Burundi's Important Bird Areas

Status and trends in 2008

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The African Skimmer skimming Rusizi river waters

The African Skimmer (Rynchops flavirostris) are water and intra-african migratory birds species. The bird species are of sub-sahara african and extend their distribution to Burundi. The Lake Tanganyika littoral and particularly the Delta of Rusizi river seem to be their preferred site. The species has become a world concern following its small population and may continue to shrink the reason for its classification as Near-Threatened species on the IUCN redlist. In Burundi, its habitat is mainly threatened by human settlements extension following the high population growth and related problems. It's also threatened by inadequate farming and fishing methods that are the causes of the shortage of its food stock.

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DISCLAIMER

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ACRONYMS

ABO	:	Association Burundaise pour la protection des Oiseaux
ACVE	:	Action Ceinture Verte pour l'Environnement
BLAPS	:	BirdLife International African Secretariat
BFNR	:	Bururi Forest Natural Reserve
BNA	:	Burundi Nature Action
CARPE	:	Central Africa Regional Programme for Environment
CBD	:	Convention on Biodiversity
CSO	:	Civil Society Organisations
EN	:	endangered
ENVIROPROT	:	Association pour la Protection de l'Environnement
IBA/ IBAs	:	Important Bird Area/ Important Bird Areas
INECN	:	Institut National pour l'Environnement et la Conservation de la Nature
IUCN	:	International Union for Conservation of Nature
KNP	:	Kibira National Park
LPO	:	Ligue française pour la Protection des Oiseaux
MEEATU	:	Ministère de l'Eau, de l'Environnement, de l'Aménagement du Territoire et de l'Urbanisme
NT	:	Near threatened
NTFPs	:	Non Timber Forest Products
ODEB	:	Organisation pour la Défense de l'Environnement au Burundi
RLMNR	:	Rwihinda Lake Managed Nature Reserve
RNP	:	Ruvubu National Park
RNR	:	Rusizi Nature Reserve
RSPB	:	Royal Society for the Protection of Birds
VU	:	Vulnerable
WCS	:	Wildlife Conservation Society
WWF	:	WorldWide Fund for Nature

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We also express our appreciation to all members of various Site Support Groups, tour guides and rangers who took their precious time to fill in the monitoring forms. We greatly appreciate the effort that all of them have put into this work. Special thanks to the European Commission through the Royal Society for the Protection of Birds and BirdLife International for the financial support and monitoring guidelines.

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EXECUTIVE SUMMARY

Important Bird Areas (IBAs) are sites of international significance for the conservation of birds and other forms of biodiversity. In Burundi, just like other sites globally, IBAs are facing severe threats. To keep track of the status, pressures and impact of interventions at sites, a monitoring system has been instituted in Burundi to assess extent and impact of current threats and evaluate the effectiveness of conservation action and hence provide an early warning of how these threats are affecting the integrity of the sites to sustain biodiversity. Based on robust and scientifically defensible criteria[1] developed by BirdLife, five IBAs were identified. These are Rwihinda Lake Managed Nature (BI001), Kibira National Park (BI002), Ruvubu National Park (BI003), Rusizi Nature Reserve (BI004) and Bururi Forest Nature Reserve (BI005).

This report presents the results of monitoring data collected in 2001, 2006 and particularly in 2008 in the frame of a monitoring project initiated by the RSPB and BLAPS entitled "Instituting Effective Monitoring of Protected Areas (Important Bird Areas) as a contribution to Reducing the Rate of Biodiversity Loss in Africa".

Data and information was collected using 'PRESSURE-STATE-RESPONSE framework adopted by the Convention on Biological Diversity. For this matter a structured IBA monitoring form with a simple scoring system of four points from 0 to 3 was applied to habitat condition (State) threats (pressure) and to conservation actions (Response). Forms were filled by partners at the site level particularly by on site-INECN personnel. The local communities around PAs/IBAs were also involved. This approach yielded lots of information which were reviewed and vetted by the project implementation team. The analyses are presented below based on the Pressure-State and Response model.

State: A number of threats are observed at the five PAs/IBAs targeted by the monitoring project. The analysis of monitoring data shows an overall slight improvement when we compare data of 2006 and 2008 (See fig.1). But when we consider IBAs one by one we noticed that Bururi forest has a significant improvement as well as Kibira National Park, Ruvubu National Park and Rwihinda Lake Manage Nature Reserve. On the contrary, the state of Rusizi Nature Reserve is showing a downward trend, an indication that the sites integrity is deteriorating.

[1] *A1: Species of global conservation concern; A2: Assemblage of restricted-range species; A3: Assemblage of biome-restricted species and A4: Congregation.*

A detailed monitoring of water birds was done at Rusizi Nature Reserve and Rwihinda Lake Managed Reserve and the water birds statistics for the period 2004 to 2008 show a net decline of their population.

Pressure. Analysis of montoring data shows increased in terms of pressure at different PAs/IBAs(See fig 5). The main threat in 2008 remain agriculture encroachment , wildfires and illegal exploitation of natural resources inside PAs/IBAs (gold mining,sandand gravels extraction , charcaol burning and in near future nickel mining at Ruvubu National Park etc). These activities have various levels of impact on the IBAs. For instance, wildfires are more disastrous at Ruvubu National Park than elsewhere. Rusizi Nature Reserve is mainly affected by the impacts from cattle rearing, agricultural and urban expansion.

Response: Over time, conservations interventions have been directed at IBAs in general especially at national parks. Better enforcement by Protected area management (MEEATU, INECN, Departement des Forêts etc.) are making positive impact the financial constraints nothwithstanding. Civil Society organisations namely ABO, ENVIROPROTEC, BNA etc are also making a significant contribution to the conservation of these sites . As a result of effective management and all inclusive natural resource management, local communities are changing their attitude torwards the conservation of natural ecosystems. Donor funds is allocated to conservation actions although there is more emphasis on community-based natural resource management where livelihoods also take centre stage.

In conclusion, Burundi PAs/IBAs especially those targeted by the monitoring project are severely impacted by different levels of threats .The habitat conditon (state) is not in such good situation even for the other sites even though Rusizi Nature Reserve represents the worse case scenario. Conservation interventions (Response) as a result of partnerships by various stakeholders (Government institutions, civil society organisations and local communities) shows a dramatic increase from 2006 to 2008.

CHAPTER 1. BACKGROUND INFORMATION ON MONITORING SYSTEM OF IBAS WITHIN THE BIRDLIFE INTERNATIONAL NETWORK

1.1. Introduction

As from the appearance of the human on earth, he started to exploit natural resources without worrying about their progressive shortage. This trend affected the environment and its biodiversity in particular birds. In this way, the Human being strongly contributed to the extinction of some species through due to day-to-day development activities. Then after a long period of unsustainable exploitation he realized it is worth to use them wisely and sustainably. The Important Bird Areas programme of BirdLife International network came as one of solutions to preserve Key Biodiversity Areas and IBAs in particular.

These KBAs/IBAs are under intensive pressure following developments in agriculture, forestry, fisheries, transport, infrastructure, tourism and recreation which severely impacts the most important sites for birds. ABO recently received a grant from European Commission through RSPB with the technical support of BLAPs, to implement a monitoring project on the five Burundi Important Bird Areas (Kibira National Park, Ruvubu National Park, Rwihinda Lake Managed Reserve, Bururi Forest Nature Reserve and Rusizi Nature Reserve) as a contribution to the CBD target to reduce the rate biodiversity loss by 2010.

1.2. Monitoring Important Bird Areas

Monitoring is a central part of the IBA process. IBA monitoring is needed both to assess the effectiveness of conservation measures and to provide an early warning of the extent of threats to biodiversity at a species, site, habitat, landscape and ecosystem level. Species are very sensitive to changes in their habitat quality and therefore there is an emerging need to understand what is to sites and how these changes affect the survival of species for which the sites are designated for as IBAs. Such information will help in adapting our interventions accordingly as well as allocating the scanty resources effectively to the most deserving sites of sections of the site (BirdLife International, 2006).

At the site level, IBAs are monitored in order to:

- Detect and act on threats in good time. Monitoring data provide ammunition for advocacy and information for designing interventions.
- Assess the effectiveness of conservation efforts. Is investment in conservation actually bringing about an improvement? Are 'sustainable use' approaches really proving sustainable?

Nationally, IBA monitoring data provide information on biodiversity status and trends. This has a great potential for generating information that could feed directly into the process of reporting for the Convention on Biological Diversity and other international and (where appropriate) Multilateral Environmental Agreements (MEAs). It also allows the impacts of economic and environmental policies that affect more than one IBA to be assessed. A regular IBA status report is a useful product for national advocacy (BirdLife International, 2006)

1.3. *Monitoring approach*

One useful approach that has been used by the Convention on Biodiversity Conservation and the BirdLife Partnership globally, and that has been adopted for purposes of IBA monitoring, is the "State - Pressure- Response" Model.

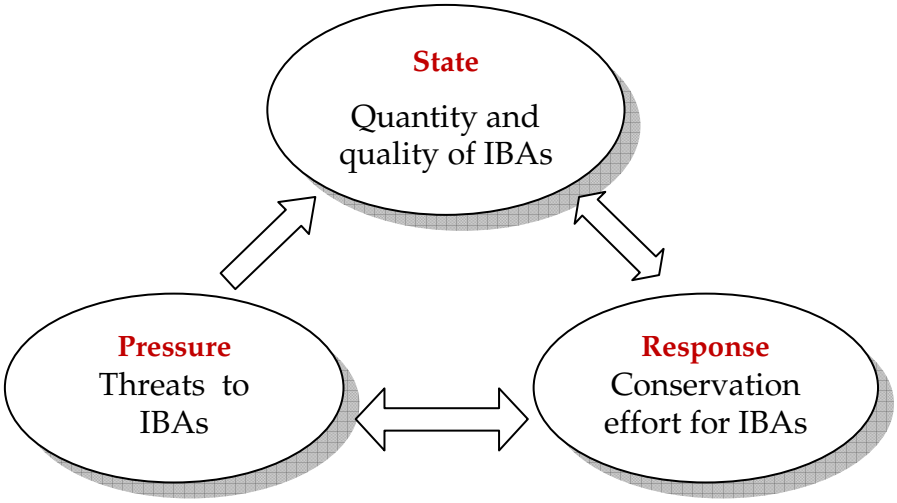


Figure 1. Monitoring framework diagram

State:

State indicators refer to the condition of the site with respect to its important biodiversity. State indicators might be population counts of birds themselves or might refer to the measures of the extent and quality of the habitat required by the trigger[2]-bird species.

Pressure:

Pressure indicators identify and track major threats to the IBAs, specifically those that affect the conservation status of the trigger species or their habitats. Examples include agricultural expansion, over-exploitation and pollution. Pressure indicators are concerned with types of threats, the scope of their effect and the severity of their impact. The timing of their effect, whether they are active now, or in the future is also considered.

Response:

Response variables identify and track conservation actions, for example, changes in legal status of a site (through gazettement etc), improved law enforcement, implementation of conservation projects, establishment of site support groups, funding of conservation programs, formulation of policies that promote or enhance the conservation of a site, etc.

It should be noted that indicators for the different sites need careful selection. Obviously, a good indicator will actually track something – it will respond clearly to changes. An indicator should also be linked clearly to conservation management goals for the IBA and it must be possible to collect information for the indicator within the likely constraints of capacity and resources. Lastly, the indicators should also be scientifically credible, simple and easily understood, and quantify information so that its significance is clear (Nature Kenya, 2006).

[2] *Trigger species are the bird species that determine if a site should be designated as an IBA, i.e. the Threatened , Restricted-range, Biome-restricted and/or Congregatory species, whose regular presence at a site in numbers exceeding relevant thresholds qualify it as an IBA (BirdLife International 2008 b).*

CHAPTER 2. PROTECTED AREAS IN BURUNDI : HISTORICAL BACKGROUND

Burundi is one of the few African countries not to have had a national park established during the colonial era, although all forests were established as official reserves under the Belgian colonial authorities in 1933 (ACCT, 1998). Until 1980 there was no legislation concerning protected areas, but since then the situation has improved. Since 1980 Burundi Government established the National Institute for the Environment and the Conservation of Nature (INECN) with responsibility of creation and management of national parks and nature reserves. Its additional responsibilities are to organise scientific studies; encourage diversification of tree and animal species; ensure maximum use of tourist sites, in collaboration with the National Office of Tourism; train technicians in nature conservation and make proposals for new sites to be formally designated as parks or reserves.

2.1. Distribution of Important Bird Areas (IBAs)/PAs in Burundi

Important Bird Areas (IBAs) are keys sites for the conservation of birds and other biodiversity. IBAs have been identified all over the world, using BirdLife International's objective and scientific criteria. IBA sites are selected because they contain:

1. Globally threatened bird species, or other species of global conservation concern (Category A1);

2. Range restricted: Bird species living only in small area (Category A2);

3. Biome: Significant component of a group of species whose distributions are largely or wholly confined to one biome (Category A3);

4. Congregatory: Exceptionally large gatherings or congregations (Category A4). These sites are known or thought to hold, on regular basis. The following are descriptions of the five important Protected Areas in Burundi also considered as the Important Bird Areas according to BirdLife International criteria.

