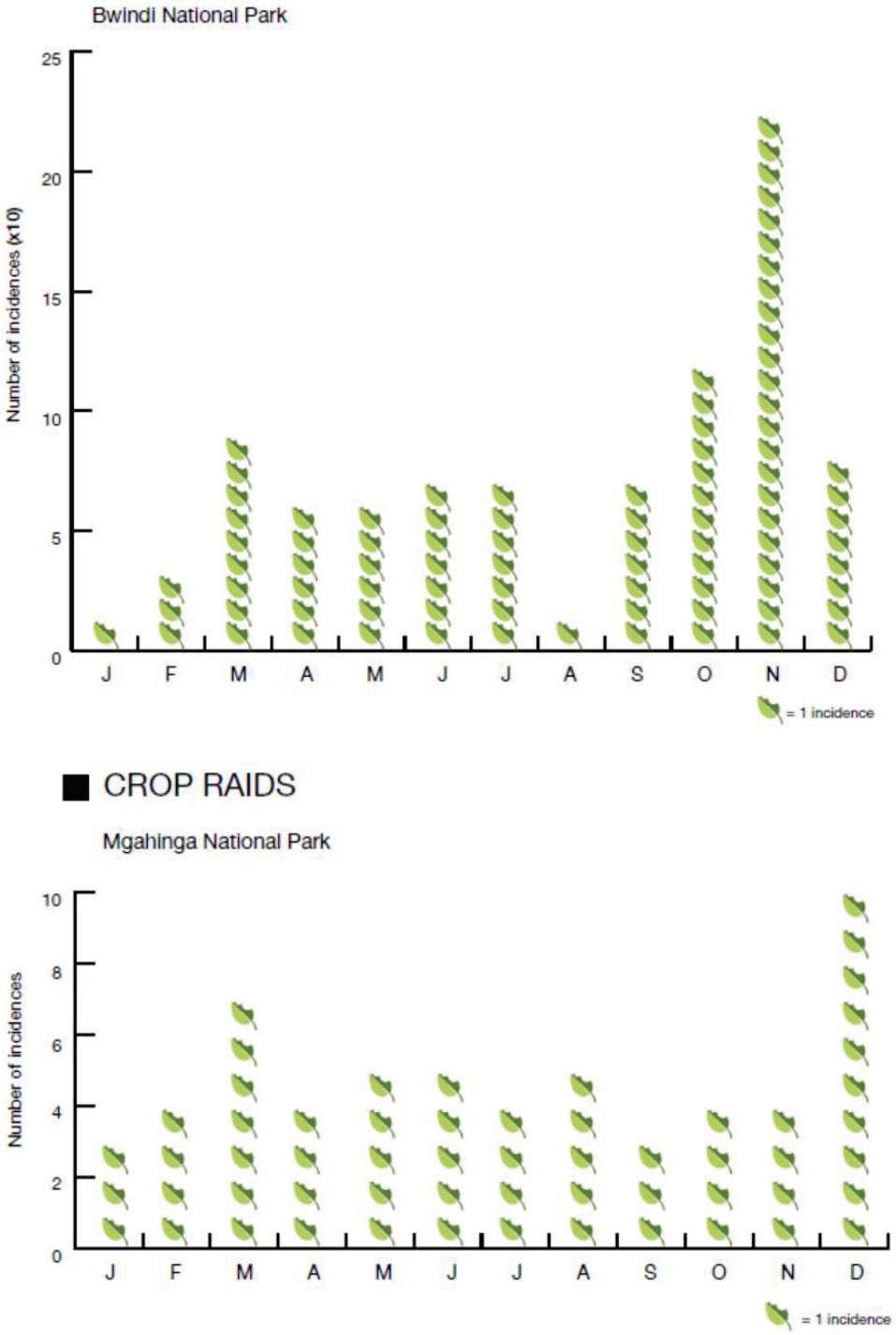
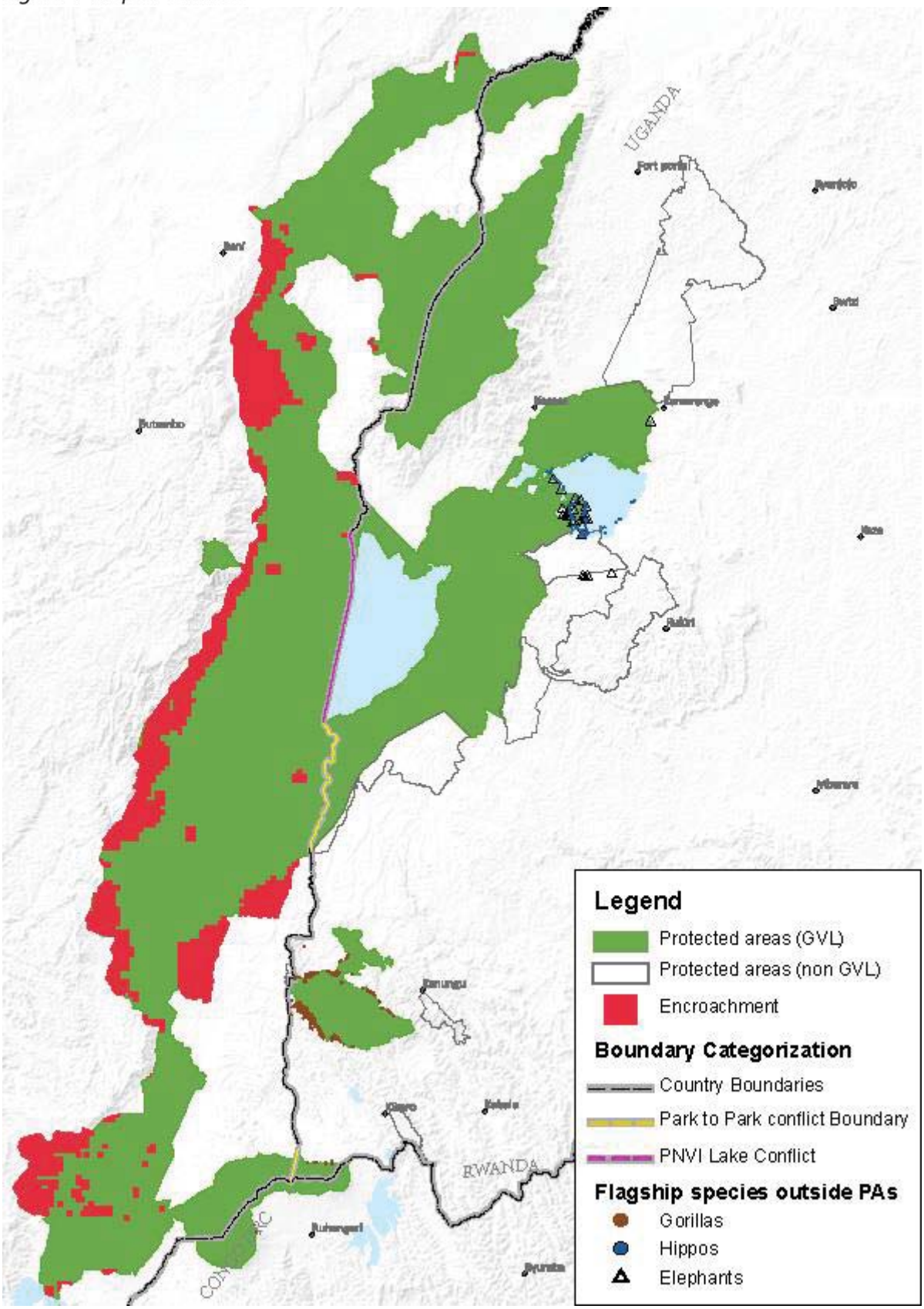
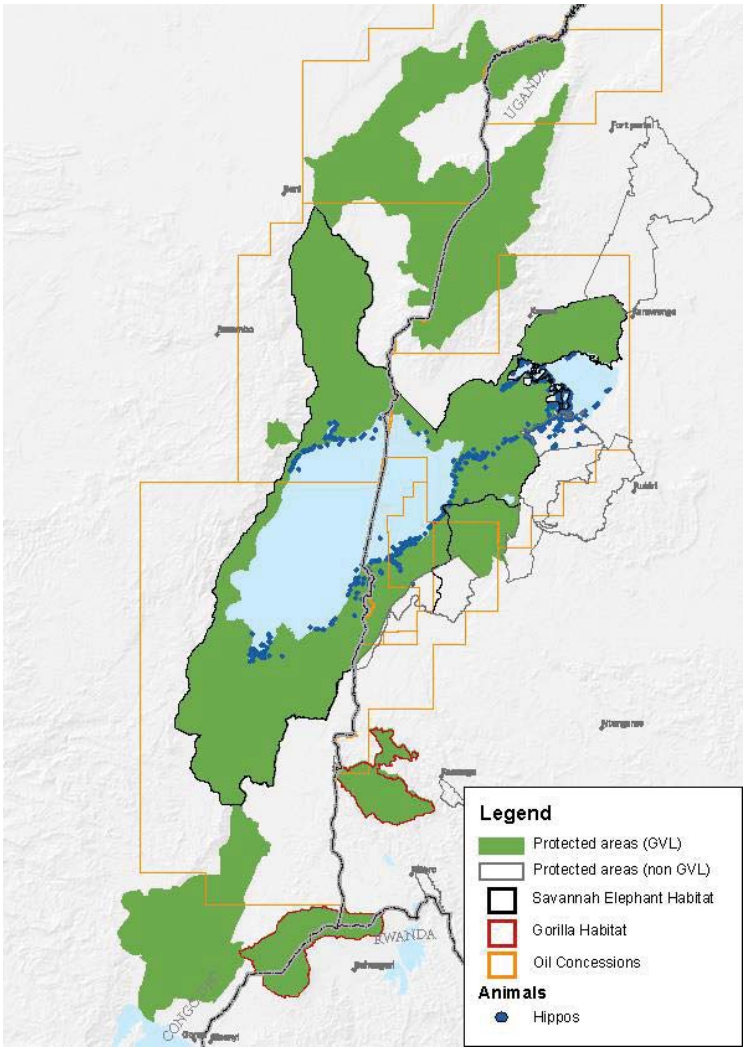


