

The Conservation Value of Lola ya Bonobo Sanctuary

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Introduction

Have you been to a football game lately? Think of the last time you were in an arena that seated fifty or even a hundred thousand people. That many people can make a lot of noise, but of course only represent a tiny piece of humanity today. If we could convince all the bonobos in the world to attend such a game, you could not come close to filling even the smallest professional football stadium. Our closest living relative is slipping off the precipice; their extinction in our own lifetime is a real possibility.

The best estimates of the current bonobo population in the wild are somewhere between 5,000–50,000 individuals; all live in the Democratic Republic of Congo (DRC), the only country in which they are found indigenously (Teleki and Baldwin 1979, Kano 1984, Van Krunkelsven 2001). While it might seem an administrative blessing to have bonobos concentrated in one single large country, this rare species still shares all the problems of population fragmentation, habitat loss, and victimization due to the bushmeat trade practiced by their African cousins. In addition, by being concentrated in one country, this species' survival is dependent upon the state of one single nation – for better or worse.

The ubiquitous threats to African apes seem particularly acute in the case of the bonobo as a result of DRC's ill fortune during the past decade. However, the DRC has begun recovering from a decade of wars and now has the chance to jump from an impoverished victim of an oft forgotten war between seven nations, to a regional power as it struggles to redevelop its shattered economy through what to many must seem like an infinite supply of natural resources (Clark 2002). What will the

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increasing political stability and economic opportunity mean for the remaining wild bonobo populations? How is the future of the remaining bonobo populations linked to the fortunes of Congo? What methods are available and which ones should we utilize to assure their survival in the wild?

In this chapter, we outline how Lola ya Bonobo sanctuary plays a vital role both in offering lifelong care to bonobos who become orphans of the bushmeat trade, and in acting as an instrument for the conservation of the remaining wild bonobos. We present data on the arrival rate of bonobo orphans that suggest that the fate of wild bonobos is inextricably linked to DRC's path towards development. We therefore argue that the coming decade will be a crossroad for the wild bonobo, and that all methods available, however disparate, must be used to assure their survival. As a result, we conclude by considering the possibility of releasing sanctuary bonobos back into the wild as a possible future tool for the stabilization of wild bonobo populations.

The Conservation Strategy for Apes

There is only one method for the protection of wild ape populations, and that is through the protection of ape habitat. There are three conventional steps to protecting this habitat: 1) work with a government to set aside as large a habitat area as possible where human activities that are detrimental to ape survival (e.g. hunting and logging) are banned, and such bans are consistently and effectively enforced; 2) work with the government and local population to implement programs for sustainable economic development and education in and around the protected area; and 3) demonstrate the direct economic value of the protected area to the government and local population – typically through tourism. Implementing these three steps has produced success stories where wild ape populations which were destined for extinction have been protected for decades through aggressive efforts to protect their habitat and health. The mountain gorillas arguably represent the most famous case of such success. This species, with its small population size, would likely be extinct today if its remaining habitat was not actively protected, attention had not been drawn to their plight, and they were not recognized as a valuable economic asset for attracting tourists.

Previous success gives hope for the future that we will continue to improve our ability to protect sustainable numbers of the remaining wild ape populations. However, the unfortunate reality is that protected area management in ape habitat countries has proven to be fraught with difficulties, and in most areas, including those with the highest levels of protection, wild ape populations are in decline (Jolly 2005, Butynski 2001). These difficulties are born from a complex of sources. Historically protected areas have not been gazetted based on population viability assessments but instead, and quite understandably, on a “bigger is better” philosophy. Meanwhile, protection comes in many different flavors. Laws are often either too weak to allow for appropriate enforcement or enforcement is too inconsistent to

protect slow breeding ape populations that are especially vulnerable to acute hunting and logging pressures (White and Tutin 2001). Overall, many wild apes – including bonobos – live within unsustainable, genetically isolated populations that cannot depend on consistent protection from human threats (e.g., imminent threat from disease, hunting, logging etc). As a result, even some protected ape populations have all but disappeared, such as the gorillas of Kahuzi Biega, UNESCO World Heritage Site, DRC, the bushmeat trade has flourished, and thousands of orphaned infant apes have flooded markets across Africa over the past decades. If we are to save a place for wild bonobos (and other great apes), effective tools are needed to further strengthen the conventional protected area strategy and reverse the current trend.