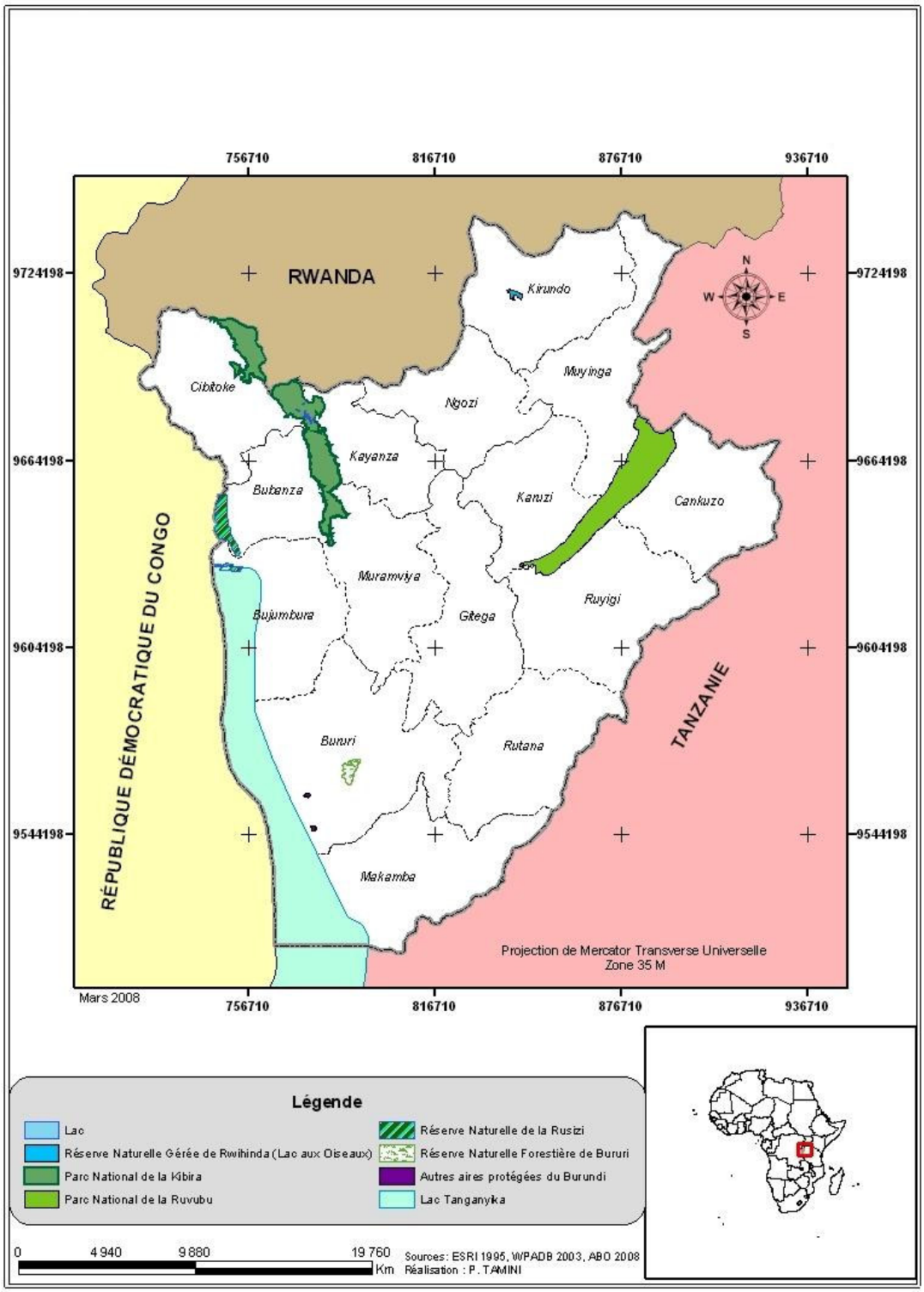


Figure 2. Distribution of the IBAs/PAs targeted by the monitoring project

2.1.1. Rwihinda Lake Managed Nature Reserve (BI 001)


View on Lake Rwihinda and its Islet (Photo ABO)

Located at geographical coordinates of 30° 4.00' East and 2° 33.00' south, the Rwihinda Lake Managed Nature Reserve is in northern Burundi, immediately north of the town of Kirundo close to the Rwandan border. Lake Rwihinda was known in the past as "Lac aux Oiseaux" (i.e. lake of birds).

It lies a little way upstream of the Akanyaru wetlands (RW005), to the north-west. This IBA is located within the province of Kirundo at 1,400 m of altitude. The area of the lake is 425 ha, but the total protected area has been extended to 8,000 ha, including the swamps of Nyavyamo.

During the water bird census carried out in 2007, 189 bird species were counted. Out of the number of species counted, fifteen are on the red list of IUCN i.e. 1(EN), 3 (Vu), 11 (NT). Birds of this IBA respond to A_1 and A_3 criteria. This IBA is mostly threatened by unsustainable fishing and clearance of wetland vegetation for agriculture.


Black-tailed Godwit/Limosa limosa, NT (Photo Y.Gaugris)

2.1.2. Kibira National Park (BI 002)

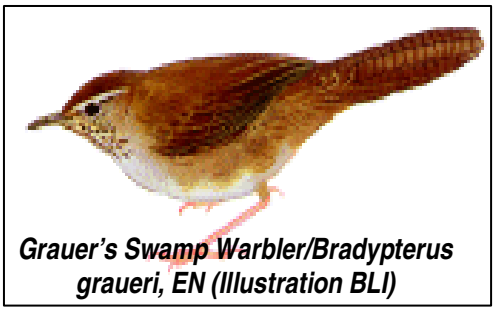
Located in north-western Burundi, Kibira National Park lies along the north-south-oriented mountains of Congo-Nile divide and stretches over 4 provinces such as Bubanza, Cibitoke, anyanza and Muranvya. Its altitude varies between 1,550 and 2,666 m (ABO, 2008 b). It extends from the border with Rwanda almost as far south as the town of Muramvya. Kibira is contiguous with Nyungwe forest in Rwanda (RW007) and, with it, forms a montane forest block of some 130,000 ha. Most of the remaining primary forest is found on the wetter, western mountain slopes.

It is estimated that not more than 16% consists of primary evergreen forest. Dominant tree species include *Symphonia globulifera*, *Newtonia buchananii*, *Albizia gummifera* and *Entandrophragma excelsum*. There are also areas of montane bog and bamboo, *Arundinaria alpina*. The extent of this national park is estimated to 47, 794 ha (ABO, 2008 b). This is the wettest area of Burundi as it receives an annual rainfall of between 1,700 mm to 2,000 mm (ABO, 2008 b).

Historically, the forest was used as royal hunting and burial grounds and some areas of Kibira retain almost cultural attributes to the local people and remain sacred. In spite of this and its status of being a National Park, there is much pressure on parts of the forest as a result of encroachment, firewood collection, bamboo extraction, wildfires and poaching. Kibira National Park was the unique Important Bird Area to be formally protected since 1933, while active conservation effort, elsewhere in Burundi, dates back to 1980 (Alassoum et al., 1998; Fishpool & Evans, 2001**).**


The highland forest of Kibira (Photo ABO)

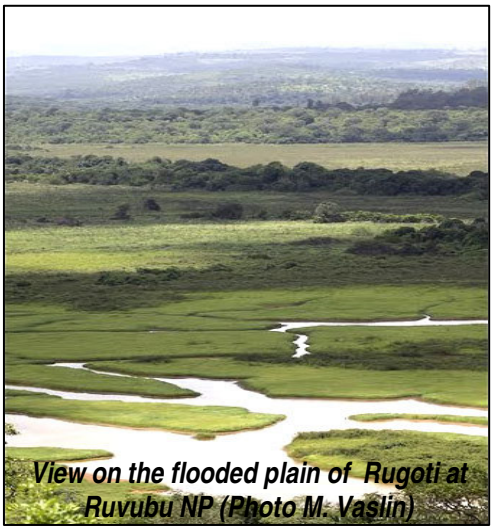
With respect to avian diversity and richness, the forest holds many of the Albertine Rift endemic species. In addition, a few more species of the Guinea-Congo Forests biome occur and also it is reported to hold very few species of Lake Victoria Basin and Zambezian biomes. 5 species are of Guinea-Congo Forests biome, 47 are of the Afrotropical Highlands biome and 2 are of Lake Victoria Biome. 231 bird species of which 21 are endemic to Albertine Rift, 13 i.e. 2 (EN), 3 (Vu), and 8 (NT) are listed on IUCN red list, 98 mammal species and about ten primate species are recorded. Birds inside are of A_1, A_2, A_3 criteria (ABO, 2008b).


Grauer's Swamp Warbler/Bradypterus graueri, EN (Illustration BLI)

2.1.3. Ruvubu National Park (BI 003)

Located in north-eastern Burundi, the park stretches over 4 administrative provinces such as Cankuzo, Karuzi, Muyinga and Ruyigi and covers an area of 50,900 ha (ABO, 2008b). The altitude varies between 1,350 m and 1,836 m and the rainfall varies from 1,100 m to 1,200 mm per annum. This park extends south-westwards from the border with Tanzania along a 65 km stretch of the valley of Ruvubu River of which it takes its name.

The south-west boundary of the park lies some 20 km to the east of the town of Gitega. The Ruvubu river valley comprises a series of flanked by swamp vegetation, gallery forest and, further inland, savanna woodland. The latter comprises *Hyparrhenia* grassland with *Brachystegia*, *Julbernardia*, *Combretum* and *Terminalia spp*. and *Acacia seyal* plus *Pericopsis* and *Parinari spp*. on hillsides. Reverie forest lines the Ruvubu, interspersed with areas of *Cyperus papyrus* and *Phoenix reclinata*. There are also areas of flood-plain grassland, while papyrus swamps with sparse *Syzygium* occur along the drainage lines of the smaller valleys. On the high ridge which forms the southern boundary of the park, *Protea sp.* is common. The vegetation of the park includes Zambezian elements at the northern limits of their distribution. The rain season extends from October to May (Fishpool & Evans, 2001).


View on the flooded plain of Rugoti at Ruvubu NP (Photo M. Vaslin)

Up to 338 bird species have been recorded, including *Ardeola idae*, *Circus macrourus*, *Falco naumanni* and *Gallinago media*. Large numbers of waterbirds occur codominated by *Pelecanus onocrotalus* and *Mycteria ibis*. Out of this recorded number of species, 10 i.e. 1 (EN), 1 (Vu) and 8 (NT) are on the red list of IUCN. In addition, 3 species of the Guinea-Congo Forests biome and 10 of the Afrotropical Highlands biome have also been recorded. Most of bird species respond to A1, A2 and A3 criteria. Around 44 mammal species including panther, baboons, antelopes, buffaloes, jackals, hippos are recorded (ABO, 2008 b). Lions also enter the park from the neighboring country of Tanzania.


Ring-necked Francolin/Francolinus streptophorus, NT (Photo M.Vaslin)

2.1.4. Rusizi Nature Reserve (BI004)

Rusizi Nature Reserve, the former 'Rusizi National Park' is located north-west of Bujumbura against the international frontier with DR Congo. It is made up of two parts; a strip of flood-plain about 2 km wide and 35 km long beside the east bank of Rusizi River and, to the south, a smaller area of 1,200 ha comprising the delta of the Rusizi at the point where it enters Lake Tanganyika.


The Delta of Rusizi (Photo ABO)

The two parts are separated by the main asphalted road towards Uvira (DR Congo) (Fishpool & Evans, 2001). The Reserve spreads out on the provinces of Bubanza and Bujumbura rural; its altitude varies between 780 to 1,000 m. The delta is covered locally by *Phragmites* and *Papyrus*. An important feature of the northern part of the reserve is the stands of the fire-resistant palm *Hyphaene benguellensis ventricosa*.

In total, 193 plant species are recorded in this northern part. Other dominant species are *Acacia albida*, *Acacia polyacantha var.campylacantha*, *Balanites aegyptiaca* and *Euphorbia candelabrum* (ABO, 2008b). There are several ponds of varying size in the northern section. The two components of this reserve amount to 5,456 ha. The IBA includes some agriculture lands and covers 9,000 ha.


African Skimmer/Rhynchops flavirostris, NT (Photo Y. Gaugris)

A water bird census was conducted in 2007 and 226 bird species were counted 10 species i.e. 1(EN), 2 (Vu) and 7 (NT), listed on the red list of IUCN. The site supports a big number of waterbirds including palearctic migrant species. In addition, one bird species of the Guinea-Congo Forests biome, two of the Lake Victoria Basin biome, four of the Afrotropical Highlands biome and two of the Zambezian biome have also been recorded. Birds recorded respond to A_1 and A_{4i} criteria (ABO, 2008b).

In terms of fauna diversity, hippos and crocodiles are noticeably the biggest animals of the reserve. Among other animals include: the serval, the jackal and several species of small mammals, of snake and varanus.