*Figure 4: Map of conflicts*



## Extractive Industries

There is no large-scale mining taking place in GVL, except artisanal mining mainly in Virunga NP and outside the PAs around QENP (limestone). In recent past, oil and gas were added on the list of potential minerals in the region. As a result, GVL was divided into several oil exploration blocks that cover a very large part of GVL Protected areas including world heritage sites (figure 9). Uganda has developed a policy on oil and gas exploration and concession licenses have been given out while no such policy exists in DRC. Studies commissioned by GVTC have shown that oil exploration and exploitation may have significant negative impacts on wildlife and their habitat and such impacts may transcend over international boundaries. Consequently, it is imperative that Strategic Environment assessments for oil exploration and exploitation should critically consider the transboundary accumulated effects. Through GVTC collaboration, the harmonization of policies was initiated during the year and review.




## Together We Conserve our Natural Heritage

In this third edition of GVL Annual Conservation Status Report, across all the 4 selected indicators of measure of conservation success, comparison has been made between 2017 and 2016 results to quantify the annual measure of success per indicator were appropriate. Further, based on the historical data, were possible, trends were established.

## Trends: Status of Key Species

### Mountain Gorillas

Mountain Gorilla census surveys are often conducted after every 5 years in the two populations of Virunga Massif and Bwindi impenetrable National Park. The most recent survey for Virunga massif was conducted in 2015-2016 while for Bwindi, the survey is underway in the year under review.

**The 2016 gorilla census survey of 604 was the highest number of mountain gorillas ever recorded in the Virunga massif. Combined with the 400 mountain gorillas recorded in Bwindi in 2011, the total world mountain gorilla population rose to a record of 1,004.**

The results of the Virunga massif gorilla census survey of 2015 -2016 detected and recorded 604 mountain gorillas, being the highest number ever recorded in this habitat. The Gorilla census survey of the Bwindi population also started in the year under review, however, when you add on the 400 detected in 2011 under this population to Virunga massif, the total mountain gorilla population comes to 1004.

The growth rates of both populations have been registered (figure 10 and 11) and are an indicative measure of successful remarkable conservation collaborative effort given that just a decades ago the species was on decline and other subspecies of great apes are experiencing a rapid decline.

Results from this survey, within the limitations of the study, also show that there was no decline in the number of other selected species including elephants, which makes mountain gorillas an illustrative flagship species.

