

Association Burundaise pour la protection des Oiseaux

BURUNDI'S IMPORTANT BIRD AREAS



Status and Trends 2010

July 2011





Photo: ABO 2010

Local population watching birds at Rwihinda Lake Managed Nature Reserve after a bird identification training

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Status and Trend 2010

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June 2011

Collaborating Institutions:





Limosa limosa NT

Source: H. Gaugris 2009

Black-tailed Godwit (Limosa limosa) is a migratory waterbird species. Naturally abundant in Europe, this bird reaches sub-saharan Africa after having made a too long distance during migratory season.

Studies have recently shown that its population has globally decreased due to the destruction of its habitat by anthropogenic activities such as aquaculture, drainage of rivers for agriculture purposes, marshlands exploitation etc. This species is therefore at IUCN red list and is ranked at "near-threatened" category.

In Burundi, Limosa limosa is frequently recorded at the Delta of Rusizi Nature Reserve. For diverse pressure related to human activities exerted onto that IBA, the population of this waterbird has dramatically decreased nowadays.



Disclaimer

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Acronymes

ABEIE	: Association Burundaise pour les Etudes d'Impacts Environnementaux
ABO	: Association Burundaise pour la protection des Oiseaux
BFNR	: Bururi Forest Nature Reserve
CSO	: Civil Society Organisations
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
MEEATU	: Ministère de l'Eau, de l'Environnement, de l'Aménagement du Territoire et de l'Urbanisme
NTFPs	: Non Timber Forest Products
RLMNR	: Rwihinda Lake Managed Nature Reserve
RNP	: Ruvubu National Park
RNR	: Rusizi Nature Reserve
RSPB	: Royal Society for the Protection of Birds
SSG(s)	: Site Support Group(s)



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Léonidas NKEZABAHIZI,

National IBAs Monitoring Coordinator

Executive summary

The purpose of this report is to provide up-to date information on the condition of Important Bird Areas in Burundi. This report reflects the status of the sites, threats and conservation interventions in at least five of the sites that have been designated as IBAs according to the BirdLife International criteria. Monitoring is conducted using an internationally agreed methodology developed by BirdLife International (2006). The year 2001 is being used as a baseline for which data is available.

The overall condition of IBAs/PAs in 2010 was ranked between "near-favourable" and "favourable" thresholds and the calculated mean score is then 2.4 (± 0.245) against 1.6 (± 0.40) of previous assessment. In 2010, 60% IBAs (versus 80% in 2009) were in near-favourable conditions whereas 40% IBAs (versus 20% in 2009) were in favourable conditions.

This overall improvement observed during this assessment year is due to a new large governmental re-afforestation programme. The main focus of this restoration programme has been on extensively degraded areas within protected areas and buffer zones. The IBAs which benefitted significantly from this programme and where the results have been evident are Kibira National Park, Ruvubu National Park, Rusizi Nature Reserve and Bururi Forest Nature Reserve.

The outcome from that programme is therefore noticeable. Although Rwihinda Lake Nature Reserve was one of the IBAs that were targeted under this reafforestation programme, the results were not pleasing as the seedlings succumbed to drought.

In terms of Pressure, the analysis of mean scores of all IBAs from 2008 up to 2010 showed a very small decrease in pressure since 2008 (-1.4 ± 0.4) but remained stable (-1.4 ± 0.245 in 2009 and 2010) since that period up to 2010. The scores attributed to pressure over two consecutive assessment years 2009/2010 and to the 2008 survey show that 60% IBAs were at "Medium pressure" in 2010 (as in 2009) and the remainder at "High pressure". Major threats affecting IBAs include agriculture encroachments, illegal or criminally instigated fires, overgrazing of livestock, trapping and poaching of animals which are reported at large.

Overall status in response on IBAs increased in 2010. Calculated mean scores and standard errors showed a noticeable increase as they range from 1.6 ± 0.4 (in 2009) to 2.2 ± 0.20 (in 2010). This is attributed to heightened conservative awareness amongst the riparian communities and an effective conservation schedule made by the ministry in charge of environment. A couple of recommendations to specific target groups are laid out at the end of this report.



Chapter 1: Background Information

1.1. Introduction

The European Commission through the Royal Society for Bird Conservation RSPB/ UK Partner of BirdLife International has funded a four- year project of monitoring Important Bird Areas. Eight non-profit organisations within eight African countries (Burundi, Botswana, Burkina Faso, Kenya, Tunisia, Uganda, Zambia and Zimbabwe) are engaged in implementation of this project which was launched in 2007.

A compulsory annual report on the Status and trends of IBAs is nationally produced. ABO, as part of project implementers in Burundi - as most implementers-, produces this third annual report on Status and Trends of IBAs in 2010. This report is preceded by two others; one for 2008 and other for 2009.

1.2. Overview of the BirdLife Programme

Important Bird Areas (IBAs) are sites of international significance for biodiversity conservation. These targeted sites are critical for the long-term viability of wild bird populations. Generally, sites that are important for birds are also important for other biodiversity. IBA monitoring is designed to provide up to-date information about bird populations or the condition of their habitats.

Such information will promote conservation of birds and critical habitats for the benefit of general biodiversity and welfare of people.

The IBA programme in Africa was launched in 1993. A network of more 1,000 sites were identified and designated as IBAs in Africa and its associated islands. ABO, as the leader in birding and INECN as a regulatory institution of protected areas within Burundi have invested time and resources in the conservation and preservation of the sites.