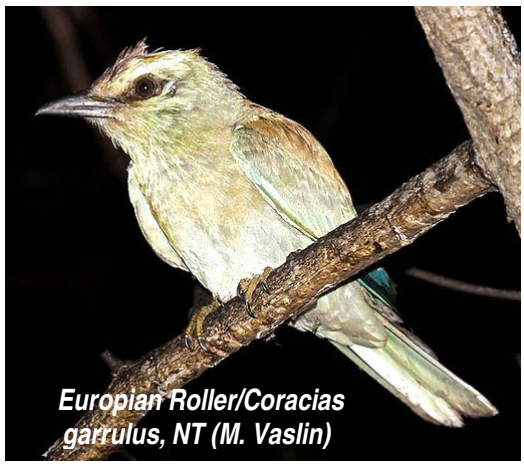
2.1.5. Bururi Forest Nature Reserve (BI005)

Bururi Forest is highland rainforest situated on the extreme southern edge of the Congo-Nile divide and is lying immediately west of the town of Bururi in south-western Burundi. According to a recent mapping the area of the IBA is 2,601ha (ABO, 2008b) and not 3,300 ha as previously mentioned in the 2001 baseline (Fishpool & Evans, 2001). The natural evergreen forest covers 1,980 ha and the remaining area (621ha) is covered by pine plantation of *Pinus patula* (Enviro-Protec & INECN, 2008).


View on the highland forest of Bururi (Photo ABO)

At least 93 tree species occur with dominant species of *Strombosia scheffleri*, *Gambeya gorungosanum* and *Myrianthus holstii* .*Tabernaemontana johnstonii*, *Neoboutonia macrocalyx*, *Dracaena afromontana* and *Entandrophragma* excelsum are also common. The area is situated at a biogeographical crossroads such that, in addition to holding many plant and animal species of the rainforest forests of the Congo-Nile divide, it holds also species of Zambezian region, of the drier savannah areas of the east and even of the lowland evergreen forests of the Congo basin. Annual rainfall varies from 1,200 mm to 2,400 mm (Fishpool & Evans, 2001).

Regarding bird diversity, 205 species have been recorded, 6 species i.e. 1(EN), 2(Vu) and 3(NT) are amongst the most threatened species according to the IUCN red list and 12 species are endemic to Albertine Rift and 36 belong to Afrotropical Highlands biome. These global threatened species include *Apalis argentea*, *Glareola nordmanni*, *Zoothera tanganjicae*, *Torgos tracheliotus* and *Trigonoceps occipitalis*. Bururi is also the type-locality for *Alethe poliocephala vandeweghei* (ABO, 2008 b). Other animals include 4 species of primates among them the globally threatened chimpanzee (*Pan troglodytes*), etc. Birds of this IBA respond to the A_1, A_2 (106), A_3 (A_{07}) criteria (ABO, 2008b; Fishpool & Evans, 2001**).**


European Roller/Coracias garrulus, NT (M. Vaslin)

2.2. *Summary of status of Burundi IBAs in 2008*

IBA Code	Name of site	State
BI001	Rwihinda Lake Managed Nature Reserve	No change
BI002	Kibira National Park	No change
BI003	Ruvubu National Park	No change
BI004	Rusizi Nature Reserve	Small decline
BI005	Bururi Forest Nature Reserve	Small improvement

The state presented above is a result of comparison of monitoring data of 2006 and 2008. Further detailed procedures on this summary status are enclosed on this report in Annex II.

CHAPTER 3. DATA COLLECTION PROCESS

3.1. Methods

Before we collect data of IBAs, we first identified persons able to give reliable information. These are stakeholders actively and locally working in conservation. Among others include local communities surrounding Protected Areas (PAs) and INECN personnel locally patrolling these PAs.
Once identified, we started to teach them objectives of our project and, how to monitor IBAs and what to monitor is for and the way monitoring is done. The second step was to give away questionnaires to be filled in with prevailing information. We yielded ready questionnaires few days later.

3.2. Source of information and accuracy

To get accurate information, we made up monitoring teams (of 20 individuals per team) which members were chosen from stakeholders who are SSGs and other Communities Based Organizations (CBOs) on one hand and INECN personnel (rangers and guides) on the other hand. Monitoring teams at IBA level were made up according to the size of IBA. Thus, Rusizi Nature Reserve and Rwihinda Lake Managed Nature Reserve and Bururi Forest Nature Reserve had each of them a –twenty persons monitoring team whereas Kibira national park and Ruvubu National Park wider than others had 4 and 3 monitoring teams respectively.
Having collected and brought questionnaires at office we compiled in one for each IBA as there well numerous according to number of sectors that an IBA has.

3.3. Problems encountered

Monitoring IBAs is an activity which requires much energy and logistics as some of our IBAs (e.g. Kibira National Park) are located far from ABO office in Bujumbura town.
The Monitoring is supposed to be sustainable as it involves a big numbers of stakeholders but in our case, only three partners are involved in the process.
Another constraint to the monitoring process that started especially in 2007 with the Africa IBA monitoring project funded by the European Commission through the Royal Society for the Protection of Birds is the low level of education at the grassroots where a lot of information is expected to come from. For this matter filling the monitoring framework is not-in some cases-well done as it requires to understand some environmental matters.
No detailed monitoring -in particular related to triggers species- have been before this project and it wasn't easy to point out clearly threats that impact directly to those species.

CHAPTER 4. MONITORING FINDINGS

IBA monitoring is undertaken primarily to enable timely detection of threats, assess their impacts on biodiversity, as well as determine the effectiveness of conservation actions. IBA monitoring is also helpful in that it creates awareness, develops technical capacity, engages local communities and site management authorities in conservation, and builds a national constituency for conservation (BirdLife International, 2008).

Monitoring involves the repeated collection of information over time in order to detect changes in particular variables. Monitoring is an integral part of conservation programme because it helps in assessing the effectiveness of conservation measures and provides an early warning of emerging conservation threats. According to Nature Kenya (2005), a good monitoring scheme generally seeks to answer 4 questions:

- Why monitor?
- What should we monitor?
- How should we monitor?
- What happens after monitoring?

4.1. State of habitats at IBAs

As a result of the impact of human activities on biodiversity, there is need to move towards sustainable development (eco-development). The new development model consists of the sustainable exploitation of natural resources in a manner that does not compromise the capability of the resources to be available for posterity. In spite of the large number of PAs (14) designated by the government as national parks, reserves, monuments and landscapes and also besides the efforts being made at a national and site level to conserve these sites, human pressure on natural resources continue to increase.

Nevertheless, the state of Kibira National Park has slightly improved since 2006. Prior to 2006, the site was the headquarters of CNDD-FDD and rebels moved away when the movement joined the Government. During the civil war, there was a lot of pressure on the site. In 2008, the FNL rebels tried to occupy the forest but later joined the government and hence easing the pressure on the site. Currently, the main threat is from local communities particularly the poor *batwa* communities who are still engaged in illegal activities like illegal logging, charcoal burning and poaching. Since Burundi entered the civil war, the park management services (patrols, research etc.) were almost came to a halt.

However, the post war period has been characterized by the recovery of, Kibira National Park hence effective management through improved patrols has significantly improved the state of the site. Although ,in details , an improvement is noticeable in 2008 , data analysed using the WBDB shows an averall state trend from 2006 up to now that is 'labeled' "no change".

Ruvubu National Park, although not yet so far legally gazetted, has held generally a favourable state even during the civil strife (1993-2007).

Even during the strife, the parks was relatively secure hence the protected area personnel managed to effectively patrol the park and prevent any insurgency or encroachment. However, besides this effective policing, there were small scale cases of illegal poaching of mammals. This practice persists up to now. Comparing the habitat state scores of 2006 and 2008 monitoring, it is obvious that the state of this ecosystem has maintained the status quo.

Bururi Forest Nature Reserve has had a small improvement. During those years of civil unrest, people took advantage of the situation and converted forest land into agricultural land but with the later increase of authorities' attention, most of this encroached land is recovering.

Amongst other IBAs, Rusizi Nature Reserve is the most threatened by encroachment for agriculture and animal farming. In fact the northwest part of the reserve has been converted to farmland and livestock grazing. Overgrazing has had a serious impact on the ecosystem leading to habitat degradation at the IBA. Natural portion of this reserve is often characterised with hippos and crocodiles poaching. For example, in 2008, over 20 hippos and 15 crocodiles were killed at Rusizi Nature Reserve IBA by the FNL rebels and the bush meat sold to surrounding communities including the Congolese community on the other side in DR Congo. Rusizi Nature Reserve has also been seriously affected by an intensive illegal charcoal burning by local community in collusion with rebels. There was a temporary rebels' barracks located in the 'heart' of the reserve by government during the last peace talk process. Coals were seen crossing the border to be sold to the neighboring Congolese community in DR Congo.

4.1.1. Case of detailed monitoring of water birds at Rusizi and Rwihinda IBAs

With financial and technical support from Wetland International, USAID, WCS (through GAINS[3] programme), FAO, a detailed monitoring of waterbirds was conducted from 2004 to 2008 at two wetland IBAs i.e. at Rusizi Nature Reserve located at the northern edge of Lake Tanganyika and at Rwihinda Lake Managed Reserve commonly known as "Lac aux oiseaux" The trend in number of water birds counted from 2004 up to 2008 is shown on the chart here above.

[3] *GAINS : Global Avian Influenza Network for Surveillance*

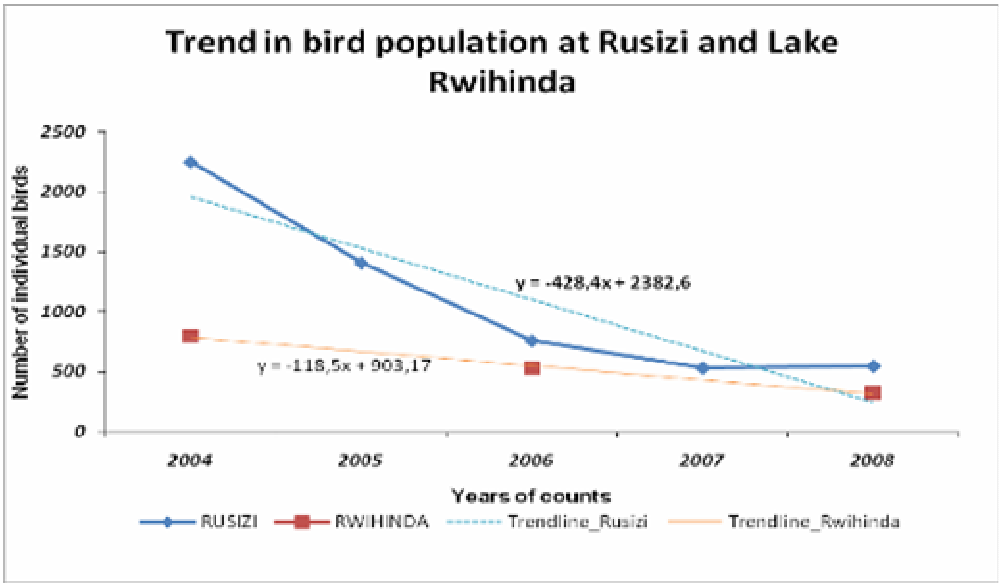


Figure 3. Trend of water bird population at Rusizi and Rwihinda Lake reserves

The figure above shows the two graphs related to water bird counts from 2004 to 2008 for Rusizi and for 2004, 2006 and 2008 for Rwihinda Lake. The trendline of graph for Rusizi shows a considerable decline of the population of waterbirds during the five years of census. This decline may be attributed partly to the conspicuous decline in the habitat quality. This IBA is probably the most threatened and the main threats to Rusizi IBA are overfishing, phragmites harvesting and invasion of alien species such as *Lantana camara.*

Waterbird counts were also carried out at Lake Rwihinda IBA in 2004, 2006 and 2008 (Figure 3). The results show a downward trend in number of individuals. Though the habitat quality has deteriorated, but the magnitude is not as serious as at Rusizi Nature Reserve.

Despite the decline in bird population as depicted in Figure 3, Rwihinda Lake Managed Nature Reserve has a significant improvement in terms of habitat quality as a buffer zone of 50 m from the edge of the lake was recently established. This buffer zone initiative, added to the reserve an area of not less than 200 ha. This IBA, which - home to number of birds species including some of global concern and route to migratory bird species- is still threatened by a quite number of ecological and social threats like land shortage and a high poverty in the surrounding community. This situation is worsened by frequent droughts spells and subsequent food shortage in the area.

To sum up, from 2001 to 2008, the state of monitored IBAs has slightly improved (this is shown by the upward trend depicted in figure 4 below) as the country was getting slow by slow out of the war.