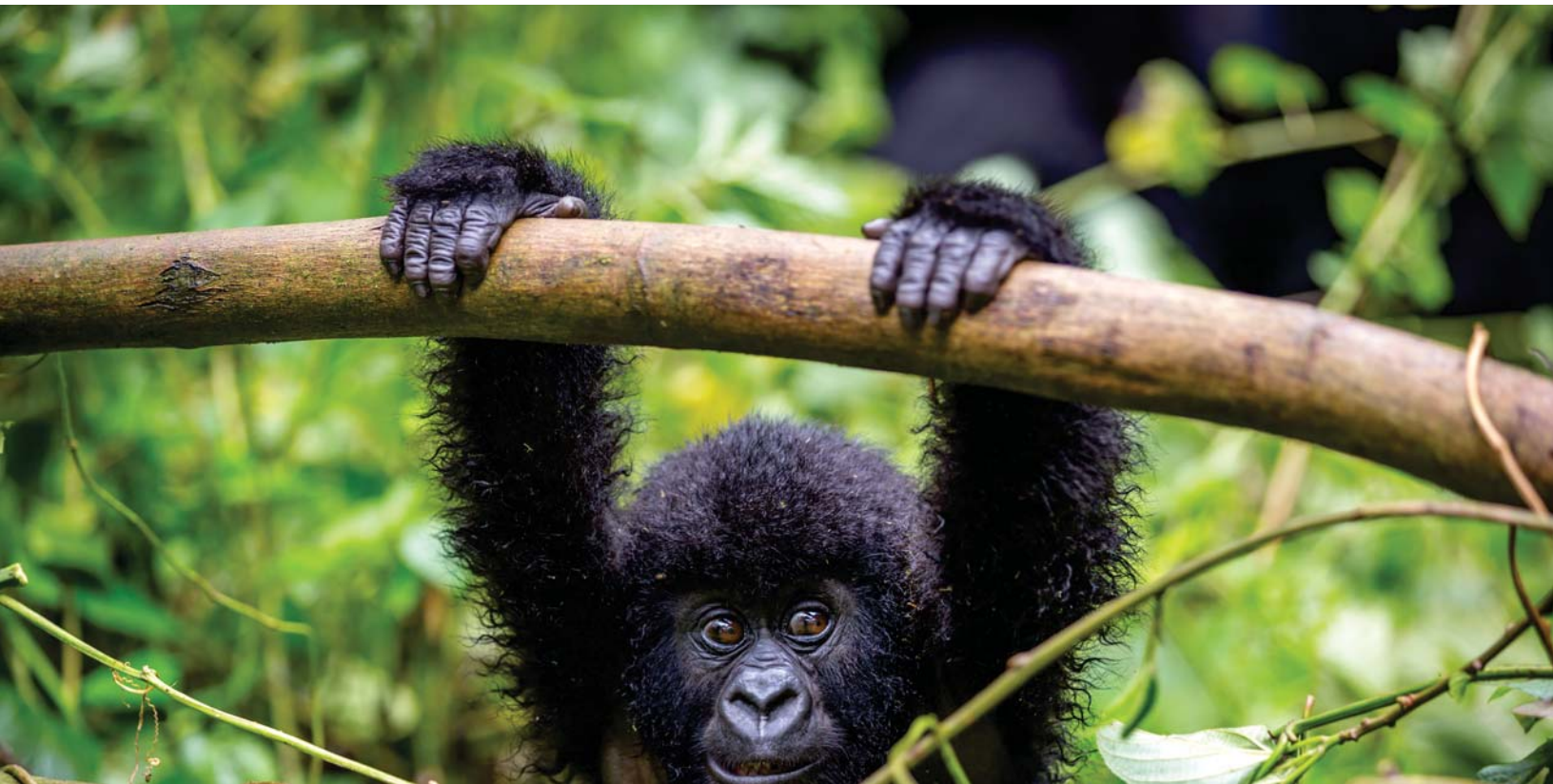
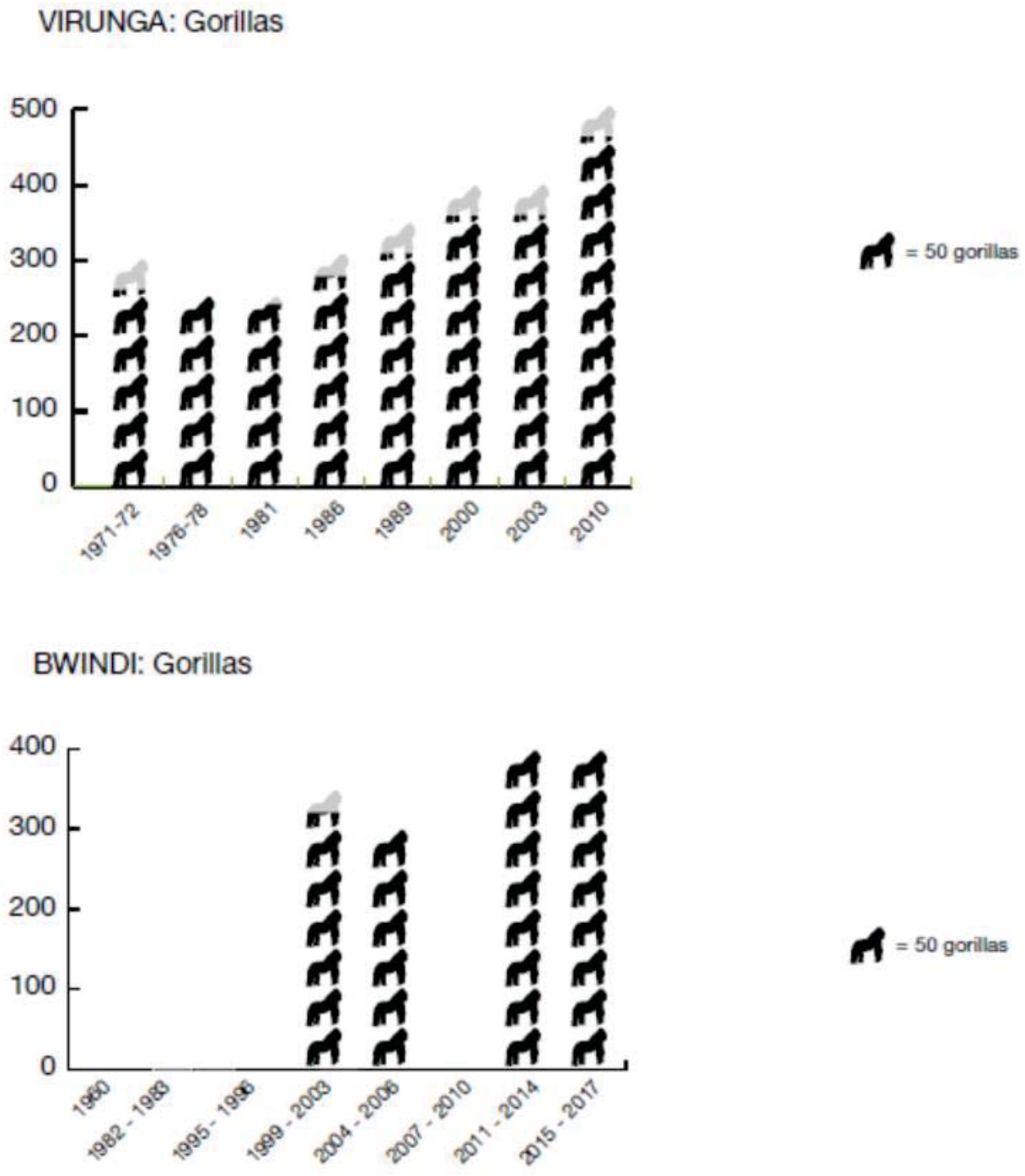


*Figure 10 and 11: infographics about gorillas of Virunga massif and Bwindi respectively*




## Elephants

Elephants are found in the entire GVL protected areas. Survey of the Virunga and Queen Elizabeth savanna elephants has been conducted over several years while in other places, they have been detected mainly through ranger-based monitoring.