Prior to the inception of the monitoring programme funded by the European commission, ABO was collecting data on birds in some areas of IBAs and particular focus was on wetland habitats. Thus, annual water bird counts were conducted at the Delta of Rusizi Nature Reserve, at Rwihinda Lake Nature Reserve and Lake Rweru and in a portion of Kibira National Park.

1.3. Monitoring Procedures

BirdLife International (2006) designed a standardized questionnaire that is largely used to collect information from sites of global importance for bird conservation within diverse wild sites designed to hold birds. ABO and relevant stakeholders at the country level cannot monitor every



relevant attribute of an IBA. Instead, indicators appropriate for the national conservation goal are selected and these are derived from the BirdLife International approach to monitoring. The indicators are presented in a 'pressure – state – response' framework.

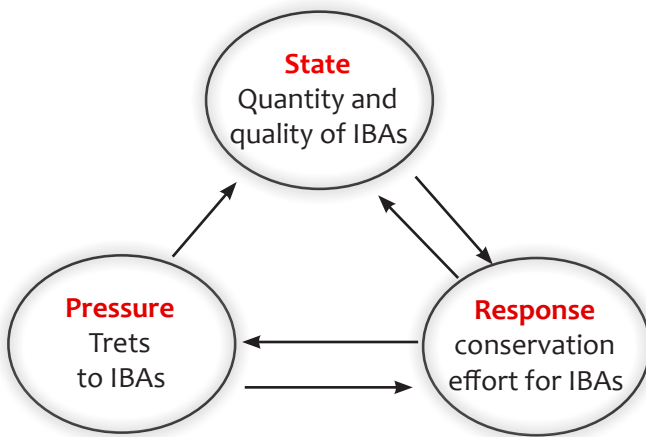


Figure 1: The Pressure- State- Response framework

1.4. Overview of Protected Areas/Important Bird Areas

So far, monitoring process is regularly conducted on five PAs / IBAs under the auspices of this project. The following table illustrates the bird-richness as per the findings from the bird counts carried out over four years (2006, 2007 and 2008 and 2009) The right column of the table also provides information on other taxa within the IBAs.



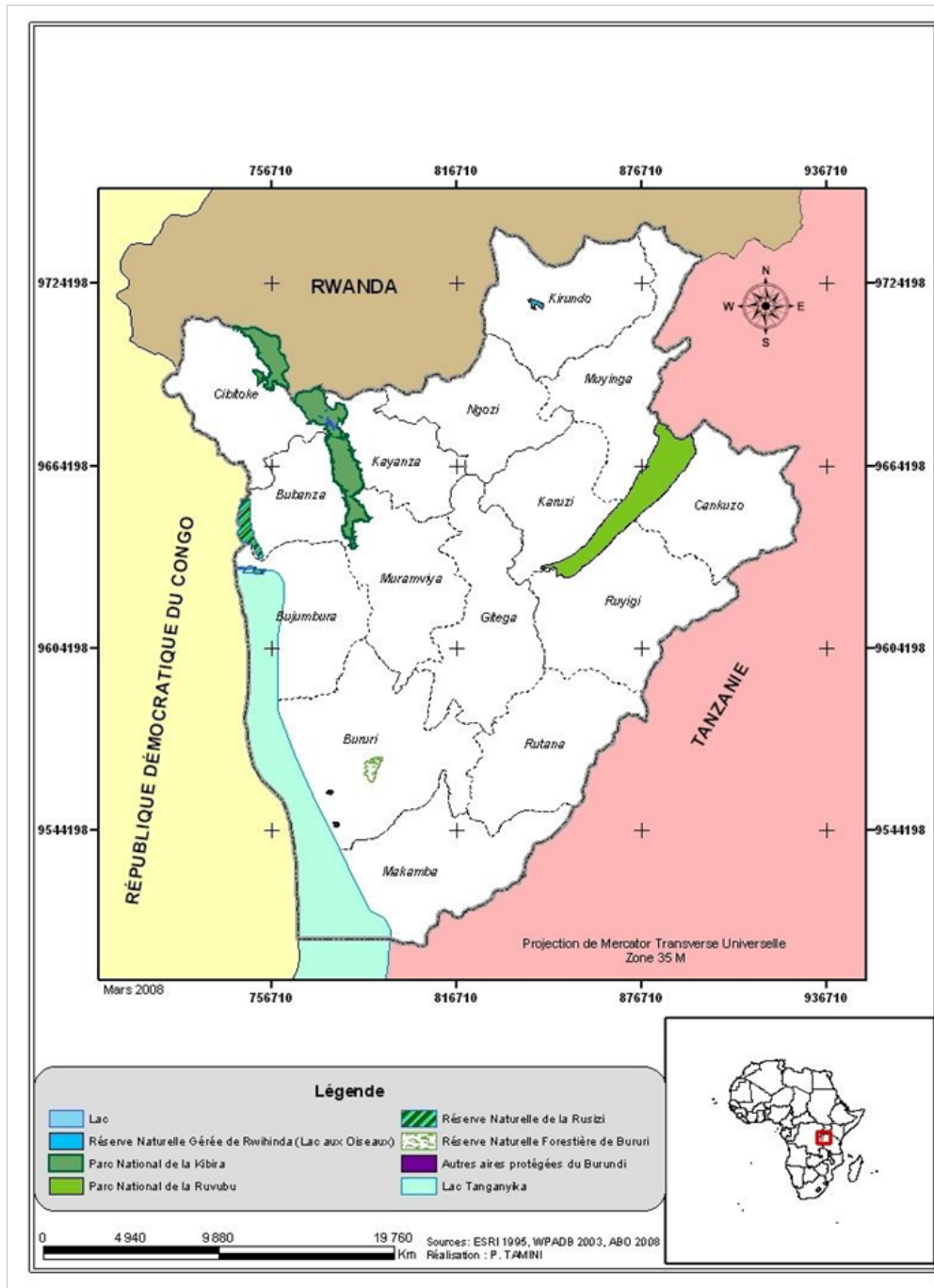
Table 1: Summary of Important Bird Areas of Burundi