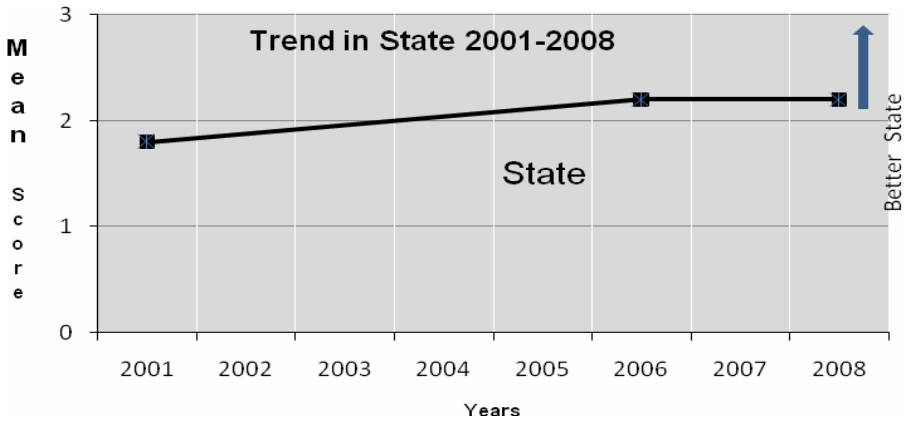


Figure 4. Overall state trend at the monitored PAs/IBAs

The slight improvement in terms of state particularly from 2006 to 2008 was due to political stability in the country that considerably eased pressure on the sites. It was also due to an increased awareness about environment issues with the emergency of a lot of advocacy and conservation interventions at site level by civil society organizations dealing with environmental matters.

4.2. *Pressure/Threats facing PAs/IBAs*

Table 1. Major threats to IBAs, monitoring years: 2001, 2006 and 2008

Threat	2001 (% of IBAs)	2006 (% of IBAs)	2008 (% of IBAs)
Agriculture encroachment/annual small holder farming	60	100	100
Direct mortality of 'trigger' species by hunting & trapping	60	60	100
Wildfires	40	80	100
Roads , Utility & service lines		80	100
Overgrazing/Small-scale grazing		60	100
Mining & quarrying	20	20	80
Gathering plants, fuel wood and medicinal herbs		80	80
Direct mortality by persecution or control			80
Tourism & recreation areas		60	60
Inadequate fishing methods, harvesting aquatic resources	20	60	60
Disturbance due to work & other activities		80	60
Invasive species		40	60
Habitat shifting & alteration			60
Drought		20	60
Storms & floods		20	60
Perennial non timber crops/small-holder plantations			40
Human settlements		20	40
Indirect mortality (by catch) of 'trigger' species / hunting	60		40
Habitat effects by hunting & trapping		20	40
Illegal logging	20	20	40
Disturbing recreational activities		60	40
War, civil unrest & military exercises		20	40
Problematic native species			40
Domestic & urban waste water		40	40
Aerial noise pollution		20	40
Garbage & solid wastes		40	20
Dams & water management/use		20	20
Illegal grazing/Nomadic grazing			20
Flight paths			20
Agricultural effluents			20
Natural landslides			20
Flight paths			20
Agriculture encroachment/Shifting agriculture		60	
Wood & pulp plantations / Small-holder plantations		20	
Other ecosystem modifications		40	
Recreational activities		60	
Works and other disturbing activities		80	

Agricultural encroachment and expansion is the most serious threat, followed in magnitude by hunting and trapping of trigger species. Other threats that have serious ramifications for biodiversity include wildfire devastations, infrastructural development (road, utility and service lines), overgrazing, Gathering plants; destructive mining and quarrying; invasive alien species and overfishing at wetland sites.

4.2.1. Agriculture encroachment, illegal cultivation

Considering the timing and the scope and severity scores, the overriding threat to IBAs in Burundi is still the conversion of forest lands into agriculture lands. The declining soil fertility coupled with increase in poverty levels and population increase remains the main challenge for Burundi.

Several studies have shown that the average per capita land ownership is 0.5 ha per household which is not enough to sustain agricultural production and livestock keeping. In face of these challenges, communities living adjacent to the remaining natural ecosystem under protection have a tendency to encroach on them. Findings from this monitoring period paint a grim picture showing that all the focal IBAs (100%) are subject to varying levels of agricultural encroachment.

Rusizi Nature Reserve (BI004) is the most affected. Initially a national park, prior to 2000 and covering an area of 9,000 ha, a part of Rusizi National Park was excised and degazetted, when the government hived off a part of the park to settle squatters. The park was then downgraded to a nature reserve with a reduced area of approximately 5,456 ha (ABO, 2008b). Rusizi Nature Reserve is also affected by pollution from agricultural chemicals that drain into the lake. The source of these chemicals is fertilizers and pesticides that run off to Rusizi River and Lake Tanganyika from surrounding agricultural landscape.

4.2.2. Killing `trigger' species by hunting and trapping

Results of 2001 and 2006 monitoring show that this threat exists at 3 out of 5 (60%) IBAs. Out of trigger species, other mostly threatened species by trapping are the big-size animal species such as hippos, crocodiles, buffaloes and antelopes. This trapping is commonly reported within Ruvubu National Park, Kibira National Park and Rusizi Nature Reserve and poachers use mainly spears and arrows coated with rapidly killing poisons. Intense activities of hunting impact IBAs by the fact that they disturb the habitat and the bird populations.

4.2.3. Compromising wildfires

Wildfires have been reported at all IBAs during 2008. Previously, they swept through 40% and 80% of IBAs in 2001 and 2006 respectively. These fires are deliberately lit by the poachers and livestock farmers of the area. Poachers set the fires in order to make easy tracking of animals while livestock farmers do it so as to regenerate soft and green fodder to be grazed by their cattle especially early in September at the onset of the rainy season.

Mostly affected is Ruvubu National Park probably because of large number of poachers compared to other IBAs. For instance, during the dry season of 2008, the park was burnt at a proportion of 70% with serious consequences on its biodiversity and habitat quality. Besides fires, it was reported that some wildfires originate from smokers who drop cigarettes butts and accidentally start fires.

4.2.4. Infrastructural development

A network of pathways criss-cross the protected areas. This is meant to ensure ease of movement of the people to shopping centres, churches and schools. This is therefore considered to be a serious threat to protected areas as it is a source of so many management problems including accidental fires. Based on the analysis of 2008 monitoring data, this was a threat to 100% of IBAs compared to 80% of IBAs in 2006. Kibira and Ruvubu National Parks and Bururi Forest Nature Reserve are the most affected by this threat.

In terms of roads, it is worthy to mention there is a main tarmacked road crossing Kibira National Park, and two all weather murrum roads crossing Ruvubu National Park and Bururi Forest Reserve. These roads are considered to be a serious threat to species as witnessed through frequent road killings of different kind of animal species.

4.2.5. NTFPs collection: fuel wood and traditional herbs collection

In Burundi the majority of the population relies on fuelwood as the source of energy for domestic cooking. Even in the capital city of Bujumbura few people are using electricity for domestic cooking. Firewood is considerably used by boarding schools, military barracks and tea factories. By the way it is known that woodland covered up to 3% of aggregate lands of Burundi in 2000 (MEEATU, 2008). Thus, with this high and increasing demand in a country with a small coverage of woodland, NTFPs collection is considered as a serious threat to protected areas.
To meet the growing demand and with limited alternatives, the communities living adjacent to these protected areas opt for exploiting fuelwood from the remaining natural ecosystems. This threat affects 80% IBAs in 2008 and in particular the fragile highlands rainforest of Kibira national Park and Bururi Forest Nature Reserve are the most affected.

4.2.6. Overgrazing/Small-scale grazing

Following the highly fragmentation and sub-division of arable lands to sustain the rapidly increasing population of Burundi (3%), grazing lands has become a serious issue. With less free land remaining, livestock farmers are left with an option of encroaching onto the natural ecosystems including protected areas**.** According to results from this monitoring project (see table above), 3 out of 5 (60%) IBAs are affected by the overgrazing emanating from encroachment from herders. Rusizi Nature Reserve being in proximity to Bujumbura capital is remarkably affected as it becomes the destination for livestock reared in the suburbs.

4.2.7. Destructive mining & quarrying

The collection of sand, gravels and other building materials and mineral prospecting and mining pose serious threat to protected areas and to the biodiversity they support. For example, a considerable quantity of the sand used to build houses in Bujumbura town and suburbs is extracted from the Rusizi Nature Reserve. Kibira National Park is mainly affected by gold mining by local communities especially in Cibitoke province towards the limits that Kibira shares with Nyungwe forest in Rwanda. Ruvubu National Park is affected in the areas where prospecting of nickel mineral. This was very prevalent in 2008. Results of the prospecting showed that the area is full of nickel. When mining activities start, we predict a disastrous impact as the habitat will be severely modified leading to land cover change and significant disturbance to biodiversity and most likely open up the area for an exodus of people.

4.2.8. Poor fishing methods and unsustainable exploitation of aquatic resources

This threat affects Rusizi Nature Reserve, Rwihinda Lake Managed Reserve and Ruvubu National Park representing 60% of PAs/IBAs in Burundi. Fishing is considered as threat because of poor fishing methods employed. Due to poverty and failure to afford efficient fishing gear, they tend to use unconventional fishing techniques such as chemicals that kill fish in mass and indiscriminately poisoning other aquatic biodiversity. Others use mosquito nets. The downside of this is that young fish are caught. This substantially affects regeneration and mortality. In some cases, fishermen burn aquatic vegetation to clear space catching mudfish particularly *Protopterus spp* (at Rusizi Nature Reserve) and *Clarias spp* (at Rwihinda Lake Managed Nature Reserve) which are abundant at these IBAs.

The impact of these fires on papryrus or on other wetland species is that the roosting; nesting and feeding habitats are devasted by these fires. There is a need to evaluate the exact impact of this on population dynamics, mortality and breeding success of species that are restricted to this habitat. Its is reported also that people fishing for example at Ruvubu river inside Ruvubu National Park catch young fish, pack them in jerricans and take them in the neighbouring region in Tanzania for sale.

Unsustainable harvesting of thatching or handcrafts materials at wetlands IBAs is also another serious threat. The demand for grass for thatching traditional houses and basketry is thus putting a lot of pressure on wetland vegetation. This practice unless controlled is likely to have a very serious impact on the globally threatened Grauer's Swamp Warbler (***Bradypterus graueri***) known to occur in Burundi highland forests of Kibira and Bururi.

4.2.9. Invasive species

Invasive species can out-compete native organisms, spread rapidly and have a negative impact on both individual species and on the ecosystem as whole. For the case of Burundi, it is recorded that 60% of IBAs in 2008 were threatened by different invasive species. For example, Rusizi Nature Reserve is highly threatened by *Lantana camara* which is spreading very fast and displacing the native vegetation. Other problematic species is the Water Hyacinth. (*Eichhornia crassipes*e) known to occur at all those wetland IBAs of Rusizi. The impact of the latter on the fishing industry and generally on livelihoods is very real and studies from elsewhere have shown that (O' Connell et al., 2006).

Rwihinda Lake Managed Nature Reserve is reported to suffer from a newly invasive Catfish species **(***Clarias gariepinus)***.** These catfishes are very large and hard predators, thus posing serious potential for impact on the native fish fauna (Vitule et al., 2005) According to the reserve's wardens, the species spread out from River Akagera and has considerably reduced population of other indigenous fish species on which it feeds.

4.2.10. Droughts

Drought in Burundi affects some parts of the country and people of these areas go for wetlands including those that are inside PAs/IBAs. This phenomenon has an impact on IBAs in general even if the exact impact on trigger species is not known so far.

Drought is a threat to 3 out of 5 IBAs in Burundi. Rusizi Nature Reserve and Rwihinda IBAs are the most affected as they are located in area where rains are not naturally abundant and the current climate change that hits among other regions of East Africa worsens the situation. The 2007 drought was harsh to the extent it led to famine in the northern province of Kirundo where Rwihinda Lake is located.

Using the 2001 data as a baseline, the current monitoring in terms of pressure on the IBAs showed an increase in 2006 and 2008 (see Fig. 5 below)

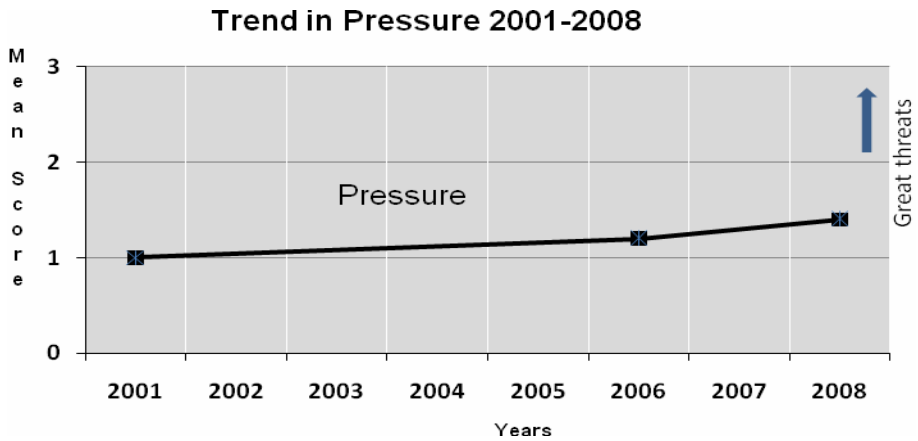


Figure 5. Overall pressure trend at the five monitored PAs/IBAs up to 2008

Unfortunately, the missing data from 2002 to 2005 and 2007 do not allow showing clearly the overall trend in threats to IBAs. The gaps for 2002, 2005 and 2007 do not provide information about the threats occurring on various IBAs.