The 2015 baseline ACSR showed a sharp decline in the Virunga National Park side of the Savanah elephants with a high growth rate in the Queen Elizabeth National Park side between 1981 and 2014. Studies made in the same area by Keigwin M et al[5], 2016 confirmed that more elephants crossed from DRC to Uganda than the reverse and this progressively increased between 2001 and 2003 with 354% migrations from DRC to Uganda as compared to 72% from Uganda to DRC with the underlying stipulated cause being that elephants tend to move away from areas where poaching is more likely to more safe areas. The results demonstrate the increased relevancy of transboundary wildlife conservation collaboration and coordination.

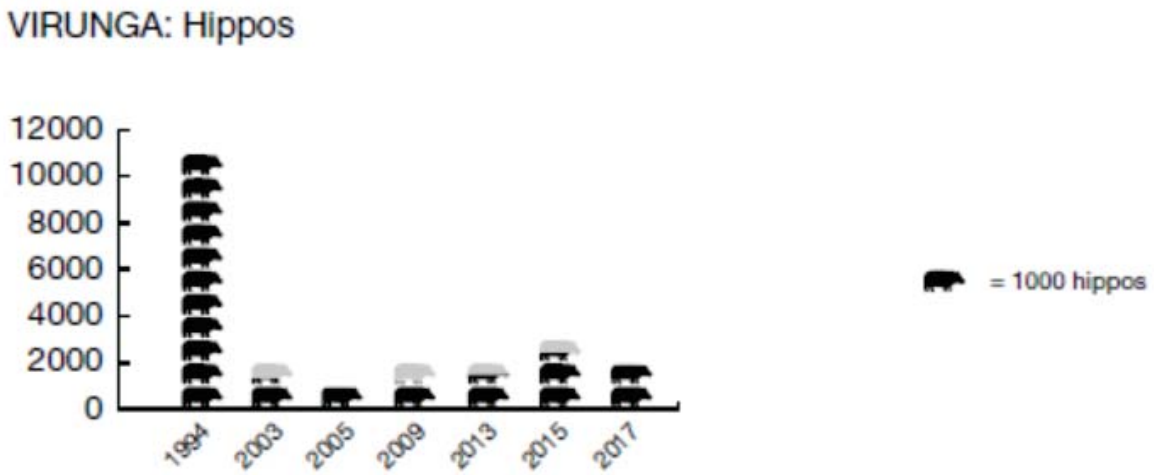
*Figure 11: image of elephants*

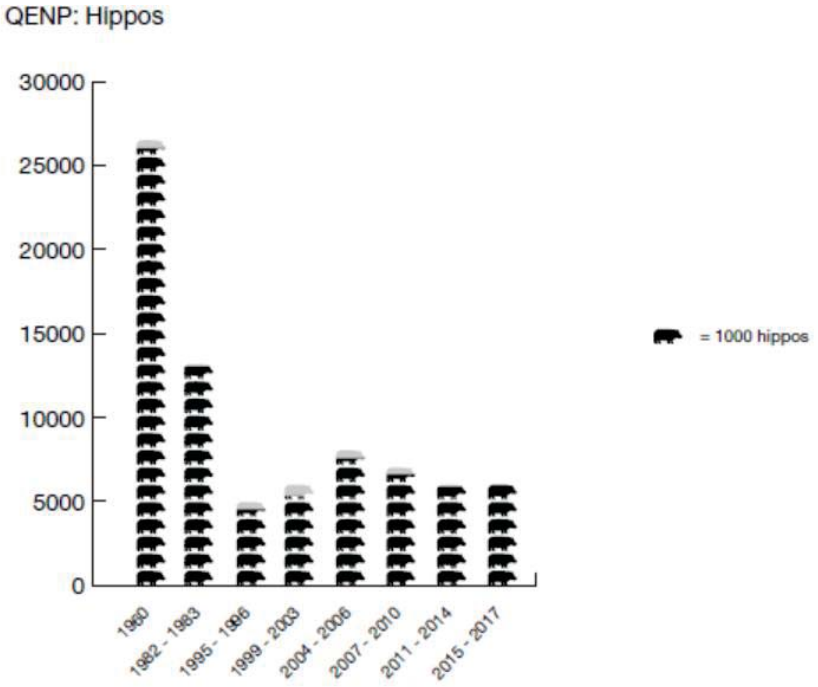
[5] Micheal Keigwin, Veronica Wabukawo, Samuel K. Wasser and Colin A. Chapman. Impacts on transboundary elephant movements between Queen Elizabeth Conservation Area, Uganda and Parc National des Virunga, Democratic Republic of Congo. Pachyderm N0 57 July 2015- June 2016

## Hippos

The Hippo population in GVL dropped sharply in the 1980's from above 25000 individuals in to slightly above 2000 in 2017 in both Virunga National Park and Queen Elizabeth Nation park (figures 12 and 13). Efforts have been stepped up by both PA authorities to ensure collaborative transboundary efforts bring back the Hippo population in the GVL waters, where it is believed that it contributes to the fish production.

*Figure 12 and 13:*



## Trends: Area under conservation

There was no recorded de-gazettement of any of the 8 GVL protected areas in 2017 and therefore the area under conservation remained the same. The area under conservation however continue to be threatened by deforestation and encroachment. Long term deforestation analysis based on satellite imagery (figure 14) showed a cumulative forest loss of 363 square kilometers from 2001 to 2017 (figure 15) but much of it wide spread in Virunga national Park. However, over the same period, there have been sharp decline in the loss from about to 100 lost in 2001 to the 29 square kilometers recorded in 2017. A similar trend has been observed in the 15 km buffer outside the GVL Protected Areas (figure 16) and with increasing population that is highly dependent on natural resources as reported in the first section of this report, there is likely to be much pressure on the PA forest resources arising from increased demand.