IBA Code	Name of IBA	Bird richness	Some other taxa richness
Bl001	Rwhinda Lake Managed Nature Reserve	189 bird species of which 15 species are of global concern. Birds of this IBA respond to A1 and A3 criteria.	Less than 10 fish species occur in the lake and other taxa are not well studied yet
Bl002	Kibira National Park	231 bird species of which 21 are endemic to Albertine Rift, 13 are listed on IUCN red list. Birds inside are of A1, A2, A3 criteria.	98 mammal species and about 10 diverse primate species are recorded.
Bl003	Ruvubu National Park	Up to 338 bird species have been recorded, including 10 listed on IUCN red list. Most of bird species respond to A1, A2 and A3 criteria.	Around 44 mammal species panther, baboons, antelopes, buffaloes, gazelles, jackals, hippopotamuses etc., have taken up residence in the park. Very few lions sometimes visited the park from Tanzania reserves.
Bl004	Rusizi Nature Reserve	More than 226 bird species responding to A1 and A4i criteria have been registered and 10 of them are on the IUCN red list.	Hippos and crocodiles are the giant and terrible animals of the site.
Bl005	Bururi Forest Nature Reserve	205 bird species have been surveyed so far, 6 species are at the IUCN red list and 12 species are endemic to Albertine Rift and 36 belong to Afrotropical Highlands biome. Birds of this IBA respond to the A1, A2 (106), A3 (A07) criteria.	Other animals include 4 species of primates among them the globally threatened chimpanzee (Pan troglodytes), etc.



Localisation and distribution of PAs/IBAs in Burundi

The following map draws the picture of five Important Bird Areas /Protected Areas in Burundi.



Map of Distribution of IBAs in Burundi



1.5. Summary of Status of Burundi's IBAs from 2008 up to 2010

Table 2: Overview of status Of Burundi's IBAs (Assessment period: 2008-2010)

Name of site	State 2008	State 2009	State in 2010
Rwihinda Lake Managed Nature Reserve	No change	Small deterioration	No change (near fav.)
Kibira National Park	No change	Small improvement	No change (favourable)
Ruvubu National Park	No change	No change	No change (near fav.)
Rusizi Nature Reserve	Small deterioration	Small improvement	No change (near fav.)
Bururi Forest Nature Reserve	Small improvement	No change	Small improvement (fav)

A quick view of this table may give a grim picture that the state of habitat within these IBAs remained “unchanged”. This may imply that no conservation action has been taking place at some of the sites, which is not the case as already stated above. Nevertheless, 80 % IBAs reported to be at “no change conditions” means that there is a significant improvement as “no change” means hereafter either “near-favorable conditions” (case of

Ruvubu National Park, Rusizi Nature Reserve and Rwihinda Lake Managed Nature Reserve) or “favourable” (case of Kibira National park) accordingly. Unfortunately, Rwihinda Lake Managed Nature Reserve although at near-favourable conditions has recorded a small deterioration since 2009 tumbling down from “favourable” (in 2001) to “near-favourable” (in 2010).

1.6. Comparison of State of Burundi's IBAs in 2008; 2009 and 2010

In reference to the state of previous data (that of 2008) and making a comparison with the 2009 assessed data against those of 2010, the table below illustrates different categories of IBAs' state.

Table 3: Comparison of categorical states of IBAs from 2008 up to 2010

State	Monitored IBAs in 2008, N=5	Monitored IBAs in 2009, N=5	Monitored IBAs in 2010, N=5
Small improvement	20%	40%	20%
No change	60%	40%	80%
Small decline	20%	20%	0%



Chapter 2: Methods

2.1. Methods

Local Site Support Groups that were established at the start of the IBA programme in Burundi are largely involved in monitoring of the sites. In order to ensure accuracy, information is also collected from the locally based rangers employed by INECN.

A customised standard questionnaire is administrated at all designated sites in advance so that respondents have adequate time to complete all the relevant sections. The retrieval process can either be directly by the staff at ABO as they visit the sites from time to time or the respondents send the forms to the ABO office.

2.2. Calculating Scores

The monitoring involves assessing the Status of selected indicators of state (species for which the site was identified as an IBA or, as a proxy, the habitats they use), pressures (threats) and responses (interventions) at IBAs (Bennun, 2003). Details of scoring State, Pressure and Response differ, but the resulting scales are the same; Status scores for each are assigned on a simple 4-point scale, from 0 to 3 (BirdLife International, 2006).

2.2.1. Calculating scores for State

State can be assessed based on the population sizes of the trigger species, i.e. those species for which the site is recognized as an IBA) or on the extent and condition of the habitats

they use. Each species or habitat is scored independently. Using a 'weakest link' approach, a status score is assigned based on the species/habitat with the 'worst' status. The IBA condition status scores are as follows: 3=good; 2=moderate; 1=poor; 0=very poor.