Sanctuaries for Conservation

African ape sanctuaries have evolved as one such supplemental tool by offering a second level of protection to wild ape populations when frontline conservation strategies failed to protect individuals from the bushmeat trade. As a member of the Pan African Sanctuary Alliance (PASA), Lola ya Bonobo sanctuary is one such sanctuary located just outside of Kinshasa, the capital of DRC. Lola ya Bonobo sanctuary has been in operation since 1996 and is the DRC's and the world's only sanctuary for orphaned bonobos.

Since 2002 the sanctuary has provided 30 hectares of primary tropical rainforest to the bonobos who live there. Previously the sanctuary, with smaller numbers of bonobos, was located in facilities at the American School in downtown Kinshasa. Currently, 53 bonobos range freely in three different social groups throughout the day at the sanctuary (see Table 15.1 and Fig. 15.1a). Typically, bonobos arrive as young infants and begin life at the sanctuary with close care from a substitute human mother, but are usually quickly ready to be integrated into a peer group, and shortly after into one of the large mixed-age social groups (See Fig. 15.1b). This means that the sanctuary bonobos can supplement their provisioned diet by navigating in order to forage on the dozens of edible plants available in the forest, can compete for mating opportunities among group mates, and can learn to avoid dangers such as stepping on poisonous snakes just as they would in the wild. As a result, the bonobos at Lola ya Bonobo sanctuary, living in their forested microcosm, are for the most part able to exhibit the full complement of naturally occurring behaviors observed in wild bonobos (in fact, they actually display some behaviors such as tool use that have not been observed in the wild!).

Because of the living conditions provided, the sanctuary can play a critical role by demonstrating the level of humane treatment that captive apes deserve, but at the same time, why do we also believe that sanctuaries like ours help protect wild apes? First, our sanctuary allows for the enforcement of national and international conservation laws aimed at preventing the trade in live bonobos. Second, the sanctuary acts as a mouth piece for conservation efforts in DRC by educating thousands of

Table 15.1 The demography of the bonobos at Lola ya Bonobo by age and sex

Age (# individuals)	Sex (# individuals)
13-older (11)	Female (6) Male (5)
5-12 (23)	Female (8) Male (15)
0-5 (19)	Female (7) Male (12)
Total (53)	Female (21) Male (32)

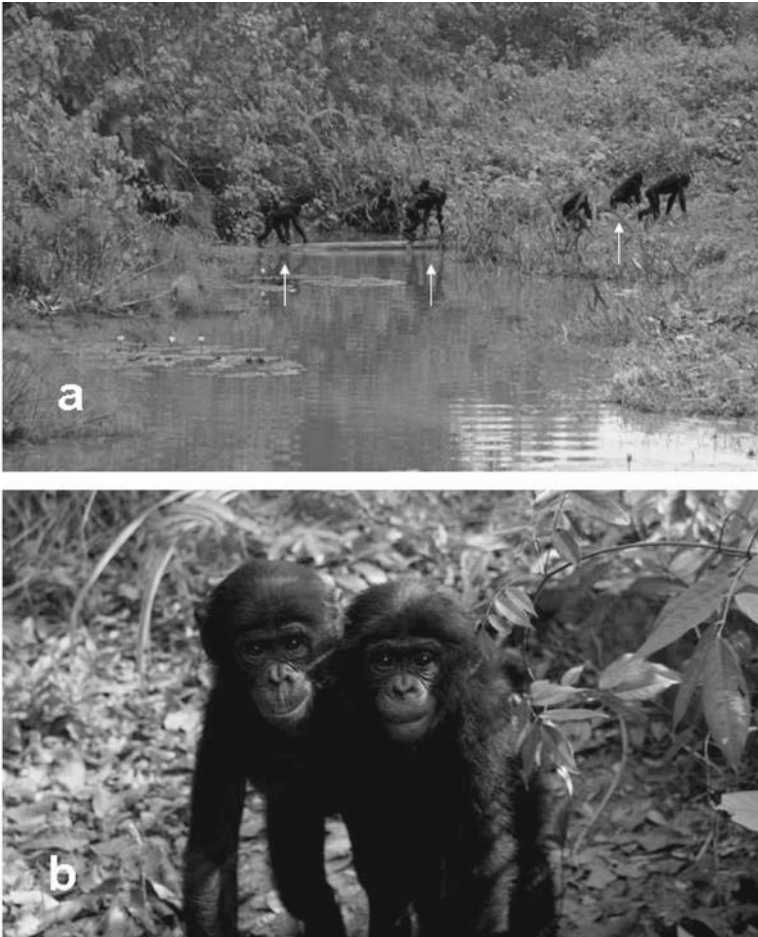


Fig. 15.1 a) The bonobos at Lola ya Bonobo spend their days in 30 hectares (~75 acres) of primary tropical rainforest in which they display the majority of the species specific behaviors observed in wild bonobos. White arrows point to bonobos crossing a natural bridge; b) when orphans first arrive they are quickly integrated into a peer group and then as soon as possible into one of the large mixed age social groups.