*Figure 14:*

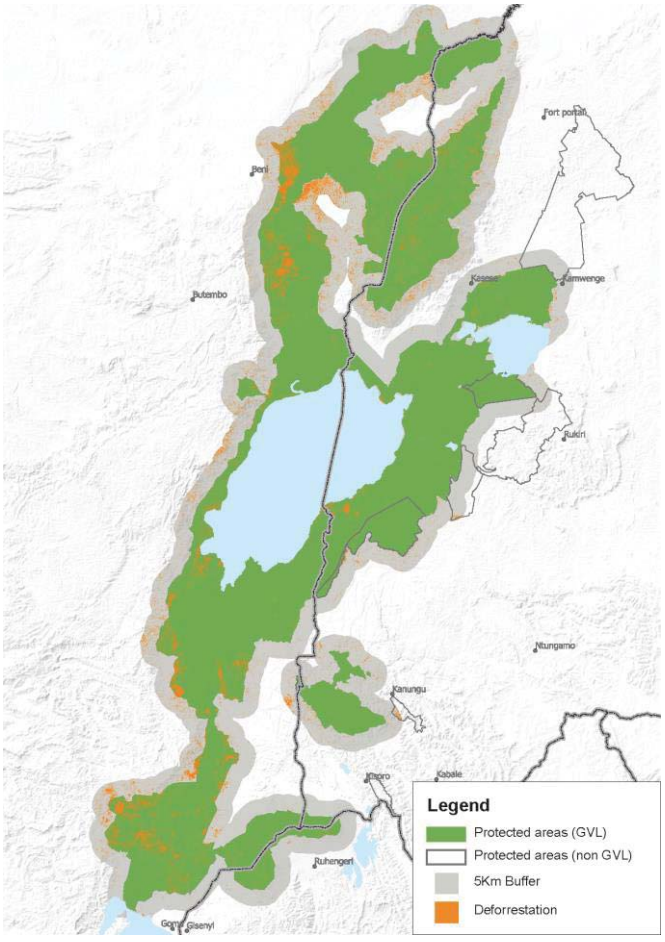


*Figure 15: infographic for Deforestation trends within PAs from 2001 to 2017*

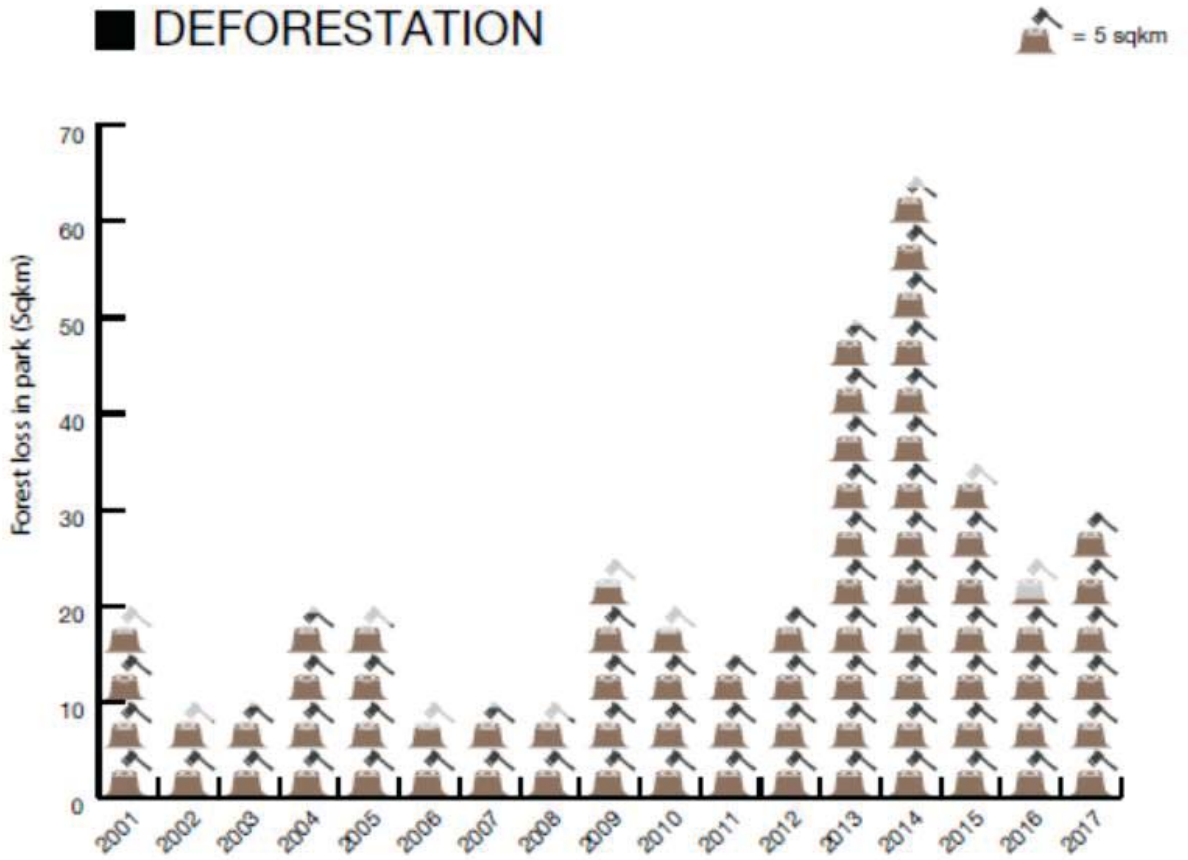
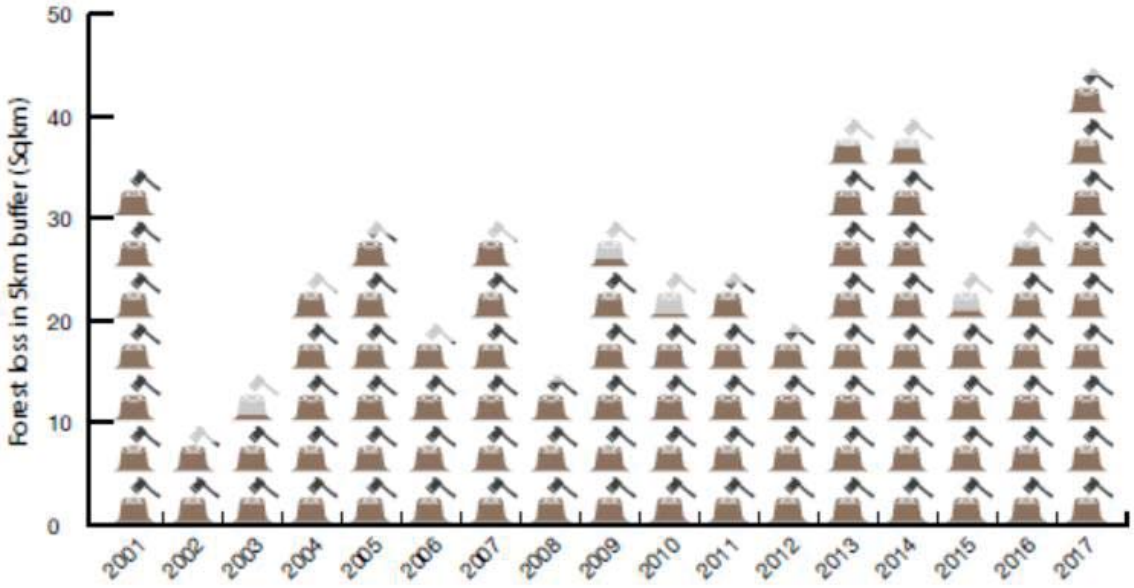