4.3. *Response/Conservation actions at five monitored IBAs*

From the colonial era until recently, there was a general lack of awareness about conservation of nature resources at national level. Not many actions were undertaken towards sustainable management and conservation of these resources. With the high population or demographic trends and lack of land, the government and civil society organizations are focusing on conservation and effective management of these sites despite financial constraints and recent civil unrest.

4.3.1. INECN and PAs/IBAs conservation

The 'Institut National pour l'Envrionnement et la Conservation de la Nature (INECN)', a government institution in charge of protected areas is making tremendous efforts in biodiversity conservation. The IBA monitoring project has benefited significantly from the collaboration with INECN as most of data collected comes from its park rangers and guides who regularly patrol protected areas. Development of management plans for the respective protected areas were underway since a decade ago. However, lack of funds and distraction by the civil unrest from 1993 stalled this very important process. It is gratifying to note that INECN has recently revisited this issue and resumed work on finalising the management plans. Already, the management plan for Rwihinda Lake Managed Nature Reserve (BI001) is available whereas those for the other sites are at an advanced stage of completion and are expected out soon. INECN has also taken a lead in PAs/IBAs conservation through the establishment of Buffer zones. A buffer zone of 50 m was recently established at Rwihinda Lake Managed Nature Reserve and it is already giving positive results.

4.3.2. Forestry Department and IBA Conservation

To counter the shortage of fuelwood and timber the government through the Forestry Department initiated an extensive tree planting programme including fruit trees. This agroforestry programme is specifically targeting communities and once fully implemented, it is anticipated that it will significantly reduce the pressure being exerted on the remaining natural ecosystems.

4.3.3. Civil Society Organisations and PAs/IBAs conservation

The level of awareness on the importance of conserving nature resources has tremendously increased amongst Burundians. The rise of local non-governmental organizations is a very positive development and among them the Association Burundaise pour la protection des Oiseaux – ABO, the BirdLife partner in Burundi.

ABO focuses most of its programmatic activities towards bird conservation and habitat protection through the IBA conservation programme. Most of the conservation actions are undertaken by ABO includes working with local communities hereby referred to as Site Support Groups (SSGs). Work with SSGs revolves around awareness raising, biodiversity monitoring, policing and demarcation of PAs and full engagement of local communities in planning and actual site-based conservation programmes. To improve livelihoods for the local people and enlist their support for conservation, income generating activity projects for communities around Rusizi Nature Reserve; Rwihinda Lake Managed Nature Reserve and Kibira National Park were implemented from 2004 to 2008 as an incentive for local communities to get more involved in conservation. Currently, there is also an ongoing livelihoods project at Ruvubu National Park focusing on bee keeping and tree planting through SSGs

In order to ensure sustainable biodiversity monitoring, the BirdLife project on PAs/IBAs monitoring funded by EC aims to collect data on the five most Important Bird Areas (Rwihida Lake Managed Nature Reserve, Kibira National Park, Bururi Forest Nature Reserve and Rusizi Nature Reserve). Through this initiative, a Directory of Important Bird Areas in Burundi was recently published as a useful reference that will guide in the process of setting priority for conservation investment in the country.

The 'Action Ceinture Verte pour l'Environnement (ACVE)', 'Burundi Nature Action (BNA)', 'Organisation pour la Défense de l'Environnement au Burundi(ODEB)', Enviroprotec are among other local NGOs taking part in conservation on the ground. International NGOs have also made tremendous efforts and contribution towards the conservation of PAs/IBAs through offering incentives (food for work or cash for work) or livelihood alternatives (solar furnaces, ovines) to local based communities with the purpose of rehabilitating and restoring protected areas.

These NGOs include Catholic Relief Service, CARITAS Belgium, World Food Program (WFP), Nile Basin Initiative (NBI), Wildlife Conservation Society (WCS), and International Union for Conservation of Nature (IUCN), Central Africa Regional Programme for Environment (CARPE), World Wide Fund for Nature (WWF) and Ligue française pour la Protection des Oiseaux (LPO).

4.3.4. Institutionalization of an Environmental Police

INECN rangers conduct regular patrols to enforce law. However, the recent civil unrest made their work very difficult as people took advantage of the situation and increased their illegal activities such as charcoal burning, logging, and hunting inside protected areas. For this matter the government decided to put in place a special Police with a mission to support the Ministry in charge of environment and particularly the work of INECN of surveillance of protected areas.

In general, there is a clear demonstration of consistent concerted and collective efforts being made to conserve PAs/IBAs despite financial constraints. The graph below (Figure 6) shows the changes with the Response indicator (conservation actions) between 2001 and 2008.

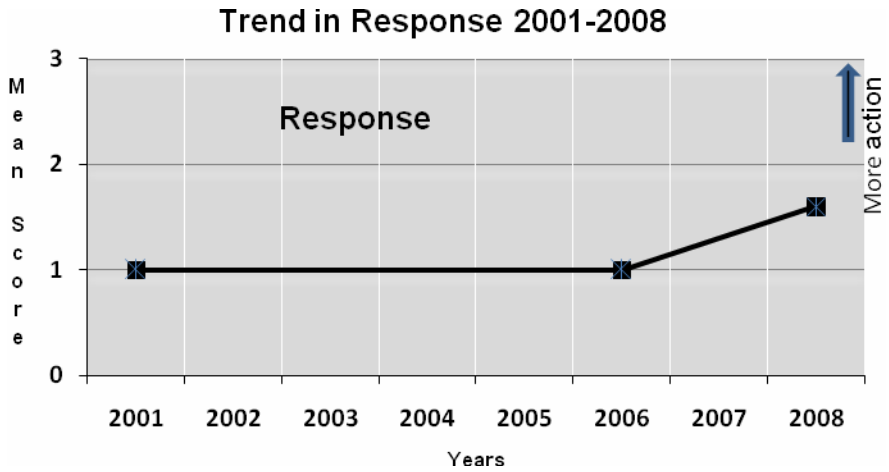


Figure 6. Overall Respond trend at the five monitored PAs/IBAs up to 2008

Attention should be drawn to the data gaps for years 2002 to 2005 hence the graph does not reflect the real situation but at least ideally shows consistency in the work done during the same period. The noticeable increase of the overall Response from 2006 up to now is probably due to prevailing peace and the increased awareness amongst the people on environmental and conservation of natural resources issues.

CHAPTER 5. CONCLUSION AND RECOMMENDATION

5.1. *Conclusion*

A monitoring system for IBAs is effective in Burundi and especially effective from 2008 with the financial support from the regional project **"Instituting Effective Monitoring of Protected Areas (Important Bird Areas) as a contribution to Reducing the Rate of Biodiversity Loss in Africa".** The findings showed that the five PAs/IBAs targeted by the monitoring project are facing an increasing level of Pressure (threats) attributed to human activities, the most important being agricultural encroachment, grazing, poaching and wildfires. All these threats are attributed to the high population growth and poverty. In fact, the regular increase in human population coupled with a high poverty led to land demand for land for settlement and crop production. These threats were more intensive during the civil unrest that hit the country from 1993 but reduced in 2005 after the peace was steadily restored.

In this view, the overall IBAs State (habitat quality) did not significantly change with even a slight improvement from 2006 up 2008 due to stability and resumption of effective PA management. State kept improving with the institutionalization of environmental police by Government. The improvement of the State was due to the improvement in terms of Response (i.e. conservation actions).

Government interventions have steadily improved the financial constraints associated with the civil war notwithstanding. The government is also striving to formulate legislation and policies that are pro-conservation. For example the National Biodiversity Strategy and Action Plan to implement the Convention on Biological Diversity is one of the policy interventions that are likely to have a positive impact on the environment. The increase in Response indicators is also related to conservation actions undertaken by Civil Society Organizations such ABO among others. This project is a manifestation of the efforts by CSOs in the management, conservation and monitoring of biodiversity.

The improvement in terms of State and Response pointed out above does not mean that those IBAs are in the ideal and desirable situation. Detailed data shows that sites like Rusizi Nature Reserve are still under serious threats and need vigorous and concerted efforts from all partners in the implementation of conservation and livelihood initiatives.

It is anticipated that the results presented in this report will help Burundi PAs/IBAs managers to improve their management effectiveness and adapt appropriately. They will also help fulfill the Government obligations under the Convention on Biological Diversity and other conventions. They will serve as a basis, for example, to assess how far the country has gone with the National Biological Strategy and Action Plan and specifically assess the progress made towards the international target to significantly reduce biodiversity loss by 2010.

5.2. *Recommendations*

Based on several field visits, the monitoring information gathered and views of some conservation partners, the general recommendation is that all conservation interventions need to be well coordinated and harmonised to ensure and maximise on the conservation outcomes at PAs/IBAs. This therefore requires partnerships, linkages and concerted efforts amongst the various stakeholders in terms of action on the ground and mobilizing the available resources, scale up intervention efforts to achieve maximum results and reverse trends in biodiversity decline.

Recommendations are hereby made for each of the various institutions with a stake in the conservation of natural resources in Burundi.

MEEATU (i.e. Ministry in charge of environment):

- Review and where necessary formulate laws and/or policies that favor sustainable use and conservation of nature resources in Burundi in particular the gazettement of Ruvubu National Park to avoid externalities of the neighboring development environment
- Effectively domesticate international treaties and conventions such as CBD, RAMSAR, United Nations Framework Convention on Climate Change (UNFCCC) and United Nations Convention to Combat Desertification (UNCCD) ratified by Burundi so as to make sure global targets such as 'reduce biodiversity loss by 2010' of the CBD are significantly met;
- Ratify and sign other very important international treaties such as the African and Eurasian Waterbird Agreement (AEWA);
- Address as much as it can the issues of land tenure and allocation to communities surrounding PAs/IBAs;
- Promote the Government-NGO/CSO-Private sector partnership sustainable biodiversity conservation in Burundi.

INECN:

- Demarcate and designate effective boundaries and buffer zones of protected areas;
- Update data on protected areas;
- Develop/Review Management Plans for protected areas;
- Lobby the government to allocate more funds to ensure effective conservation of Protected Areas;
- Identify survey and propose new potential PAs/IBAs to be designated or gazetted by Ministry in charge of environment. These should include Malagarazi wetland and Estuaries of main rivers draining into Tanganyika Lake.

- Develop a harmonised conservation strategy to ensure smooth communication network, coordinated conservation and long-term partnerships between INECN and other stakeholders;
- Develop the capacity of rangers to enforce law, monitor biodiversity and increase the coverage of patrols.

INECN Personnel at site

- Enhance collaboration with local communities around protected areas;
- Invest more energy and resources in protected areas management.

ABO and any other NGOs participating in conservation

- Establish, strengthen and empower site support groups;
- Enhance collaboration with local authorities and local communities around protected areas;
- Increase awareness of local community on the value of conservation of IBAs;
- Promote bird watching at all IBAs to promote the appreciation of birds;
- Carry out regular bird counts at all IBAs and extend this action to all potential IBAs;
- Work in synergism with other local NGOs taking part in conservation of natural resources at IBAs;
- Advocate for the establishment of a National Liaison Committee that oversees all interventions on the IBAs;
- Support community initiatives through income generating activities.

Neighbouring communities

- Establish individual woodlots as a sustainable strategy of reducing dependence on forest resources in IBAs;
- Get more involved and participate in nature resources conservation.
- Communities gathered in SSGs around PAs, to be pioneers in conservation of forest resources and in respecting and protecting the integrity of forestland or PAs.

The Forest Department

- To invest more energy in nation wide reforestation programmes;
- Replant of encourage natural regeneration of degraded forests with indigenous tree species where it is still necessary;
- To financially support good initiatives of local communities in restoration of indigenous species;
- Promote linkages with other sectors.

REFERENCES

1. ABO (2003). *Contribution à la conservation de la Réserve Naturelle de la Rusizi atravers les initiatives d'auto-financement : Elevage de Poules.* Cellule environnementale de Gatumba. Rapport d'activités. Bujumbura, Burundi.

2. ABO (2006). *Assessment of Socio-cultural, Economic Characteristics and Livelihood of Riparian Population of the Kibira National Park*. Final Report. Bujumbura.

3. ABO (2008 a). *Quelques dispositions légales essentielles relatives aux parcs nationaux et réserves naturelles au Burundi*. ABO. Bujumbura. Burundi.

4. ABO (2008 b). *Zones importantes de conservation des oiseaux au Burundi. Sites prioritaires pour la conservation*. *Sites prioritaires pour la Conservation*. ABO. Bujumbura. Burundi.

5. Alassoum, O., Belemsobgo, U., Djéri-Alassani, B.K., Lartiges, A., Oury-Bah, M., Sinsin, B., and Thimassey, J.P. (1998). *Les aires protégées d'Afrique francophone.* Agence de la francophonie. Editions Jean Pierre de Monza.

6. BirdLife International (2008 a). *Etat des populations d'oiseaux dans le monde : des indicateurs pour un monde qui change.*Cambridge UK: BirdLife International

7. BirdLife International (2008 b). *Toolkit for Important Bird Area Conservation in Africa*. BirdLife Africa Partnership ICIPE Campus, Kasarani Road/ Nairobi, Kenya.