Congolese visitors each year about the value of Congo's natural history, in particular the bonobo – their unique Congolese inheritance.

Enforcement of Conservation Laws

There are two domestic laws in the DRC that protect bonobos and other wildlife: 1) *Ordonnance- loi n° 69- 041 du 22 août 1969 relative à la conservation de la nature* (Law number 69-041 of the 22nd of August 1969 with reference to the conservation of nature) which was passed in 1969 and states that the natural heritage of Congo must be protected.

2) *loi 82- 002 du 28 mai 1982 portant réglementation de la chasse* (Law 82-002 of the 28th of May 1982 with reference to hunting) passed in 1982 which states that the capture and trade of endangered species is prohibited within DRC. In addition, DRC is a signatory to the Convention on International Trade of Endangered Species (CITES) which prohibits the export of endangered species from DRC.

To our knowledge, there were no confiscations of illegally owned bonobos before Lola ya Bonobo sanctuary was founded. This means that before the sanctuary existed, it was impossible to use these conservation laws effectively to prevent the trade in live bonobos. Today we work hand in hand with the Ministry of Environment to confiscate any illegally owned bonobo in DRC – whether they are found in a bar, living caged with a chimpanzee, for sale on the side of the street, or living in someone's home as an ill-chosen pet.

As represented by the different modes by which orphans have arrived (Fig. 15.2), the confiscation process has evolved over the life of the sanctuary. Initial rescues resulted from the ad-hoc “persuasion” of prospective traders at the zoo or at the sanctuary. But we were not satisfied with this situation and soon realized the national authorities had to be engaged to develop a more systematic approach. Starting in 1997, the first official confiscations were conducted by the Inspectors of the Ministry of Environment. In response, live animal traders quickly adapted to these initial efforts and began avoiding Kinshasa, instead trying to sell orphans in Brazzaville – the neighboring capital of the Republic of Congo. However together with Project Protection Gorilla, another PASA sanctuary that is located just outside of Brazzaville, we have developed an ongoing collaboration with the Republic of Congo government to implement confiscations in Brazzaville as well. Therefore, there is now little hope for a trader to sell live bonobos in either of the Congolese capitals – where all their richest customers might be found – leaving little incentive to attempt to trade live bonobos in the region.

Meanwhile, more recently we have made progress in extending our reach into areas closer to bonobo habitat. Since 2004, together with the help of individual scientists and NGOs (African Wildlife Foundation and Bonobo Conservation Initiative), a number of infant bonobos have been identified and then confiscated with the help of local officials in urban markets in Mbandaka, Basankusu, and Lisala.

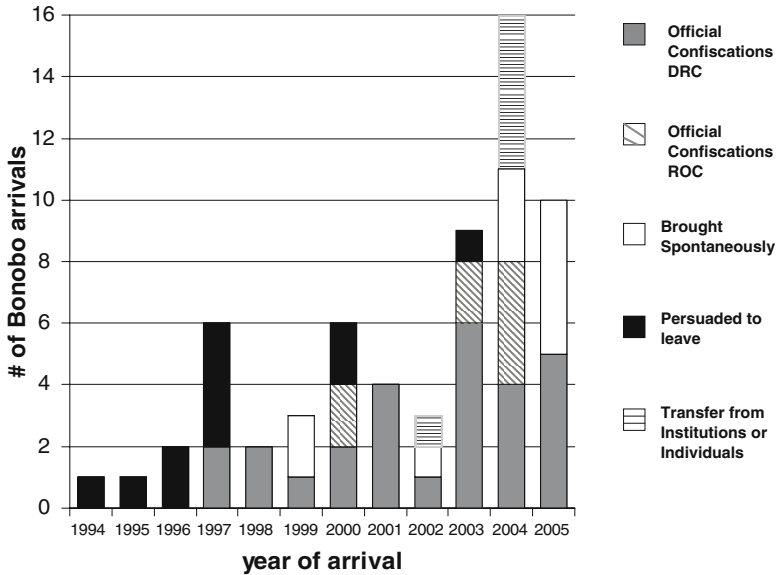


Fig. 15.2 Modes by which orphan bonobos arrive at Lola ya Bonobo Sanctuary between 1994–2005. Official confiscation in the Democratic Republic of Congo (DRC) and the Republic of Congo (ROC), of bonobos brought spontaneously to the sanctuary, cases in which an individual had to be persuaded to turn over a bonobo and transfers from institutions and other individuals.