*Figure 16: Infographic for deforestation trends within a 15 km buffer from 2001 to 2017*



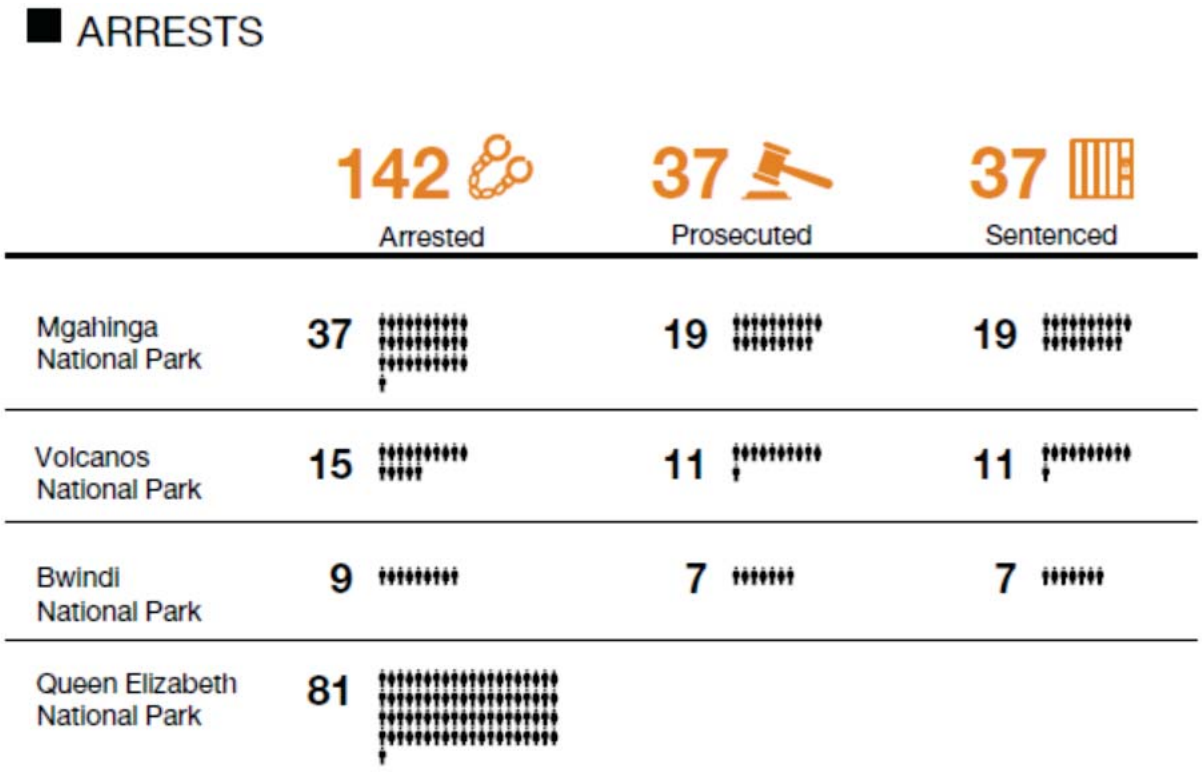
## Trends: Illegal Wildlife Trade and Poaching

### Poaching

In the period under review, 142 arrests were made by PA personnel in 4 out of the GVL Pas, namely, Mgahinga Gorilla National Park, Volcanoes National Park, Bwindi Impenetrable national Park and Queen Elizabeth National Park. Thirty-seven (37) of the arrested and suspected poachers were prosecuted and convicted and sentenced (figure 17). The 100% success prosecution and conviction of all suspected poachers reflects an increased capacity of intelligence gathering, building scenes of crime and forensic audit within the PA staff and management within the landscape.

**Thirty-seven (37) of the suspected poachers were prosecuted, convicted and sentenced in 2017**

*Figure 17: infographics for arrests*



## Wildlife Trade

**The 2017 showed that 2,556 kgs of ivory were seized in Uganda compared with 3456 kilograms seized in 2016, a 26% drop**

Both the 2015 and 2016 ACSR indicated that Uganda was a transit traffic route within the region and ivory from elephants was the most trafficked. The 2017 showed that 2556 kgs of ivory were seized in Uganda compared with 3456 kilograms seized in 2016 (figure 18), a 26% drop. Of the 2017 seizures, 1303 kilograms of ivory were in February 2017, representing 51% of the annual seizures. These results indicate both a raised effort by Uganda being used as a transit route but could possibly the traffickers could also be finding alternative safe routes. Therefore, there is need for increased vigilance within GVTC partner states against being used as transit trafficking routes.