8. BirdLife International (2006). Monitoring Important Bird Areas: a global framework. Cambridge, UK. BirdLife International. Version. 1.1

9. ENVIROPROTEC (2008). *Aménagement et gestion concertée et durable de la reserve forestière de Bururi* : *Etude socio-économique de référence de la zone périphérique de la réserve foretière de Bururi*. Bujumbura. Burundi.

10. Fishpool, L.D.C, and Evans, M.I., eds. (2001). *Important bird areas in Africa and associated islands: Priority sites for conservation*. Newbury and Cambridge, UK: Pisces Publications.

11. Fofo, A. (2005). *Etude de faisabilité de l'écotourisme dans le secteur Delta de la Réserve Naturelle de la Rusizi*. Bujumbura, Burundi.

12. Jayne.T-S., Isaac, J-M., and Argwings-Kodhek. G. (2002). *Perspectives on Agricultural Transformation*. *A View from Africa.* Nova Science Publishers, Inc. Hauppauge, New York.

13. MEEATU (2008). *Quatrième rapport du Burundi à la convention sur la diversité biologique : Mise en œuvre de l'objectif 2010 de la CDB*. Bujumbura. Burundi.

14. Mungangu, T, Nindorera, D. Nzigidahera, B.(2008*). Etude des modes de gouvernance et des catégories d'aires protegées actuelles et futures au Burundi*. Bujumbura, Burundi.

15. Nature Kenya (2006). *Kenya's Important Bird Area*. *Status and trend 2006*. Nairobi, Kenya

16. O' Connell, M., Nasirwa, O., Janes, R., Buckton, S. and Dodman, T. (2006). *Building Capacity in Waterbird And Wetland Monitoring in Eastern Africa. Waterbirds around the world*. *Eds*.

17. G.C. Boere, C.A. Galbraith & D.A. Strood. The Stationery Office. Edinburgh. U.K. *Wetland Biodiversity Monitoring Scheme.* Manual Scheme.

18. Riedacker, A. (2004). *Changements climatiques et forêts*. Nouvelle Imprimerie Laballery, Clamecy.

19. Vitule, J.R.S, Umbria S.C & Aranha, J.M.R (2005). *Introduction of the African catfish Clarias gariepinus into Southern Brazil*. Departamento de Zoologia, Laborato´rio de Ecologia de Rios (EcoRios), Setor de Cieˆncias Biolo´gicas. Universidade Federal do Parana´, Centro Polite´cnico, Curitiba, Parana´, 81531-990, Brazil.

ANNEX

Annex I. Matrix of main threats recorded at PAs/IBAs in 2008

BI 001 : Rwihinda Lake Managed Nature Reserve
BI 002 : Kibira National Park
BI 003 : Ruvubu National Park
BI 004 : Rusizi Nature Reserve
BI 005 : Bururi Forest Nature Reserve

Threat	BI 001	BI 002	BI 003	BI 004	BI 005
Agriculture encroachment/annual small holder farming	x	x	x	x	x
Direct mortality of 'trigger' species by hunting & trapping	x	x	x	x	x
Wildfires devastations	x	x	x	x	x
Roads , Utility & service lines	x	x	x	x	x
Overgrazing/Small-holder grazing	x	x	x	x	x
Destructive mining & quarrying		x	x	x	x
Gathering plants, fuel wood and medicinal herbs		x	x	x	x
Direct mortality by persecution or control	x	x	x	x	
Tourism & recreation areas	x		x	x	
Overfishing, harvesting aquatic resources	x		x		x
Disturbance due to work & other activities	x	x	x	x	
Invasive alien species	x			x	x
Habitat shifting & alteration				x	x
Drought	x		x		x
Storms & floods		x	x		x
Perennial non timber crops/small-holder plantations		x			x
Housing areas(Human settlement)		x		x	
Indirect mortality (by catch) of 'trigger' species / hunting		x	x	x	
Habitat effects by hunting & trapping		x	x		
Illegal logging		x			x
Disturbing recreational activities	x		x	x	
War, civil unrest & military exercises		x		x	
Problematic native species				x	x
Domestic & urban waste water				x	
Aerial noise pollution		x		x	
Garbage & solid wastes				x	
Dams & water management/use		x			
Illegal grazing/Nomadic grazing				x	
Agricultural effluents					x
Natural landslides			x		
Flight paths				x	
Wood & pulp plantations / Small-holder plantations					x
Other ecosystem modifications		x	x		
Recreational activities	x		x	x	
Works and other disturbing activities	x	x	x	x	

Annex II. State trend analysis at the monitored IBAs in Burundi up to 2008

		AREA			
		Good (>90%)	Moderate (70-90%)	Poor (40-70%)	Very poor (<40%)
QUALITY	Good (>90%)	3	2	1	0
	Moderate (70-90%)	2	1	0	0
	Poor (40-70%)	1	0	0	0
	Very poor (<40%)	0	0	0	0

From the table here above, score and its description are obtained by pairing up the column (remaining area) to row (quality). For instance: the combination of Good area (>90%) and Good quality gives **Good** state with a score of **3**. Good area (>90%) to Moderate quality (70-90%) gives a **Moderate state** with a score **(2)**; Good (>90%) to Poor (40-70%) is **Poor (1)** and Good (>90%) paired to Very poor (<40%) give' **Very Poor (0)**'.

For Burundi, the 2008 IBA's overall state description given hereafter refers to 2006 baseline. In fact the difference between the Overall state for the five monitored IBAs in 2008 and 2006 gives the state trend score for 2008. For example the state trend of RNR is scored 2 (Moderate state) in 2008 when it was 1 in 2006 (poor state) the reason why the state trend score is -1 which shows a 'Small decline' in the habitat state.

The table below shows the analysis of the state trend at the five Important Bird Areas that are monitored i.e. RLMNR, KNP, RNP, BFNR.

Scores and Condition trend scores for IBA & their description

+3: Large Improvement
+2: Medium
+1: Small Improvement
0: No Change

-1: Small Decline
-2: Medium Decline
-3: Large Decline

Code of IBA	Name of IBA	2006	2008	Overall scores	State Trend description
BI001	RLMNR	3 Good	3 Good	0	No change
BI002	KNP	2 Moderate	2 Moderate	0	No change
BI003	RNP	2 Moderate	2 Moderate	0	No change
BI004	RNR	2 Moderate	1 Poor	-1	Small decline
BI005	BFNR	1 Poor	2 Moderate	+1	Small improvement

Annex III. Structured monitoring form (extracted from the Global Monitoring Framework)

Help to monitor IBAs-
Key sites for biodiversity
Conservation

PLEASE:

- Answer the questions below
- Give details wherever possible
- Return a completed form once a year if you are resident at a site or a regular visitor, but note that relevant information is helpful, at any time.
- Consider making use of sketch maps as an additional means of recording key results, such as the precise location & extent of threat, sightings of key species, extent of particular habitats, routes taken and areas surveyed etc.
- Return the completed form to Coordinator at ABO office
  Bujumbura, Victoire Avenue, Plot nr 25
  Tel :+257 22 24 94 70
  P.OBOX 7069 Bujumbura-Burundi

PART I. ESSENTIAL INFORMATION (Please use a different form for each site)

Name of the IBA _____ Date _____

Your name _____ Postal address _____

_____

Telephone/fax _____ e-mail _____

What does this form cover? (tick one box)

☐ (a) the whole IBA ☐ (b) just part of the IBA
If (b), which part/how much of the whole area?

_____

_____

Do you live at or around the IBA?

☐ (a) Yes ☐ (b) No
If (b) when did you visit the IBA and for how long?

PART II. MONITORING THE IBA

You don't need to answer all the questions or fill in all the tables- please just put down the information that you have available

THREATS TO THE IBA ('PRESSURE')

General comments on threats to the site and any changes since your last assessment (if relevant):

In the table opposite and overleaf, please score each threat that is relevant to the important birds at the IBA, based on your observations and information, for Timing, Scope and Severity. In the 'details' column, please explain your scoring and make any other comments. Please note any changes in individual threats since the last assessment. If threats apply only to particular species, please say so.

Use the following guidelines to assign scores for Timing, Scope and Severity. The numbers are there to help you score, but are intended as guidance only: you don't need exact measurements to assign a score. For scoring combined threats, Timing, Scope and Severity scores should either be equal to or more than the highest scores for individual threats; scores cannot be less than those allocated to individual threats.

Timing of selected threat	**Timing score**
Happening now	3
Likely in short term (within 4 years)	2
Likely in long term (beyond 4 years)	1
Past (and unlikely to return) and no longer limiting,	0

Scope of selected threat	**Scope score**
Whole area/population (>90%)	3
Most of area/population (50-90%)	2
Some of area/few individuals (<10%)	1
Small area/few individuals (<10%)	0

Severity of selected threat	**Severity Score**
Rapid deterioration (>30% over 10 years or 3 generations Whichever is the longer)	3
Moderate deterioration (10-30% over 10 years or 3 generations)	2
Slow deterioration (1-10% over 10 years or 3 generations)	1
No or imperceptible deterioration (<1% over 10 years)	0

Notes on threat types

1. **Agricultural expansion & intensification**. Threats from farming and ranching as a result of agricultural expansion and intensification, including silviculture, mariculture and aquaculture. Note that wood and pulp plantations include afforestation, and livestock farming and ranching includes forest grazing. Agricultural pest control and agricultural pollution-specific problems apply to '5. Over-exploitation, persecution and control', and '9. Pollution' respectively.
2. **Residential and commercial development**. Threats from human settlements or other non-agricultural land uses with a substantial footprint; resulting in habitat destruction and degradation, also causing mortality through collision. Note that domestic or industrial pollution-specific problems apply to '9. Pollution'.

3. **Energy production & mining**. Threats from production of non-biological resources; resulting in habitat destruction and degradation, also causing mortality though collision. Note that renewable energy includes wind farms
4. **Transportation & service corridors** Threats from long narrow transport corridors and the vehicles that use them, including shipping lanes and flight paths; resulting in habitat destruction and degradation, erosion, disturbance and collision.
5. **Over-exploitation, persecution & control** Threats from consumptive use of wild biological resources including both deliberate and unintentional harvesting effects; also persecution or control of specific species. Note that hunting includes egg-collecting, gathering includes firewood collection, and logging includes clear cutting, selective logging and charcoal production.
6. **Human intrusions & disturbance** Threats from human activities that alter, destroy and disturb habitats and species associated with non-consumptive uses of biological resources.
7. **Natural system modifications** Threats from actions that convert or degrade habitat in service of managing natural or semi-natural systems, often to improve human welfare. Note that 'other ecosystem modifications' include intensification pf forest management, abandonment of managed lands, reduction of land management, and under grazing. 'Dams & water management/use' includes construction and impact of dykes/dams/barrages, filling in of wetlands, groundwater abstraction, drainage, dredging and canalization.
8. **Invasive & other problematic species and genes** Threats from non-native and native plants, animals, pathogens and other microbes, or genetic materials that have or are predicted to have harmful effects on biodiversity (through mortality of species or alteration of habitats) following their introduction, spread and/or increase in abundance.
9. **Pollution** Threats from introduction of exotic and/or excess materials from point and non-point sources causing mortality of species and/or alteration of habitats. Note that domestic and urban waste water includes sewage and run-off; industrial and military effluents includes oils spills and seepage from mining; agricultural and forestry effluents and practices includes nutrient loads, soil erosion, sedimentation, high fertilizer input, excessive use of chemicals and salinization; and air-borne pollutants includes acid rain
10. **Geological events** Threats from catastrophic geological events that have the potential to cause severe damage to habitats and species.
11. **Climate change & severe weather** Threats from long-term climatic changes which may be linked to global warming and other severe climatic/weather events.