Our sanctuary's existence is also crucial for the enforcement of CITES laws against the international trade in bonobos. In 2006, an infant bonobo arrived in the carry-on luggage of a passenger at Paris' Charles De Gaulle airport and was to be traded as a pet in Eurasia (the passenger was bound for Russia). An alert customs official discovered the bonobo and confiscated her after realizing she was being smuggled out of DRC; however, the customs office was hesitant to return the infant bonobo to DRC. It was only upon discovering that Lola ya Bonobo offered the infant bonobo the best home available, that they agreed to return the bonobo to its rightful home as CITES law requires. Therefore, we believe Lola ya Bonobo is valuable to wild bonobos in allowing enforcement of existing conservation laws that then act as a major deterrent of the illegal trade of live bonobos captured from the wild.

Congolese Ownership of Bonobo Conservation

DRC has some of the largest remaining untouched tracts of tropical rainforest that can either be home to bonobos or their endangered cousins, chimpanzees and gorillas. No other African country boasts such an immense wealth of apes and ape habitat. Clearly, DRC's forests must remain at the forefront of the international community's conservation agenda. However, the will to conserve these unique resources must

ultimately come from the Congolese themselves. In the end, only the Congolese can decide to conserve the bonobos and our other ape cousins living in Congo.

Before the existence of the Lola ya Bonobo sanctuary, there was no place in the DRC where a child or the average Congolese citizen could go and visit bonobos or discover the value of conserving their country’s wild heritage. Today, the bonobos of Lola ya Bonobo act as ambassadors between their world and ours by giving thousands of ordinary Congolese the chance to come face to face with what they stand to lose – in 2005, that totaled over 14,000 people (see Fig. 15.3 for number of visitors to the sanctuary). The sanctuary’s slogan is “conservation through education,” and we have implemented a number of programs so that the sanctuary’s bonobos have the chance to capture the hearts of every Congolese who encounters them.

Although the sanctuary is visited by people of all ages, our target audience is the children who visit. Many children visit the sanctuary with their families, but for those who would not otherwise have the opportunity, the sanctuary has reached out through its association of thirty-nine “Kindness Clubs” (each at a different school in Kinshasa, see Table 5.2), and by hosting visits by school groups. The Kindness Clubs exist to promote kindness to animals by motivating members to take practical

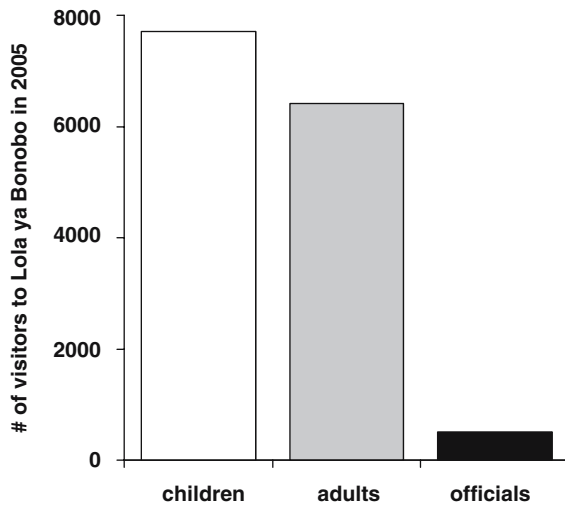


Fig. 15.3 Illustrates the number and type of visitors that came to see the bonobos at Lola ya Bonobo Sanctuary in 2005. All children were Congolese students (this does not include children under 12 who visit with parents, as we never charge admittance for this age group and have no record for this group) and the majority of government officials were Congolese as well (including the Vice-President of DRC in charge of reconstruction and development). We most often host official visits for members of Ministry of the Environment, their diplomatic guests, and delegations from foreign embassies. We also organize a trip once a month for Congolese civil servants to visit either from ICCN, the Ministry of Environment, the Directorate of Resources, the Office of the Secretary General, and the CITES DRC office. In all cases, Lola ya Bonobo offers to pay for transportation, food and drink. In 2005 we also hosted dignitaries from all great ape range countries who attended the GRASP Inter-governmental meeting in September 2005.