*Figure 19: infographics trafficking 2016*

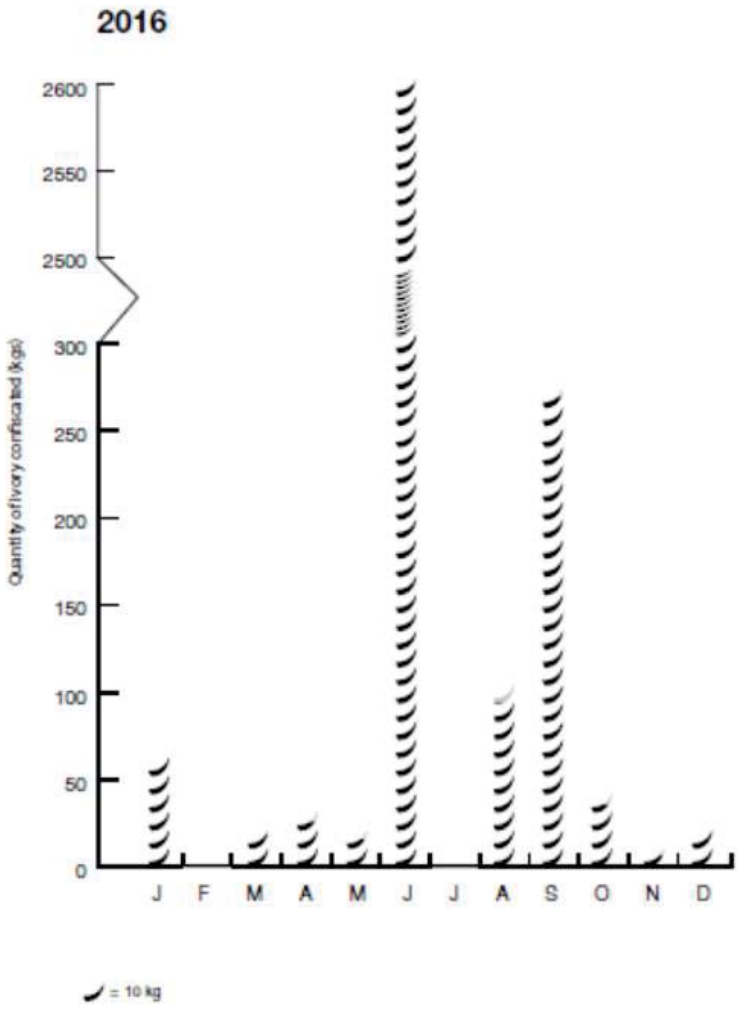
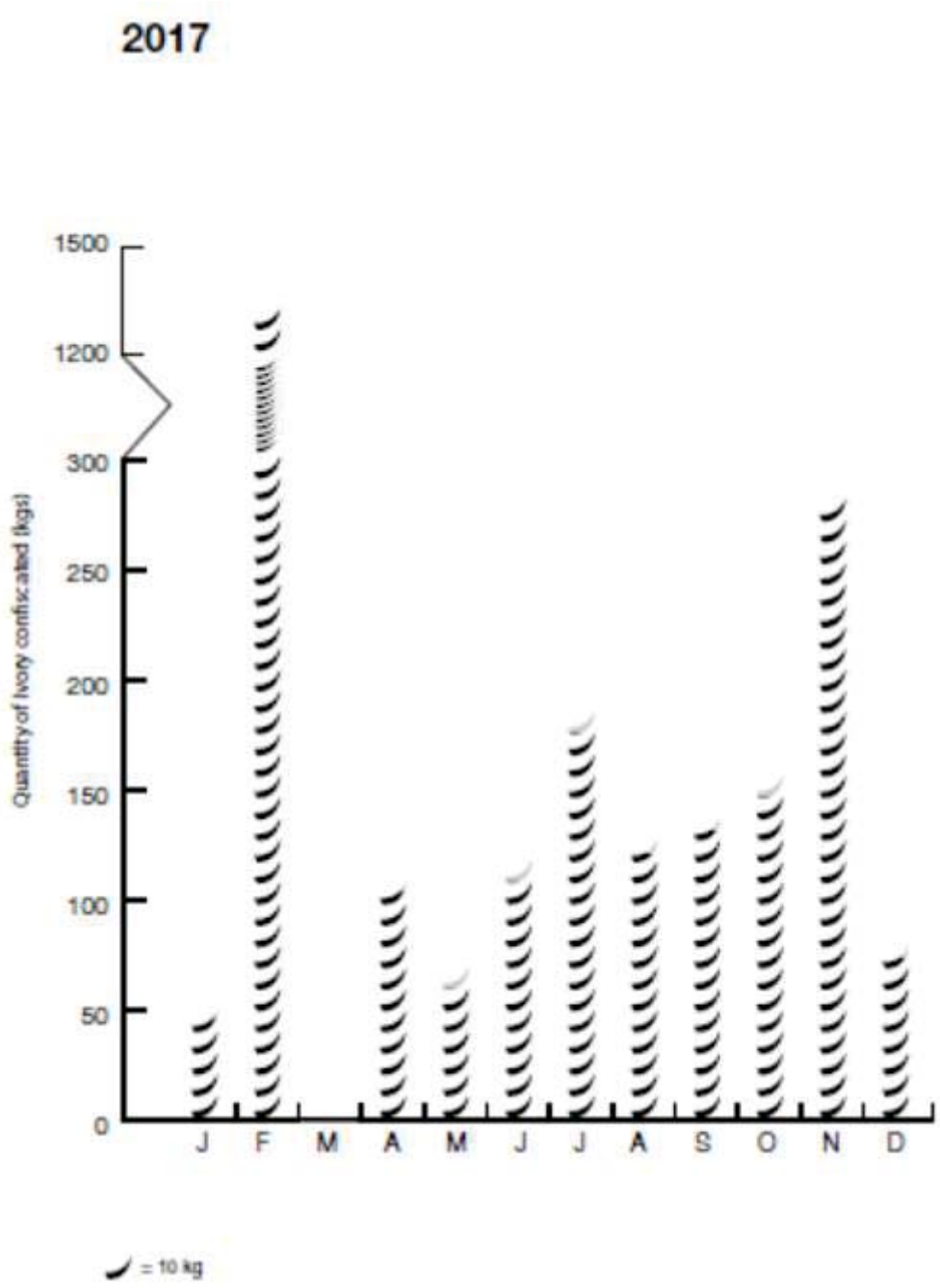


*Figure 20: infographics for trafficking 2017*



## Trends in Habitat change

Change in Habitat is an appropriate measure for effective conservation that monitors loss and degradation. Habitat change trends are detected over a reasonable period of time. GVTC commissioned a land cover/land use study of GVL in 2010 (figure 21) and another similar study in 2017 (figure 22) to analyse the land cover/land use changes in the region. This analysis showed that there was no loss or gain in ice and colonized lava, there was highest net loss in grasslands (-33%) attributed largely to invasive species colonizing grasslands and high net gain (61%) in volcanic activity attributed to fresh lava from natural disasters and woodlands ( 41%).