2.2.2. Calculating scores for Pressures

Pressures or threats are assessed by scoring information on the timing, scope and severity of each threat. Timing refers to the period (now or future) a particular threat is occurring. Scope refers to the extent of coverage across the site while severity refers to the scale of the resultant effect of the threat.

Timing, scope and severity scores are then combined to give threat impact scores for each threat. Then, again using the weakest link approach, the threat with the highest impact is used to assign the threat status score for the whole IBA, as follows: 3=Good; 2 = Moderate; 1= Poor and 0= Very Poor.

2.3. Analysis and presentation of data

All questionnaires being assembled, we first compile in one form for each IBA as we have more than one forms filled in at every IBA (the number of forms correspond to the number of sectors that the IBA has). Data and information on compiled forms are captured in the World Birds Data Base (WBDB) and thereafter exported to Excel programme to be treated and analyzed. This stage is central to commence writing the report.



Chapter 3: Data Analysis and Results

Results presented hereinafter reflect the outcome from the analysis of data collected using the BirdLife's approach based on three independent attributes (state, pressure, response).

This chapter comprises three subtitles related to status and trends of state, pressure and response of IBAs targeted by this 2010 assessment.

3.1. Trends in States of Monitored IBAs

The analysis of general mean score for state of all IBAs assessed in 2010 shows a general positive increment in trend of State of IBAs as 3 out of 5 (i.e. 60 percent) IBAs were at “near-favorable conditions” whereas 40 percent are recorded to be in “favorable conditions”.

The overall mean score for the state of IBAs for 2010 assessment was $2.4(\pm 0.2449)$. This mean score reflects that status and trends of IBAs are moving from “Moderate” (near-favorable) to “Good” (favorable) conditions.

Taking a look at previous mean scores for 2008 (2.1 ± 0.31) and 2009 (2.2 ± 0.20), it is obvious that the general trend of State for Burundi's IBAs keeps on improving. The figure below shows the general trends of state from 2001 up to 2010.

It is worth noting that the gaps in data between 2001 and 2006 would have misled the appearance of the trend between those spells as it is geometrically proved that two coordinates (those of 2001 and 2006) are enough to provide a linear curve.

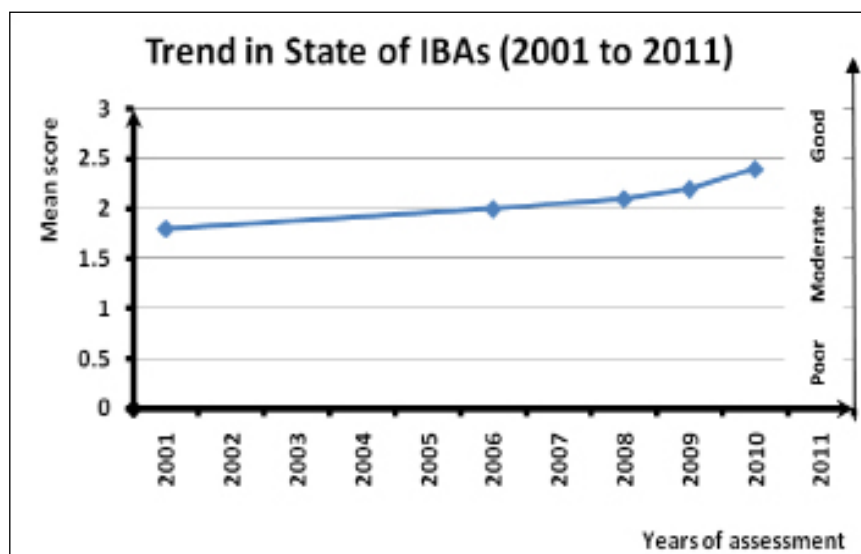


Figure 2. Overall trend of State for IBA from 2001 up to 2010



Forest IBAs such as Kibira National Park (formerly the stronghold of guerilla movements) and Bururi Forest Nature Reserve have recorded a high score of State than other PAs and this implies that the condition of biodiversity is in good state. Political stability over the past years has enabled rangers to be able to visit almost areas of the sites during surveillance as no area is restricted due to war.

On the other side, CBOs and other conservationists have been actively involved in raising conservation awareness amongst local populations. As a result of increased awareness, incidences of destructive activities such as logging, poaching and charcoal making have notably decreased in numbers. Fire outbreaks have also reduced in number.

Even though Ruvubu National Park has maintained the same scores as in the previous year, wild fires and poaching are still a cause for concern. Poor land policies and abuse of power by the leadership has resulted in the conversion of wetlands to other forms of use especially agriculture. Overfishing has also been reported at some of the sites such as Rwihinda Lake Managed Nature Reserve.

3.2. Trend in Pressures onto Monitored IBAs

The following threats have been identified to be common to PAs/IBAs in Burundi Overriding threats have appeared in all IBAs as well in 2010 as previously (in 2008 and 2009). Some others are reported in some IBAs or have ceased to occur somehow. The table 3 gives details on frequencies of Threats at IBA.