Table 15.2 The name and location of the schools where Lola ya Bonobo runs a Kindness club in which children learn about conservation and welfare. Kinshasa has 24 communes, with the 26 kindness clubs being located in 18 different schools located in 7 communes of the east, west, north, south and centre of Kinshasa city

N°	Schools	Communes
1	EDAP/UPN (Secondary school)	Ngaliema (west)
2	Lycée BOSANGANI (Secondary school)	Gombe (north)
3	C.S. Mgr MOKE (Primary school)	Kalamu (centre)
4	E.P. Lycée BOSANGANI (Primary school)	Gombe (north)
5	Institut BOBOKOLI (Secondary school)	Ngaliema (west)
6	Institut BOBOKOLI (Secondary school)	Ngaliema (west)
7	Institut. du Mont- AMBA UNIKIN (Secondary school)	Lemba (south)
8	E.P. Lycée TOBONGISA (Primary school)	Ngaliema (west)
9	Institut du Mont- AMBA UNIKIN (Primary school)	Lemba (south)
10	E.P. St Cyprien (Primary school)	Ngaliema (west)
11	E.P. Martyrs de l'Ouganda (Primary school)	Ngaliema (west)
12	Lycée St Joseph (Secondary school)	Kimbanseke (east)
13	Lycée St Joseph (Secondary school)	Kimbanseke (east)
14	E.P. St Cyprien (Secondary school)	Ngaliema (west)
15	UNIKIN (University)	Lemba (south)
16	E.P. Lycée BOSANGANI (Primary school)	Gombe (north)
17	Institut des Beaux Arts (Secondary school)	Gombe (north)
18	Collège St Frederic (Secondary school)	Kimbanseke (east)
19	Collège St Frederic (Secondary school)	Kimbanseke (east)
20	Collège St Frederic (Secondary school)	Kimbanseke (east)
21	Lycée de Kimwenza (Secondary school)	Mont- Ngafula (south)
22	Collège Pierre Bouvet (Primary school)	Selembao (south-west)
23	Collège Pierre Bouvet (Secondary school)	Selembao (south-west)
24	Lycée de Kimwenza (Secondary school)	Mont- Ngafula (south)
25	C.E. Les gazelles (Primary school)	Kalamu (centre)
26	C.E. Les gazelles (Secondary school)	Kalamu (centre)

actions to improve animal welfare and conservation. We do this through regular visits to schools by our education staff and by sponsoring trips to the sanctuary. Funding for our school program also allows large groups of school children from the poorest areas of Kinshasa to visit the sanctuary by providing them with transportation and lunch during the day (~ 50% of school groups that visit are from poorer districts that require financial aid to pay for their visit).

Arriving at the sanctuary, the children are greeted by one of our education staff members. The children are brought to our education center where they learn the basics of bonobo life, the risks to bonobos associated with the bushmeat trade, and the role they can play in protecting bonobos and Congo's wildlife. To help children understand how similar bonobos can be to them, we show them a short video in which the famous bonobo Kanzi works together with Sue Savage-Rumbaugh in solving all sorts of complicated problems; in addition, we inform them about the illegal bushmeat trade. Impressed by Kanzi, the children then leave on a guided tour around the sanctuary's

2.5 km trail system so that they encounter the bonobos playing in the ponds or chasing each other through the canopy of the trees, just as they would in the wild. Children, as well as adults, commonly make remarks about how they never realized humans and bonobos could be so similar.

Over the years, we have tried to improve our ability to convey our messages regarding the conservation of bonobos and their habitat by conducting pre- and post-visit surveys (see Appendix I for example). With our surveys we have learned that children retain our conservation messages best if they are presented with them in class a few days before they visit the sanctuary (it seems with the excitement of being at the sanctuary itself, it is more difficult for children to retain the messages; see Figs. 15.4 and 15.5 for the results of pre- and post-visit surveys that suggest our programs have been successful at communicating these messages). Therefore, an education officer from the sanctuary visits each school group taking a portable LCD projector and laptop so that he can make a presentation in preparation for the children’s sanctuary visit shortly after. Between the pre-visit seminar and the experience of visiting the sanctuary’s bonobos, the children of Kinshasa are learning the value of conserving their country’s unique, 100% Congolese ape. Overall, we believe Lola ya Bonobo sanctuary also has value for wild bonobos by giving