*Figure 21: map land cover 2010*

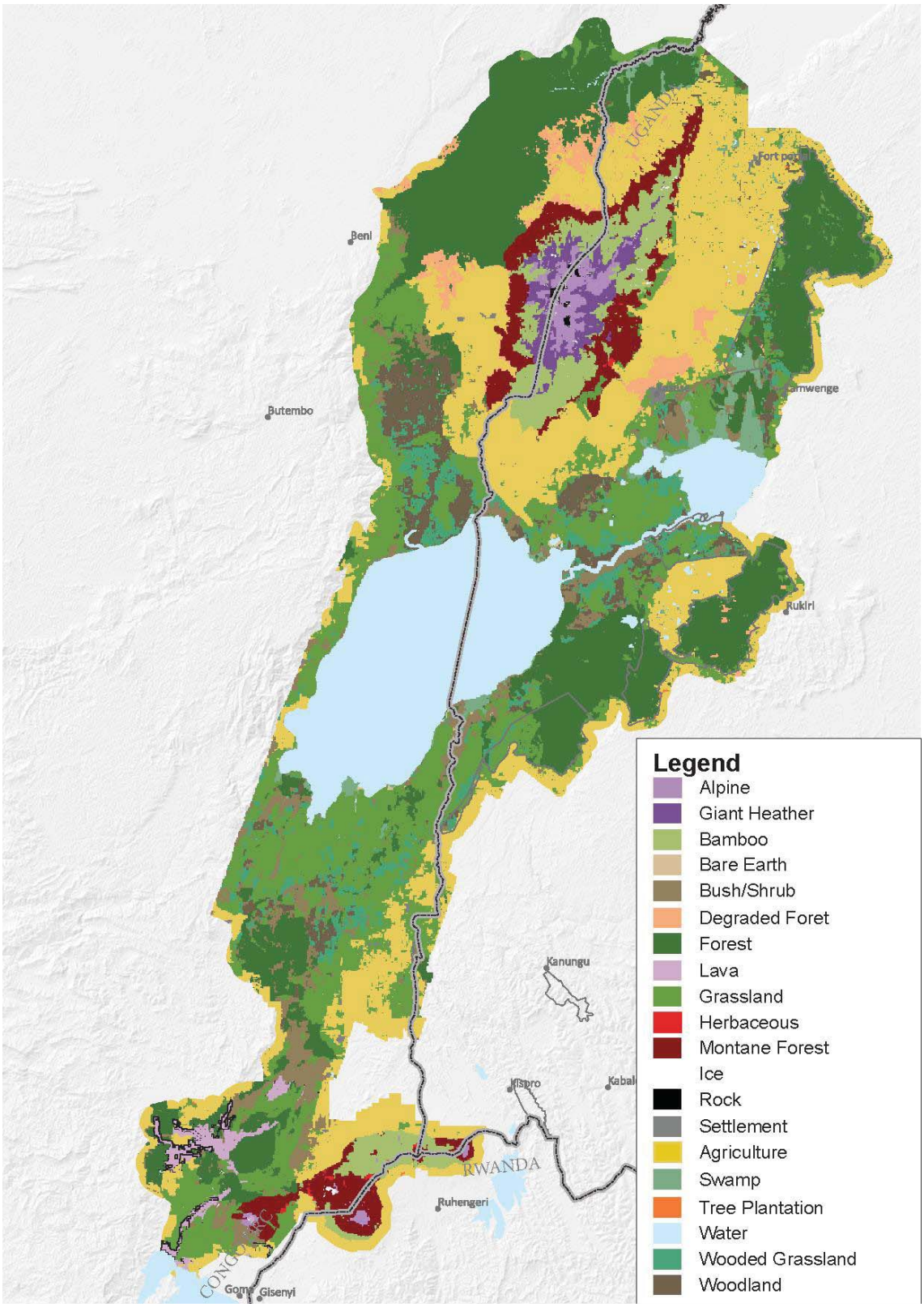
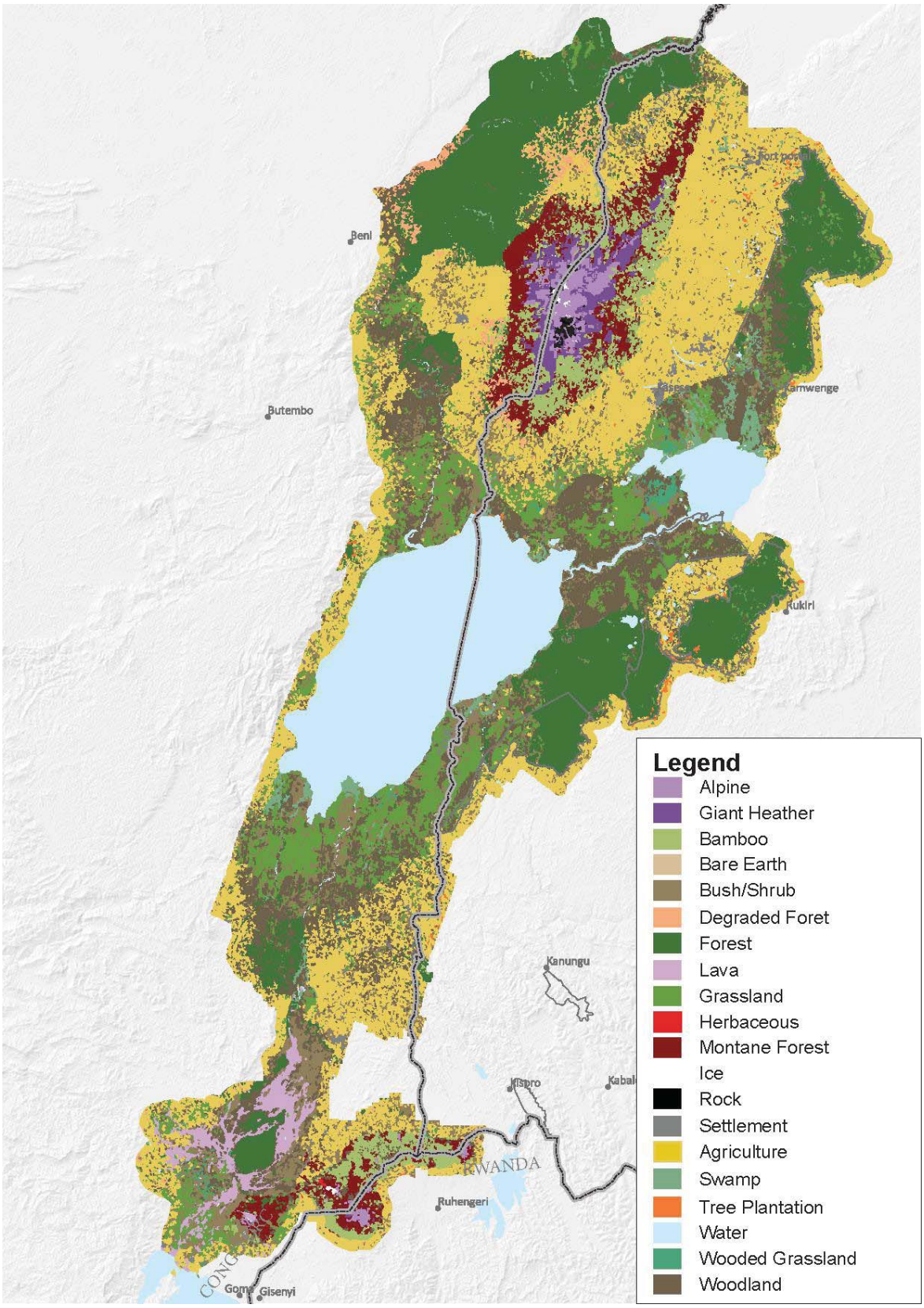


*Figure 22: map landcover 2017*



## Way Forward

The status of trends of species populations is a good indicative measure of improved conservation. However, it requires sustainable financial and human resources to ensure regular data collection over a long period of time if it has to be relied on. No single institution would have such resources to cover the entire GVL effectively. It is therefore imperative that GVTC be enhanced to continuously coordinate and broker conservation, development partners and private sector to generate sustainable resources.