THREAT TYPE	Scores			DETAILS
	Timing	Scope	Severity	
1. Agricultural expansion & intensification				Give details of specific crops, e.g. oil palm, or e.g. cattle, & issue
Annual crops- Shifting agriculture				
- Small-holder farming				
- Agro-industry farming				
Perennial non-timber crops- Small-holder plantations				
-Agro-industry plantations				
Wood &pulp plantations- Small-holder plantations				
- Agro-industry plantations				
Livestock farming & ranching- Nomadic grazing				
- Small-holder grazing, ranching or farming				
- Agro-industry grazing, ranching or farming				
Marine & freshwater aquaculture -Subsistence/ artisanal aquaculture				
- Industrial aquaculture				

THREAT TYPE	Scores			DETAILS
	Timing	Scope	Severity	
2. Residential & commercial development				Give details of type of development & issue
Housing & urban areas				
Commercial & industrial areas				
Tourism & recreation areas				
3. Energy production & mining				Give details of specific resource & issue
Oil & gas drilling				
Mining & quarrying				
Renewable energy				
4. Transportation & service corridors				
Roads & railroads				
Utility & service lines				
Shipping lanes				
Flight paths				
5. Over-exploitation, persecution & control of species				Give details of issue
Direct mortality of 'trigger' species-hunting & trapping				
- persecution/control				
Indirect mortality (by catch) of 'trigger' species-hunting				
- fishing				
Habitat effects-hunting & trapping				
- gathering plants				
- logging				
- fishing & harvesting aquatic resources				

**This is to enable an assessment to be made of the Timing, Score and Severity for this threat type as a whole, recognizing that the combination of threats within each type may result in higher overall scores for each of Timing, Scope and Severity*

THREAT TYPE	Scores			DETAILS
	Timing	Scope	Severity	
6. Human intrusions & disturbance				Give details of specific activity & issue
Recreational activities				
War, civil unrest & military exercises				
Work & other activities				
7. Natural system modifications				Give details of the alteration & issue
Fire & fire suppression				
Dams & water managements				
Other ecosystem modifications				
8. Invasive & other problematic species & genes				Give details of the invasive or problematic species & issue
Invasive alien species				
Problematic native species				
Introduced genetic material				

THREAT TYPE	Scores: Timing	Scores: Scope	Scores: Severity	DETAILS
9. Pollution				Give details of pollution, source if known (e.g. Agricultural, domestic, industrial) & issue
Domestic & urban waste water				
Industrial & military effluents				
Agricultural & forestry effluents & practices				
Garbage & solid waste				
Air-borne pollutants				
Noise pollution				
Thermal pollution				
Light pollution				
10. Geological events				Give details of specific event and issue
Volcanic eruptions				
Earthquakes/tsunamis				
Avalanches/landslides				
11. Climate change & severe weather				Give details of specific event & issue
Habitat shifting & alteration				
Drought				
Temperature extremes				
Storms & floods				
12. Other				If the threat does not appear to fit in the scheme above, give details here of the threat, its source if known and how it's affecting the IBA
1.				
2.				
3.				

CONDITION OF BIRD POPULATIONS AND HABITATS ('STATE')

General comments on condition of the site and any changes since your last assessment (if relevant):

_____

_____

If you have **estimates or counts of bird populations**, or other information on the important bird species at the IBA, please summarize these in the table below

Bird species or groups	Population estimate (state whether individuals or pairs)	Details/other comments

If you have information on the **area** of the natural habitats important for birds' populations at the IBA, please summarize it below. Please note any major changes since last assessment in the 'details' column.

Habitat	Current area if known (include units, e.g. ha, km²) or code	Details/comments/major changes

† Habitat area codes: Choose from Good (overall >90% of optimum), Moderate (70-90%) or Very Poor (<40%). If you do not know the actual habitat area, give your best assessment of the current habitat area at the site, in relation to its potential optimum if the site was undisturbed.

The percentages are given as guidelines only: use your best estimate. Please justify your coding in the 'details' column.

If you have information on the **quality** of the natural habitats important for bird populations at the IBA, please summarize it below. Please note any major changes since last assessment in the 'details' column.

Habitat	Quality rating*	Details/comments/major changes

- Habitat quality rating: Choose from Good (overall >90% of optimum), Moderate (70-90%), Poor (40-70%) or Very Poor (<40%). Give your best assessment of the average habitat quality across the site, it terms of its suitability for the important bird species. The percentages relate to the population density of the 'trigger' species in its key habitat. Thus 100% means that the species is at carrying capacity in its habitat. The percentages are given as guidelines only: use your best estimate. Please justify your selection in the 'details' column.

CONSERVATION ACTIONS TAKEN AT IBA ('RESPONSE')

General comments on actions taken at the site, including recent changes or developments

Please tick the box next to the text that applies for each of conservation designation, management planning and conservation action below.
Please add any details and where appropriate give a brief explanation for your choice.

CONSERVATION DESIGNATION

☐ Whole area of IBA (>90%) covered by appropriate conservation designation

☐ Most of IBA (50-90%) covered (including the most critical parts for the important bird species)

☐ Some of IBA covered (10-49%)

☐ Little/none of IBA covered (<10%)

Details and explanation

MANAGEMENT PLANNING

☐ A comprehensive and appropriate management plan exists that aims to maintain or improve the population of qualifying

☐ A management plan exists but it is out of date or not comprehensive

☐ No management planning exists but the management planning process has begun

☐ No management planning has taken place

Details and explanation

_____

_____

CONSERVATION ACTION

☐ The conservation measures needed for the site are being comprehensively and effectively implemented

☐ Substantive conservation measures are being implemented but these are not comprehensive and are limited by resources and capacity

☐ Some limited conservation initiatives are in place (e.g. action by Local Conservation Groups)

☐ Very little or no conservation action is taking place

Details and explanation

_____

_____

PART III. INFORMATION ON PEOPLE AND INSTITUTIONS AND THEIR ACTIVITIES

Please record any details of Local Conservation Groups (LCGs) (e.g. SSGs, Caretaker Groups) established at the site in the table below.

LCG name	Total members	Male members	Female members	Other information

PART IV. ACTIVITIES UNDERTAKEN AT THE IBA

In the table opposite, please indicate the activities undertaken by any the LCG, other CBO, the Birdlife Partner, Government agencies or other organizations or people at the IBA. This should include current activities, and activities carried out in the last four years

Notes on action type

1. **Land/water protection** Actions to identify, establish or expand parks and other legally protected areas
2. **Land/water management** Actions directed at conserving or restoring sites, habitats and the wider environment
3. **Species management** Actions directed at managing or restoring species, focused on the species of concern itself
4. **Education & awareness** Actions directed at people to improve understanding and skills, and influence behavior
5. **Law & policy** Actions to develop, change, influence, and help implement formal legislation, regulations (including at the community level), and voluntary standards.
6. **Livelihood, economic & other incentives** Actions t use economic and other incentives and to influence behavior
7. **External capacity building** Actions to build infrastructure resulting in better conservation, including through civil society development (e.g. enhancing community role in decision-making on natural resource use).

ACTION TYPE	Action being undertaken by					DETAILS
	LCG	Other CBO	Birdlife Partner	Government	Other (specify)	
1. Land/water protection						
Site/area protection						
Resource & habitat protection						
2. Land/water management						
General site/area management						
Invasive/problematic species control						
Habitat & natural process restoration						
3. Species management						
General species management						
Species recovery						
Species (re)introduction						
4. Education & awareness						
Formal education						
Training						
Awareness, publicity & communications						

ACTION TYPE	Action being undertaken by					DETAILS
	LCG	Other CBO	Birdlife Partner	Government	Other (specify)	
5. Law & policy						
Public legislation						
Policies and regulations						
Private sector standards & codes						
Compliance, enforcement & policy						
6. Livelihood, economic & other incentives						
Linked enterprises & livelihood alternatives (e.g. ecotourism)						
Substitution (alternative products to reduce pressure)						
Market forces (e.g. certification)						
Conservation payments						
Non-monetary values (e.g. spiritual, cultural)						
7. Capacity building						
Institutional & civil society development						
Alliance and partnership development						
Conservation finance						
8. Other (e.g. surveys, monitoring, research, EIAs)						
1.						
2.						
3.						

PART V. ADDITIONAL INFORMATION

Please give any further information or details that you think may be helpful. For example • Number of conservation staff and volunteers • Number of visitors • Revenue generated • Interesting bird records • Lists or details of other fauna or flora • Useful contacts (for research or conservation projects, tourism initiatives etc.) • Other notes. Please attach or send more sheets or other documents/reports as necessary.

The Important Bird Area Programme of Birdlife International

- The function of the Important Bird Area (IBA) Programme is to identify, protect and manage a network of sites that are important for the long-term viability of naturally occurring bird populations, across the geographical range of those bird species for which a site-based approach is appropriate.
- The continued ecological integrity of these sites will be decisive in maintaining and conserving such birds. Legal protection, management and monitoring of these crucial sites will all be important targets for action, and many (but not all) bird species may be effectively conserved by these means. Patterns of bird distribution are such that, in most cases, it is possible to select sites that support many species.
- The IBA Programme is global in scale and more than 10,000 IBAs have already been identified world-wide, using standard, internationally recognized criteria for selection
- The sites are identified on the basis of the bird numbers and species' complements that they hold, and are selected such that, taken together, they form a network throughout the species' biogeographic distributions
- This network may be considered as a minimum essential to ensure the survival of these species across their ranges, should there occur a net loss of remaining habitat elsewhere through human, or other, modification. Therefore, the consequences of the loss of any one of these sites may be disproportionately large
- The programme aims to guide the implementation of national conservation strategies, through the promotion and development of national protected-area programmes. It is also intended to assist the conservation activities of international organizations and to promote the implementation of global agreements and regional measures

Annexe IV. Burundi triggers species by IBA

(BirdLife International 2008)

BI001 : Rwihinda Lake Managed Nature Reserve

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Francolin à collier /Ring-necked Francolin/ *Francolinus streptophorus*	Resident	1999	-	A3
Barbican à face rouge/ Red-faced Barbet /*Lybius rubrifacies*	Resident	1999	-	A3
Gonolek de Papyrus /Papyrus Gonolek /*Laniarius mufumbiri*	Resident	1999	-	A1, A3
Cisticole Carruthers /Carruthers's Cisticola /*Cisticola carruthersi*	Resident	1999	-	A3
Bouscarle à ailes blanches/White-winged Scrub-warbler /*Bradypterus carpalis*	Resident	1999	-	A3
Chloropète aquatique /Papyrus Yellow Warbler /*Chloropeta gracilirostris*	Resident	1999	-	A1, A3
Cratérope de Sharpe/ Sharpe's Pied-babbler /*Turdoides sharpei*	Resident	1999	-	A3
Souimanga à ceinture rouge /Red-chested Sunbird/ *Nectarinia erythrocerca*	Resident	1999	-	A3
Tisserin à gorge noire/ Northern Brown-throated Weaver/ *Ploceus castanops*	Resident	1999	-	A3
Dos-vert à collier/ White-collared Oliveback /*Nesocharis ansorgei*	Resident	1999	-	A3

BI002 : Kibira National Park

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Francolin noble /Handsome Francolin /*Francolinus nobilis*	Resident	1999	-	A2, A3
Buse montagnarde /Mountain Buzzard /*Buteo oreophilus*	Resident	1999	-	A3
Tourterelle à poitrine rose /Dusky Turtle-dove /*Streptopelia lugens*	Resident	1999	-	A3
Touraco du Ruwenzori /Ruwenzori Turaco *Ruwenzorornis johnstoni*	Resident	1999	-	A2, A3
Engoulevent de Ruwenzori/ Ruwenzori Nightjar/*Caprimulgus ruwenzorii*	Resident	1999	-	A2, A3
Martinet de Shouteden /Scarce Swift /*Schoutedenapus myoptilus*	Resident	1999	-	A3
Trogon à queue barrée /Bar-tailed Trogon/ *Apaloderma vittatum*	Resident	1999	-	A3
Guêpier montagnard /Cinnamon-chested Bee-eater /*Merops oreobates*	Resident	1999	-	A3
Pic de Tullberg /Tullberg's Woodpecker /*Campethera tullbergi*	Resident	1999	-	A3
Pririt du Ruwenzori/ Ruwenzori Batis /*Batis diops*	Resident	1999	-	A2, A3
Gladiateur de Doherty/Doherty's Bush-shrike /*Malaconotus dohertyi*	Resident	1999	-	A3
Gonolek de montagne /Mountain Boubou /*Laniarius poensis*	Resident	1999	-	A3
Echenilleur gris /Grey Cuckoo-shrike/ *Coracina caesia*	Resident	1999	-	A3
Loriot de Percival /Black-tailed Oriole /*Oriolus percivali*	Resident	1999	-	A3
Tchitrec à ventre blanc /White-bellied Crested-flycatcher /*Elminia albiventris*	Resident	1999	-	A3
Tchitrec à queue frangée /White-tailed Crested-flycatcher/ *Elminia albonotata*	Resident	1999	-	A3
Mésange à ventre strié /Stripe-breasted Tit /*Parus fasciiventer*	Resident	1999	-	A2, A3

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Cisticole de Chubb /Chubb's Cisticola /*Cisticola chubbi*	Resident	1999	-	A3
Apalis du Ruwenzori/Collared Apalis /*Apalis ruwenzorii*	Resident	1999	-	A2, A3
Apalis à face noire /Black-faced Apalis /*Apalis personata*	Resident	1999	-	A2, A3
Apalis de Moreau /Kungwe Apalis/ *Apalis argentea*	Resident	1999	-	A1, A2, A3
Apalis à gorge marron /Chestnut-throated Apalis /*Apalis porphyrolaema*	Resident	1999	-	A3
Bulbul de Masuku/Shelley's Greenbul /*Andropadus masukuensis*	Resident	1999	-	A3
Bulbul à tête sombre/ Mountain Greenbul /*Andropadus nigriceps*	Resident	1999	-	A3
Crombec de Neumann /Neumann's Warbler /*Hemitesia neumanni*	Resident	1999	-	A2, A3
Bouscarle de Grauer /Grauer's Swamp-warbler /*Bradypterus graueri*	Resident	1999	-	A1, A2, A3
Bouscarle cannelle /Bracken Warbler /*Bradypterus cinnamomeus*	Resident	1999	-	A3
Chloropète de montagne/ Mountain Flycatcher-warbler /*Chloropeta similis*	Resident	1999	-	A3
Pouillot à face rousse /Red-faced Woodland-warbler /*Phylloscopus laetus*	Resident	1999	-	A2, A3
Grauérie striée /Grauer's Warbler/ *Graueria vittata*	Resident	1999	-	A2, A3
Crombec à sourcils blancs/ White-browed Crombec /*Sylvietta leucophrys*	Resident	1999	-	A3
Akalat montagnard/ Mountain Illadopsis /*Illadopsis pyrrhoptera*	Resident	1999	-	A3
Akalat à poitrine grise /Grey-chested Babbler /*Kakamega poliothorax*	Resident	1999	-	A3
Akalat à tête sombre /African Hill Babbler /*Pseudoalcippe abyssinica*	Resident	1999	-	A3
Red-collared Mountain-babbler *Kupeornis rufocinctus*	Resident	1999	-	A1, A2, A3