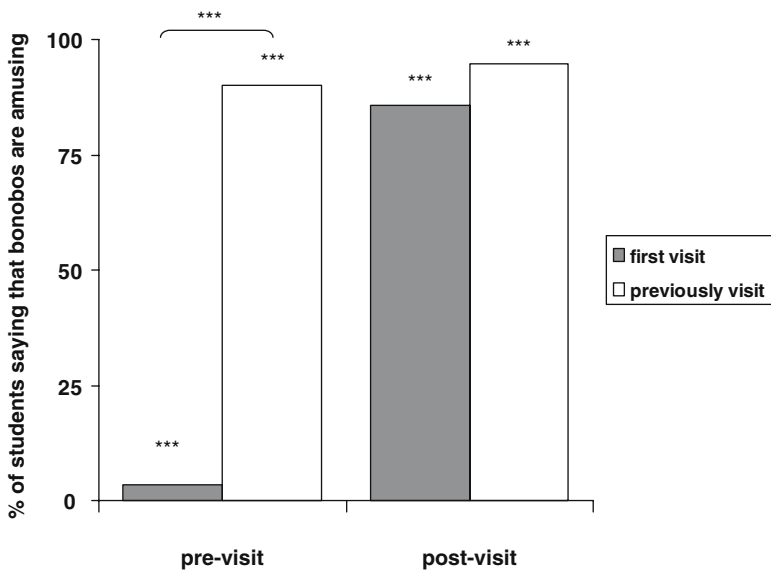
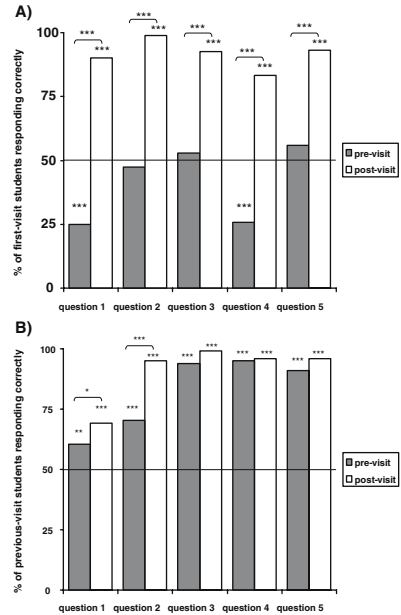


Fig. 15.4 The results of pre- and post-visit survey questions for 200 children who visited the sanctuary for the first time and 200 children who have visited the sanctuary previously. The children were posed the question of whether they thought bonobos were a) frightening, b) amusing, c) dangerous, or d) beautiful. The figure represents the percentage of children responding that the bonobos were amusing. After their first visit, children changed significantly from choosing to describe bonobos as amusing at below chance levels to significantly describing them as amusing at above chance levels – this preference then persisted when they returned on a second visit (Chi-square *** $p < 0.001$).

Fig. 15.5 Pre- and post-visit survey results for a) 200 children who visited the sanctuary for the first time and b) 200 children who had visited the sanctuary previously. The children were asked to respond true or false to questions: 1) bonobos do not make good pets, 2) bonobos are not an endangered species, 3) hunting and snares are dangerous for bonobos, 4) planting trees is something you can do to help bonobos, and 5) bushmeat trade threatens bonobos with extinction. Children responses improved significantly after they visited the sanctuary. Interestingly, before visiting the sanctuary, children responded significantly above chance that bonobos made good pets, while after their visit they responded that bonobos did not make good pets (Chi-square *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$).



Congolese citizens, and in particular children, the opportunity to meet our bonobo ambassadors who have the best chance to instill the will for conservation in the Congolese.

In addition to the education that takes place at the sanctuary, even the actual confiscation process of live bonobo orphans serves as an invaluable education opportunity for the civil servants responsible for the enforcement of environmental laws. For example, recent confiscations in Mbandaka, Basankusu, and Lisala provided an opportunity for the education of law enforcement officials (and other people) closer to the source of the bushmeat trade. This type of education will prove to be crucial, as many live animal traders arriving in Kinshasa with live bonobos and bonobo meat have official documents from the veterinary services of the Ministry of Agriculture authorizing them to bring “gorilla meat” to sell in Kinshasa. Nothing more clearly illustrates the need for education regarding endangered primate species and the laws protecting them among civil servants working in provincial towns closest to the actual habitat of these endangered animals. Our continued efforts in this direction will also afford wild bonobos an additional level of protection.