Photo ABO (2010)

Scenery View of Kibira National Park



Table 4. Overview of major threats to IBAs during the monitoring years: 2008; 2009 and 2010

Threat	2008	2009	2010
	(% of IBAs)	(% of IBAs)	(% of IBAs)
Agriculture encroachment/annual smallholder farming	100	100	100
Illegal poaching, hunting & trapping	100	100	100
Illegal and uncontrolled fires	100	100	100
Roads, pathways & service lines	100	100	100
Illicit overgrazing/Small-scale grazing	100	100	100
Agriculture encroachment/Shifting agriculture	—	80	—
Extraction of sand and ores (gold)	80	60	60
Gathering plants, fuel wood and medicinal herbs	80	60	80
Direct mortality by persecution or control	80	60	40
Illegal fishing and overfishing	60	60	60
Disturbing recreational activities	40	60	60
Invasive species issues	60	20	20
Habitat shifting & alteration	60	20	40
Reflection of drought	60	20	20
Destructive storms & floods	60	20	40
Perennial non timber crops/small-holder plantations	40	20	20
Human settlements into protected areas	40	20	—
Habitat effects by hunting & trapping	40	40	20
Illegal logging and fuel wood collection	40	20	60
War, civil unrest & military exercises	40	—	—
Problematic native species	40	20	20
Domestic & urban waste water	40	40	60
Aerial noise pollution due to flight paths	40	40	40
Dams & water management/use	20	20	40
Agricultural effluents, garbage & solid wastes	20	40	40
Natural landslides	20	40	40
Recreational activities	—	20	20



Main threats which are reportedly overriding at every single IBA include Agriculture encroachment/annual smallholder farming; Illegal poaching, hunting & trapping; Illegal and uncontrolled fires; Roads, pathways & service lines; illicit overgrazing/Small-scale grazing; Gathering plants, fuel wood and medicinal herbs; Illegal fishing and overfishing; Extraction of sand and ores (gold) and Illegal logging and fuel wood collection.

3.2.1. Agriculture encroachment due to lack of space for small holder farming and breeding

Surveys conducted on agriculture systems in Burundi have shown that small holder farming and rearing are main socioeconomic activities in Burundi but the space available for these two activities does not accommodate. An average extent of 0.5 ha has been calculated as the individual land property in rural milieu.

This space is still very small to hold a productive agriculture and/or livestock. The stocking rate goes decrescendo. This situation is worsened by the loss of fertility of croplands due to unsustainable agriculture practices (lands are no longer left for being fallow). People living in peripheries of PAs opt to encroach on fertile forest lands to enlarge properties and profit from naturally-manured forest lands.

This threat is reported to be common to all IBAs (as shown in table 4 above) and represents a serious threat as long as population growth (3%) is among the highest across the world. Rusizi Nature Reserve is still reported to lose a good portion of its lands near the

frontiers with Republic Democratic of Congo. Elsewhere encroachments are reportedly at small scales.

3.2.2. Uncontrolled devastating fires

This threat/pressure is also most common to all IBAs. The series of data collected from 2008 up to 2010 has shown that this threat always occurs in all IBAs. The damages caused vary depending on the structure of IBA (type of vegetation may be conducive to wildfires expansion).



Photo ABO (2010)

Devating wildfires onto RNP

For instance, criminal fires lit on savannah of Ruvubu National Park were reported to have devastated more than 60% of the park in 2010. These fires are lit mainly by poachers who are numerous in this park. They set fires on vegetation to ease the track of wild animals (big mammals such buffaloes, antelopes, etc). Herdsmen are also incriminated to negatively contribute in setting fires to regenerate grass to be grazed early in September.

3.2.3. *Illegal poaching, hunting and trapping of animal*

This is also noted as a common threat to all IBAs as shown in the table below. This misbehavior of some riparian populations plus some transboundary poachers from close Tanzania causes serious damage on biodiversity of Ruvubu Ecosystem. They often set fires on savannah of Ruvubu National Park in order to make easier the hunting. These fires are very destructive as they jeopardize microbiologic organisms, insects, sick animals and reptiles which are not able to flee the aggression from burning fires.



Photo ABO(2010)

Buffalo killing in Ruvubu National Park

3.2.4. *Illicit overgrazing and small-scale grazing*

As free lands for pastures are truly insufficient across the country - due to explosive population increase- herds are often caught out grazing in PAs and fines are repeatedly paid by owners. This frequently occurs within all protected areas as green and soft grasses are still abundant there.

This threat is also seen by our respondents as a serious threat on IBAs and it may be a serious issue to public health due to the fact that cattle, in current contact with wild animals such as rats and big- sized mammals, may catch some deadly illnesses and transmit them to people.

Rusizi Nature Reserve is the most impacted by overgrazing due to the fact that all flocks of cows formerly reared in Bujumbura were taken to graze and live inside and outside the big portion of Reserve namely Rukoko sector.

3.2.5. *Roads, pathways and utility lanes*

This even not neatly considered as a threat or a pressure according to some respondents' points of view, this threat is really a serious one as the number of paths and rough roads are being constructed passing through IBAs. For instance, in Mabayi sector of Kibira National Park, a newly rough road linking Kanyanza province to Bubanza chief-town was constructed crossing the park. Considerable amounts of vegetation, some of which renowned to be of high importance for the Albertine Rift Region were cleared off during works.

Besides, a network of footways crisscrosses protected areas in diverse directions. This situation is really harmful as it makes ecosystems to be fragmented and therefore this might put at risk lives of rodents and other small animals that tempt to cross those poor spaces while joining diverse sides of the PA.

3.2.6. Cutting, collecting trees and harvesting NTFPs

This consideration gathers together threats such as gathering plants, fuel wood, medicinal herbs, NTFPs harvesting and charcoal making. This threat was found in 80% IBAs but in a small scale. A few cases of logging currently in decreasing rate, was chiefly reported in Kibira National Park and Bururi Forest Nature Reserve.