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Spréo de Sharpe/Sharpe's Starling/ *Cinnyricinclus sharpie*	Resident	1999	-	A3
Rufipenne de Waller /Waller's Starling /*Onychognathus walleri*	Resident	1999	-	A3
Rufipenne à bec fin /Slender-billed Starling /*Onychognathus tenuirostris*	Resident	1999	-	A3
Rufipenne de Stuhlmann/ Stuhlmann's Starling /*Poeoptera stuhlmanni*	Resident	1999	-	A3
Grive du Kivu /Kivu Ground-thrush /*Zoothera tanganjicae*	Resident	1999	-	A1, A2, A3
Alèthe à gorge rousse /Red-throated Alethe /*Alethe poliophrys*	Resident	1999	-	A2, A3
Rougegorge étoilé /White-starred Robin/ *Pogonocichla stellata*	Resident	1999	-	A3
Rougegorge equatorial/ Equatorial Akalat /*Sheppardia aequatorialis*	Resident	1999	-	A3
Cossyphe à ventre blanc /White-bellied Robin-chat /*Cossyphicula roberti*	Resident	1999	-	A3
Cossyphe d'Archer /Archer's Robin-chat /*Cossypha archeri*	Resident	1999	-	A2, A3
Gobemouche de Berlioz/Yellow-eyed Black-flycatcher /*Melaenornis ardesiacus*	Resident	1999	-	A2, A3
Gobemouche de Fischer /White-eyed Slaty-flycatcher /*Dioptrornis fischeri*	Resident	1999	-	A3
Souimanga d'Aline /Blue-headed Sunbird /*Nectarinia alinae*	Resident	1999	-	A2, A3
Souimanga de Preuss/ Northern Double-collared Sunbird /*Nectarinia preussi*	Resident	1999	-	A3
Souimanga royal /Regal Sunbird/ *Nectarinia regia*	Resident	1999	-	A2, A3
Souimanga à ventre pourpre/ Purple-breasted Sunbird /*Nectarinia purpureiventris*	Resident	1999	-	A2, A3
Souimanga bronzé /Bronze Sunbird/ *Nectarinia kilimensis*	Resident	1999	-	A3

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Tisserin baglafcht /Baglafecht Weaver /*Ploceus baglafecht*	Resident	1999	-	A3
Tisserin à tête jaune /Black-billed Weaver /*Ploceus melanogaster*	Resident	1999	-	A3
Tisserin de montagne /Strange Weaver /*Ploceus alienus*	Resident	1999	-	A2, A3
Tisserin à cape brun /Brown-capped Weaver /*Ploceus insignis*	Resident	1999	-	A3
Sénégali de Reichenow /Red-faced Crimson-wing /*Cryptospiza reichenovii*	Resident	1999	-	A3
Sénégali de Salvadori /Abyssinian Crimson-wing /*Cryptospiza salvadorii*	Resident	1999	-	A3
Sénégali de Jackson/Dusky Crimson-wing /*Cryptospiza jacksoni*	Resident	1999	-	A2, A3
Sénégali de Shelley /Shelley's Crimson-wing *Cryptospiza shelleyi*	Resident	1999	-	A1, A2, A3
Sénégali sombre /Dusky Twinspot/ *Euschistospiza cinereovinacea*	Resident	1999	-	A3
Astrild à joues noires /Swee Waxbill /*Estrilda melanotis*	Resident	1999	-	A3
Serin à diadème /Yellow-browed Citril /*Serinus frontalis*	Resident	1999	-	A3
Sérin strié /Streaky Seedeater/ *Serinus striolatus*	Resident	1999	-	A3
Serin de Burton /Thick-billed Seedeater /*Serinus burtoni*	Resident	1999	-	A3
Linurge loriot/ Oriole Finch/*Linurgus olivaceus*	Resident	1999	-	A3

BI003 : Parc national de la Ruvubu

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Francolin à collier /Ring-necked Francolin /*Francolinus streptophorus*	Resident	1999	-	A3
Barbican à face rouge /Red-faced Barbet /*Lybius rubrifacies*	Resident	1999	-	A1, A3
Black-backed Barbet *Lybius minor*	Resident	1999	-	A3
Gonolek des Papyrus/Papyrus Gonolek /*Laniarius mufumbiri*	Resident	1999	-	A1, A3
Mésange à ventre canelle /Rufous-bellied Tit /*Parus rufiventris*	Resident	1999	-	A3
Cisticole Carruthers/ Carruthers's Cisticola/ *Cisticola carruthersi*	Resident	1999	-	A3
Bouscarle à ailes blanches /White-winged Scrub-warbler /*Bradypterus carpalis*	Resident	1999	-	A3
Chloropète aquatique /Papyrus Yellow Warbler /*Chloropeta gracilirostris*	Resident	1999	-	A1, A3
Cratérope de Sharpe/ Sharpe's Pied-babbler /*Turdoides sharpei*	Resident	1999	-	A3
Cratérope de Hartlaub/ Angola Babbler /*Turdoides hartlaubii*	Resident	1999	-	A3
Traquet d'Arnott /White-headed Black-chat /*Myrmecocichla arnoti*	Resident	1999	-	A3
Monticole angolais /Miombo Rock-thrush /*Monticola angolensis*	Resident	1999	-	A3
Souimanga à ceinture rouge /Red-chested Sunbird /*Nectarinia erythrocerca*	Resident	1999	-	A3
Tisserin a gorge noire /Northern Brown-throated Weaver / *Ploceus castanops*	Resident	1999	-	A3
Dos-vert à collier/White-collared Oliveback *Nesocharis ansorgei*	Resident	1999	-	A3

BI004: Reserve Naturelle de Rusizi

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Guifette leucoptère /White-winged Tern /*Chlidonias leucopterus*	Wintering	-	4000 - 4000	A4i
Bec-en-ciseaux d'Afrique /African Skimmer /*Rynchops flavirostris*	Wintering	-	500 - 500	A1, A4i

BI005 : Reserve Forestière de Bururi

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Buse montagnarde /Mountain Buzzard /*Buteo oreophilus*	Resident	1999	-	A3
Tourterelle à poitrine rose /Dusky Turtle-dove /*Streptopelia lugens*	Resident	1999	-	A3
Engoulevent de Ruwenzori/ Ruwenzori Nightjar/ *Caprimulgus ruwenzorii*	Resident	1999	-	A2, A3
Martinet de Shouteden /Scarce Swift /*Schoutedenapus myoptilus*	Resident	1999	-	A3
Guêpier montagnard /Cinnamon-chested Bee-eater /*Merops oreobates*	Resident	1999	-	A3
Pic de Tullberg /Tullberg's Woodpecker /*Campethera tullbergi*	Resident	1999	-	A3
Pririt du Ruwenzori/ Ruwenzori Batis /*Batis diops*	Resident	1999	-	A2, A3
Gladiateur de Doherty/Doherty's Bush-shrike /*Malaconotus dohertyi*	Resident	1999	-	A3
Gonolek de montagne / Mountain Boubou /*Laniarius poensis*	Resident	1999	-	A3
Echenilleur gris /Grey Cuckoo-shrike/ *Coracina caesia*	Resident	1999	-	A3
Loriot de Percival /Black-tailed Oriole /*Oriolus percivali*	Resident	1999	-	A3
Tchitrec à queue frangée /White-tailed Crested-flycatcher/ *Elminia albonotata*	Resident	1999	-	A3
Cisticole de Chubb /Chubb's Cisticola /*Cisticola chubbi*	Resident	1999	-	A3
Apalis du Ruwenzori /Collared Apalis/ *Apalis ruwenzorii*	Resident	1999	-	A2, A3
Apalis de Moreau/ Kungwe Apalis /*Apalis argentea*	Resident	1999	-	A1, A2, A3
Apalis à gorge marron /Chestnut-throated Apalis /*Apalis porphyrolaema*	Resident	1999	-	A3

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Bulbul de Masuku/Shelley's Greenbul /*Andropadus masukuensis*	Resident	1999	-	A3
Bulbul à tête sombre/ Mountain Greenbul /*Andropadus nigriceps*	Resident	1999	-	A3
Bouscarle cannelle/ Bracken Warbler /*Bradypterus cinnamomeus*	Resident	1999	-	A3
Chloropète de montagne/ Mountain Flycatcher-warbler /*Chloropeta similis*	Resident	1999	-	A3
Pouillot à face rousse /Red-faced Woodland-warbler /*Phylloscopus laetus*	Resident	1999	-	A2, A3
Crombec à sourcils blancs/ White-browed Crombec /*Sylvietta leucophrys*	Resident	1999	-	A3
Akalat montagnard/ Mountain Illadopsis /*Illadopsis pyrrhoptera*	Resident	1999	-	A3
Akalat à poitrine grise /Grey-chested Babbler /*Kakamega poliothorax*	Resident	1999	-	A3
Akalat à tête sombre /African Hill Babbler /*Pseudoalcippe abyssinica*	Resident	1999	-	A3
Spréo de Sharpe /Sharpe's Starling/ *Cinnyricinclus sharpie*	Resident	1999	-	A3
Rufipenne de Waller /Waller's Starling /*Onychognathus walleri*	Resident	1999	-	A3
Rufipenne à bec fin /Slender-billed Starling /*Onychognathus tenuirostris*	Resident	1999	-	A3
Rufipenne de Stuhlmann/ Stuhlmann's Starling /*Poeoptera stuhlmanni*	Resident	1999	-	A3
Grive du Kivu /Kivu Ground-thrush /*Zoothera tanganjicae*	Resident	1999	-	A1, A2, A3
Alèthe à gorge rousse /Red-throated Alethe /*Alethe poliophrys*	Resident	1999	-	A2, A3
Rougegorge étoilé /White-starred Robin/ *Pogonocichla stellata*	Resident	1999	-	A3
Rougegorge equatorial/ Equatorial Akalat /*Sheppardia aequatorialis*	Resident	1999	-	A3
White-eyed Slaty-flycatcher *Dioptrornis fischeri*	Resident	1999	-	A3

Species (French/English/Latin)	Season	Year	Min-Max	Criteria
Souimanga d'Aline /Blue-headed Sunbird /*Nectarinia alinae*	Resident	1999	-	A2, A3
Souimanga de Preuss/ Northern Double-collared Sunbird /*Nectarinia preussi*	Resident	1999	-	A3
Souimanga royal /Regal Sunbird/ *Nectarinia regia*	Resident	1999	-	A2, A3
Souimanga à ventre pourpre/ Purple-breasted Sunbird /*Nectarinia purpureiventris*	Resident	1999	-	A2, A3
Souimanga bronzé /Bronze Sunbird/ *Nectarinia kilimensis*	Resident	1999	-	A3
Tisserin baglafcht /Baglafecht Weaver /*Ploceus baglafecht*	Resident	1999	-	A3
Tisserin à tête jaune /Black-billed Weaver /*Ploceus melanogaster*	Resident	1999	-	A3
Tisserin de montagne /Strange Weaver /*Ploceus alienus*	Resident	1999	-	A2, A3
Sénégali de Reichenow /Red-faced Crimson-wing /*Cryptospiza reichenovii*	Resident	1999	-	A3
Sénégali de Jackson /Dusky Crimson-wing /*Cryptospiza jacksoni*	Resident	1999	-	A2, A3
Sénégali sombre /Dusky Twinspot/ *Euschistospiza cinereovinacea*	Resident	1999	-	A3
Astrild à joues noires /Swee Waxbill /*Estrilda melanotis*	Resident	1999	-	A3
Serin à diadème /Yellow-browed Citril /*Serinus frontalis*	Resident	1999	-	A3
Sérin strié /Streaky Seedeater *Serinus striolatus*	Resident	1999	-	A3
Serin de Burton /Thick-billed Seedeater /*Serinus burtoni*	Resident	1999	-	A3

Last cover page Photo :
Bugarama monitoring team

One of the strategies that was adopted by the project implementing team to sustain the monitoring system in Burundi was the establishment of monitoring teams that comprise PA authorities and members from the local community. For these matter five teams of 20 people were established around the five targeted Important Bird Areas i.e. 1 team at Rwihinda Lake Managed Reserve, 1 team at Rusizi Natural Reserve, 1 team at Bururi Forest Reserve, 4 teams at Kibira National Park and 3 teams at Ruvubu National Park.

The photo above shows members of a monitoring team of Bugarama at the southern edge of Kibira National Park.