Evaluating the Impact of Lola ya Bonobo

As with almost any conservation project, it is difficult to put numbers together to measure the exact level of protection that sanctuaries like Lola ya Bonobo provide to wild apes by enabling enforcement of laws against the live animal trade and

through educating Congolese about the value of bonobos. However, just as we have monitored how best to present our conservation message to children through pre- and post-visit surveys, we are also interested in testing whether the sanctuary is doing its job in reducing the trade in live bonobos and increasing awareness about and respect for bonobos among the Congolese. Fig. 15.6 presents the number of individuals that were confiscated each year while Fig. 15.2 presents the way in which they were confiscated.

What immediately becomes apparent, is that the arrival rate of orphaned bonobos has increased threefold since the sanctuary opened. In addition, you see two peaks of confiscation during the main conflict periods of 1997 and 2000 in which six bonobos arrived at the sanctuary each year. So perhaps not surprisingly, there is a sharp increase as the two wars raged within the bonobos' territory. However, what is most disturbing is that this rate has actually increased with the cessation of hostilities. Since 2002, when the Lusaka peace accord was signed, there has been another increase in orphan infants needing sanctuary. We have received 8–10 orphans in each of the last three years. Possible explanations for this increase in arrivals after the peace accord include, 1) acute changes, such as the continued presence of soldiers in the bonobo habitat, increased communication, and trade since navigation on the Congo re-opened in 2002; 2) the resumption of forest exploitation since small unregulated companies with little knowledge or concern for environmental laws arrived; and 3) more lasting changes related to population displacement,

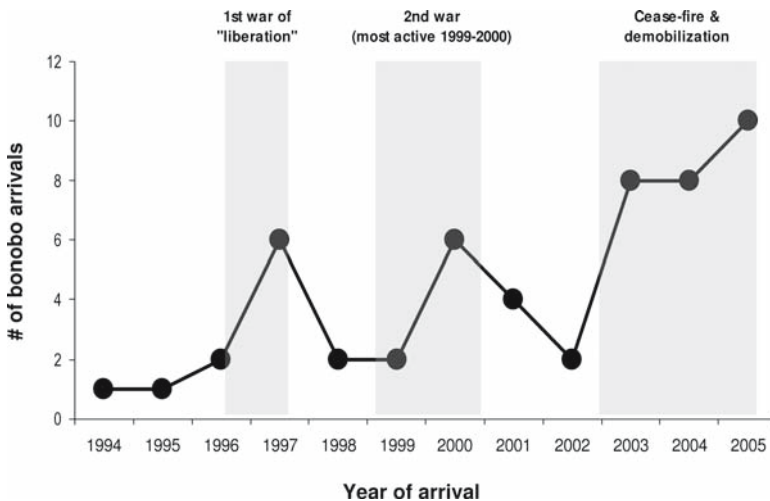


Fig. 15.6 The number of orphan bonobos that arrived at Lola ya Bonobo relative to the socio-political atmosphere in DRC. During the two war periods, all the bonobo orphans reportedly arrived from the Kasai region – specifically from Salonga. More recently, the arrival pattern is more mixed, with orphans originating from Mbandaka/Lomako as well. We suspect that when the Congo river was largely closed to transport, the orphans traveled from the South of Salonga and Bandundu area via the Kasai River to Kwamouth and then to Kinshasa. Now orphans can also be transported via the Congo river from the Lomako area.

weakening in taboos against hunting bonobos, and increases in available arms – all occurring within the remaining bonobo ranges.

Although the last three years have seen the largest number of arrivals to the sanctuary, perhaps there is reason for hope. Our data on the mode by which infants have arrived at the sanctuary (Fig. 15.2) also suggest the possibility that the increase in arrivals is at least partly due to increased awareness of Lola ya Bonobo and our effort to prevent the trade of live bonobos, as evidenced by a number of “spontaneous” rescues. Spontaneous rescues occurred when those illegally holding bonobos as pets or for sale became aware through neighbors that they were breaking the law and these individuals came voluntarily to the sanctuary to turn over the bonobo in their possession. Some of these neighbors were children who had visited the sanctuary with their schools and acted as “ambassadors” for the sanctuary by actively encouraging the turn over of the bonobo to the sanctuary. Although this type of confiscation remains exceptional, our hope is that our continued efforts will make such cases the rule. Regardless, it is clear that there is a tremendous increase in awareness about the plight of the bonobo among those living in Kinshasa. Hopefully, as word of the sanctuary’s efforts continue to spread and more Congolese participate in our education program, it will become increasingly difficult to attempt to trade live bonobos.