Abusive collection of firewood in RNP

Collecting firewood and debarking trunks for traditional medical purposes were also reported in majority of PAs. Collecting firewood and cutting trees would have high incidences onto all PAs due to strong demand of fuel wood both in rural and urban areas. Note that hydropower is used in a very little proportion of households in Bujumbura (less than 1% of urban population).

To profit from this extremely energy demand, riparian populations near urban areas such Bujumbura do business in making charcoal from forest trees. The pressing case was reported in Rukoko -a portion of Rusizi Nature

Reserve- where false palm trees [*Hyphaena benguellensis ventricosa*] are cut for charcoal purposes. We witness to have found within the area two active kilns during the 2010 data collection period.

3.2.7. Extraction of sand and ores

Mining industry is lagging behind in Burundi. The activities oriented in that economical sector are informally carried out causing therefore heavy impacts on environment. This threat was found in 60% IBAs in 2010 and the rate had been 80% and 60% respectively in 2008 and 2009. Extractions of sand, rubble stones and gravels collection are largely reported within rivers crossing IBAs.

Excavation of clay for pottery and tiling occurs at small scale in marshlands of Kibira alongside rivers. Very harmful activities are however those of sporadic gold and wolfram mining throughout Kibira National Park (in its entities of Bukinyanya, Mugina, Kabarore and Mabayi) which destroy landscapes by digging deep pits in the ground to extract those raw ores. Human and animal lives are at stake in these areas as they might carelessly fall into those holes left behind.

3.2.8. Illegal fishing and overfishing

The occurrence of this threat was observed in 60% IBAs. Fishing is mainly conducted onto Rwihinda Lake Managed Nature Reserve and Rusizi Nature Reserve that dispose of aquatic ecosystems able to hold fish resources. These two IBAs are both sanctuaries for the bird

Photo ABO (2010)

migrations. Fishing as contribution to better improve life standards of populations is not so bad but the way it is carried out may be harmful to the whole ecosystem.

Overfishing observed onto Lake Rwihinda has led regulatory authority to put a ban on fishing at this lake three months a year so as to give enough time to fish to multiply and abound in the lake. Nevertheless, riparian populations do not stop to fish during that period. They therefore illegally keep on fishing using inappropriate gears such as mosquito nets or other very-small-meshed nets to indistinctively catch all kinds and/ or size of fish.

Any forms of fishing in Delta and lagoons

within Rusizi Nature Reserve are banned as this area is predilection for migratory bird species. Nevertheless, illegal nocturnal fishing depletes the fish stock and disturbs the conditions of this habitat. Poachers use also unorthodox fishing materials. Elsewhere in Ruvubu National Park, poachers collect young fish and take them to Tanzania where they are envied for pisciculture.

As a roundup of this subchapter, a diagram has been drawn to show the general trend of pressures on IBAs. Calculated mean score for 2010 which equals to $1.4 (\pm 0.245)$ remained the same as 2008 and 2009 assessments 'results. This status describes thus a medium pressure onto IBAs.

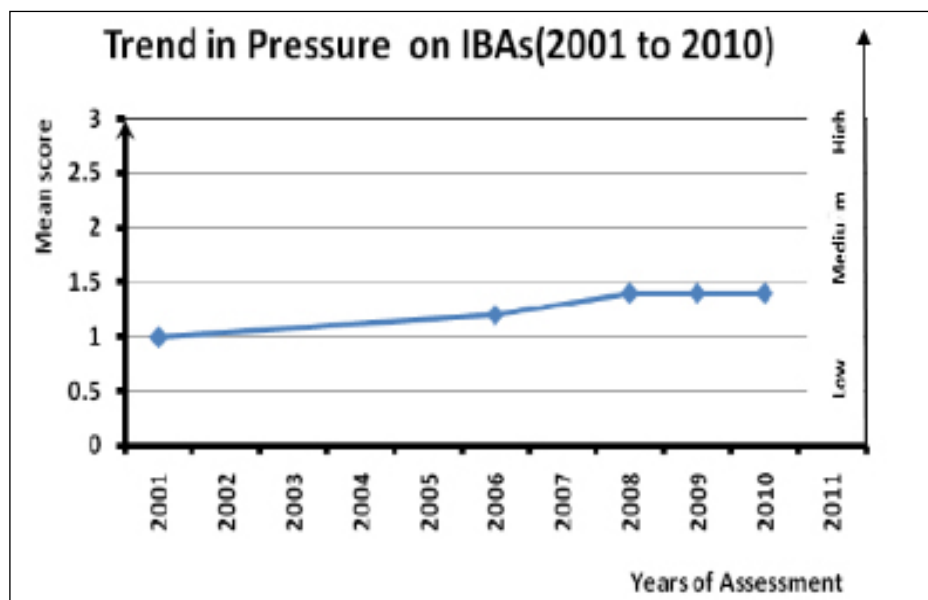


Figure 3. Overall pressure on IBAs from 2001 through 2010

3.3. Trend in Response on Monitored IBAs

3.3.1. Overview of general response interventions

There was a generally improvement in conservation response from 2001 up to 2010 (figure 4 below). One should therefore notice a linear trend in the curve between 2001 through 2006; this is linked to a gap in data as no data were collected during that spell due to the shortage of finances.

From 2006 up to 2010, awareness of local population was raised and local administration was also taken to understand the role of conservation of environment and therefore got involved in safeguarding natural resources. At the Ministerial levels, the wildlife management authority (INECN's local staff) has fulfilled their role of patrolling and reporting on conservation issues so as to take appropriate measures in due time.

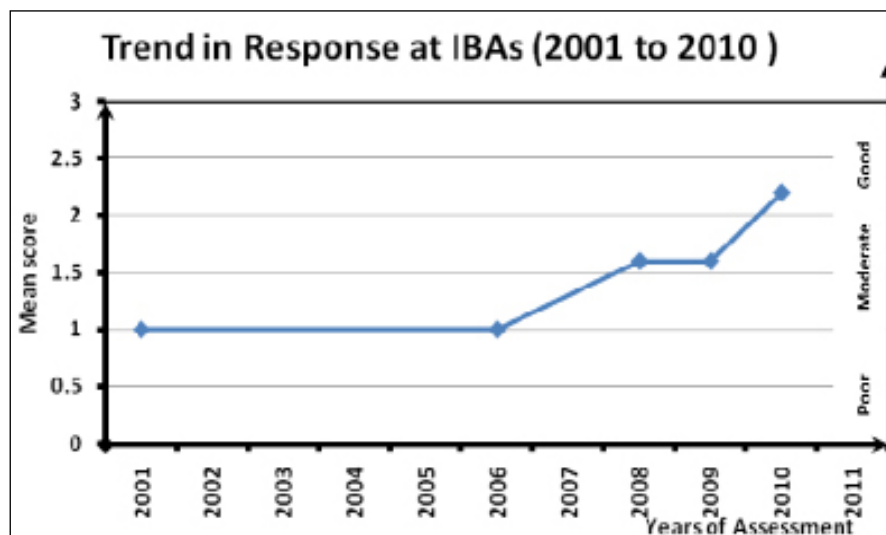


Figure 4. Overall trend of actions taken to conditions of IBAs from 2001 through 2010

This positive increase in response should be the contributions from individual actions taken by diverse stakeholders. Over time, many more interventions were carried out onto IBAs by diverse stakeholders (green local NGOs or Government agencies) to improve conditions of ecosystems within IBAs and mitigate climate change effects. Below follow some of main interventions.

3.3.2. Restoration of ecosystem services and mitigation of climate change effects

From recently 2005 after the peace agreement was signed, the participation of local NGOs was effective and outcome was really tremendous. The post-war period was conducive to do more environmental works as wild areas were uncontrolled over time. Projects of planting trees in damaged/degraded areas and in buffer zones were carried out by diverse NGO and CBOs, and capacity of peripheral communities were build through that scheme.

Boundaries of PAs were marked by bamboo or indigenous and/or alien tree plantations. And household's woodlots and agro-forestry were promoted within local communities. Unfortunately, these individual efforts from NGOs were not coordinated by a unique board so as to make a huge achievement.

ABO on its side has envisioned conserving IBAs by involving communities. Thus, in the light of this commitment, riparian populations assembled in site support groups were taught alternatives such as beekeeping, use of improved jiko, planting household woodlots etc. to reduce the pressure on forests resources.

3.3.3. Joint program of conservation of landscape along the Ntakangwa River

This programme assembles together local NGO (ABO, ACVE); sub regional (Tanganyika Lake Authority for Burundi, DR of Congo, Tanzania and Zambia) and INECN. It targets the creation and conservation of a landscape lied alongside the Ntakangwa River, a river that goes through Bujumbura Capital town and courses into Lake Tanganyika. Within this programme, a portion named "Secteur Delta" of Rusizi Nature Reserve is benefiting from this programme.

As intervention through this programme, widows actually members of a formerly formed SSG are occasionally recruited for monthly-paid works consisting in upkeep of lanes across the Reserve and uprooting *Lantana camara*, an invasive weed plant extremely threatening the vegetation of the reserve.

3.3.4. Advocate for conservation

A number of advocacy interventions were made at different IBAs. Advocacy took form of campaigns anti-wildfires and anti-poaching, which are the major threats. Sensitization meeting on fire and other conservation issues were organized by ABO and was held at Ruvubu National park and Rusizi Nature Reserve and its surroundings. Participants included MPs, Communal administrators and national media.



Elsewhere, the Association Burundaise pour les Etudes d'Impacts environnementaux (ABEIE), a local NGO for environmental impact assessments, has organized a good number of workshops and seminars with regards to sensitization of large public on the impacts caused by mining. In this line, civil society representatives got an opportunity to participate in a Central Africa sub-regional workshop on rehabilitation of harnessed mining sites.

3.3.5. Outcome from daily surveillance by INECN wardens

With support and encouragement from local conservation NGOs, institutional wardens have achieved an important progress in harness. Daily patrols have been augmented at PAs and the rate of encroachments and poaching has consequently decreased nowadays due to fines defined against trespassers. Inactiveness among wardens over time occasioned by the political and social upheavals has taken an end. Lazy INECN officials are replaced by competent ones.

Chapter 4: Conclusion and commendations

4.1. Conclusion

This 2010 assessment was conducted on five Protected Areas that, so far Burundi has as Important Bird Areas. The designation of them responded to a number of criteria and processes the reason why, other potential IBA are being vetted to be so.

Based on monitoring results a positive increase of state conditions was noticed at most of IBAs as 60% IBAs were at near-favorable conditions while the remainder (40% IBAs) was found in favorable or good conditions. Kibira National Park and Bururi Forest Nature Reserve offered a good score of state. This was due to the role played both by INECN authorities, local administration, conservation NGOs and local communities.

As we worked on threats and pressure at IBAs, compared annual assessment results portend a positive appearance as threat incidences are scaling down with the time. Throughout this study, we noticed a stagnation of mean score of threats (figure 3) a sign that situation has improved despite the increase of population density which is the strongest driver in jeopardizing biological balances.

Nevertheless a number of threats were repeatedly recorded at each IBA, thwarting the BirdLife's goal of reducing the rate of biodiversity loss by this 2010. Major threats

include small scale agriculture encroachments, escalation of poaching, wildfires, and illegal grazing.

As for response interventions, the findings of this assessment assure a positive increment of response. This is due to the joint efforts from diverse stakeholders (INECN, local conservation NGOs and Community Based Organisations) who are currently involved in conservation of biodiversity. In spite of that, the development of PAs management plans and/or their implementation is still questionable according to PAs managers' revelations.

4.2. Recommendations

A series of recommendations was suggested and are addressed to all stakeholders who can do anything to make the status and trends as better as they can. These recommendations were developed so as to highlight the role that every key player should play to improve the ecosystem status and trends. It's worth noting that some recommendations were addressed in previous reports but so far do not have expected outcome.



4.2.1. MEEATU and INECN

- Update laws and develop policies that favor sustainable use and conservation of nature resources in Burundi and fasten the gazettelement of Ruvubu National park so far not recognized legally as a national park;
- Quicken demarcation and designation of effective boundaries and buffer zones of Ruvubu National Park and Rusizi Nature Reserve in order to put a halt to agriculture incisions by highlighting physical limits;
- Develop and implement a harmonised conservation strategy to ensure smooth communication network, coordinated conservation and long-term partnerships between INECN and other stakeholders;
- Re-possess the land portions of Rusizi Nature Reserve and all government forest land and marshlands which were illegally allocated or encroached and make title deeds available for all government forestlands.

4.2.2. Ministry of Agriculture and Livestock

- Develop a domestic livestock breeding as a strategic way to dispose of cost-effective farming and therefore prevent public health incidents related to transmissible diseases between wild and domestic animals;
- Encourage households to develop individual woodlots so as to counter the increasing demands of fuel woods currently satisfied by collecting of forest resources;
- Promote agroforestry where multipurpose trees should be planted to help reducing

the rates of erosion, increasing soil fertility, providing fodder to animals and solving a bit the problem of firewoods.

4.2.3. All NGOs playing a role in conservation

- Advocate for the establishment of a National Liaison Committee that oversees all interventions on the IBAs;
- Contribute effectively in raising the standard of living of rural population via income generation projects which are chiefly oriented in conservation and sustainable management of wild sites;
- Build the capacity of locally assigned wardens and policemen in conservation aspects so as to full invest themselves in safeguarding biodiversity;
- Seek funds so as to keep on addressing conservation challenges;
- Establish, strengthen and empower CBOs / SSGs and incentivize members with income generating projects such as beekeeping, pisciculture where applicable;
- Raise awareness of local community on the value of conservation of IBAs; build their capacity through field-learning practices;
- Broaden birdcount stretches, as well inside as outside IBAs, so as to regularly update the birds checklist in Burundi.

References

1. ABO (2008 a). Quelques dispositions légales essentielles relatives aux parcs nationaux et réserves naturelles au Burundi. ABO. Bujumbura. Burundi.
2. ABO (2008 b). Zones importantes de conservation des oiseaux au Burundi. Sites prioritaires pour la conservation. Sites prioritaires pour la Conservation. ABO. Bujumbura. Burundi.
3. ABO(2009). Programme Paysage Protégé du Nord-Est de la Ntakangwa : Inventaire du faune aviaire
4. ABO (2009). Programme Paysage Protégé du Nord-Est de la Ntakangwa : Inventaire de la Flore de la zone d'Embouchure de la Ntakangwa.
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 Zimbabwe (2010). Important Bird Areas in Zimbabwe. Status and Trend 2009.
8. 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.
9. Fofu, A. (2005). Etude de faisabilité de l'écotourisme dans le secteur Delta de la Réserve Naturelle de la Rusizi. Bujumbura, Burundi.
10. IUCN(2003). Renforcer la durabilité sociale des actions de lutte contre la désertification: Un manuel pour la réflexion. IUCN Gland, Suisse et Cambridge, Royaume-Uni.xviii.
11. 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.
12. Mungangu, T, Nindorera, D. Nzigidahera, B. (2008). Etude des modes de gouvernance et des catégories d'aires protégées actuelles et futures au Burundi. Bujumbura, Burundi.
13. Nkezabahizi L. and Bizimana D. (2008). Burundi's Important Bird Areas: Status and Trends 2008. ABO.
14. Nkezabahizi L. and Manirambona A. (2009). Burundi's Important Areas, Status and Trend 2009; ABO.
15. Nzigidahera B. (2006). Assessment of socio-cultural, economic characteristics and livelihood of riparian population of Kibira National Park (Rukoma-Mutana locality)



Appendix

Appendix II: Basic Monitoring form

Please answer the questions below and 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 the ABO National IBA Coordinator at 25, Avenue de la Victoire, Tel: 22249470

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

Name of the IBA ----- Date-----

Your name ----- Postal address -----

Telephone/fax----- email -----

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):

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				
- Ranching or farming				
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				
Mining & quarrying				
4. Transportation & service corridors				
Roads				
Utility & service lines				
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				
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				
10. Geological events				Give details of specific event and issue
Avalanches/landslides				
11. Climate change & severe weather				Give details of specific event & issue
Habitat shifting & alteration				
Drought				
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, km ²) 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, in 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 to 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					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						
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.