Overall, monitoring of bonobo arrivals at the sanctuary provides valuable data regarding the status of wild bonobos relative to the political climate of the country, which complements information obtained by colleagues working in situ (Reinartz and Bila-Isia 2000). In addition, it gives some reason for hope that our education efforts are beginning to have a direct effect on the live animal trade.

Releasing the Future for Wild Bonobos

Given the current state of the wild bonobo population and the likelihood that things will become worse before they potentially become better, should we develop new ways to use sanctuaries as weapons for bonobo conservation? We believe one potential way that sanctuaries and, in particular, Lola ya Bonobo as the world’s lone bonobo sanctuary can provide another tool for wild bonobos is in developing a method for the release of sanctuary bonobos back into the wild.

As Congo continues to expand its use of natural resources, bonobo habitat will be increasingly threatened, and populations will become more genetically isolated from one another (Reinartz and Bila-Isia 2000). Some bonobo habitat areas may also become depopulated due to human activities related to hunting or even disease transmission (Dupain et al. 2000, Walsh et al. 2003). As with a number of other animal species (Kleinman 1986, Griffith et al. 1989), it has been suggested that the release of sanctuary apes into areas bordering a genetically isolated but unique ape population, or even into a depopulated region linked through corridors to another populated region, could help stabilize critically threatened wild ape populations (Tutin et al. 2001, Goossens et al. 2002).

While in practice such release programs largely remain an artform due to the difficulty in pre- and pos-release monitoring (Breitenmoser et al. 2001), there are cases in which the utility of release has been demonstrated in saving inbred wild populations from extinction (e.g., Madsen et al. 1999). Therefore, because of the impending threats to wild bonobo populations and the need for new tools for their conservation, we begin to outline our own proposed bonobo release project. We hope that through the use of new technologies, such as new genotypic techniques (Goossens et al. 2002), and with careful planning and monitoring, we can help create an effective methodology for the release of sanctuary bonobos. If we can take the art out of release, we believe the release of sanctuary bonobos could provide a powerful new weapon in the fight to conserve wild bonobo populations.

Previous Releases of Captive Primates

Release of captive animals into the wild has recently become a method used more commonly to stabilize wild populations, with the number of release programs increasing by 300% during 1993–1997 (Sedon and Soorae 1999). Populations of captive Oryx, ferrets, and red wolves have all recently been successfully reintroduced into the wild in an attempt to increase genetic variation, while preventing wild populations from crashing (Stanley-Price 1989, Moore and Smith 1991, Clark 1994).

A number of captive primate releases have been conducted as well in the recent past, producing mixed results at significant financial costs (Stoinski et al. 2004). Perhaps more than one hundred orangutans have been released into the forests of Sumatra and Borneo since the 1960s. Unfortunately, few records have been kept, so it is difficult to know the impact of this program. It is likely that survival rates were low (Yeager 1997). An initial attempt to release captive chimpanzees in Senegal was abandoned after attacks by wild conspecifics raised concerns for the safety of the individuals to be released (Brewer 1978). Dozens of golden lion tamarins were released into the tropical forests of Brazil following IUCN guidelines for release. With only 200 wild individuals remaining, but a burgeoning captive population available in zoos, the release program was viewed as the best option available to assure the survival of this species in its natural habitat (Kleinman et al. 1986). Captive animals were rigorously screened for disease and given a few months to live in “artificial jungles” at zoos in order to acquire skills (climbing trees, foraging etc.) that were thought to be essential for their survival. Pre- and post-release data of the wild population showed that the release program was successful in that many captive animals have reproduced successfully (Stoinski et al. 2004). However, the cost of the program has been significant with a budget of \$120,000 per year (Beck et al. 1991), while the released tamarins and their offspring both show behavioral deficiencies that result in higher mortality than wild tamarins, and thus, may affect their long-term survival (Stoinski et al. 2004).

More recently, 20 captive chimpanzees were reintroduced into the wild following IUCN guidelines by HELP Congo, another PASA sanctuary working in the

Republic of Congo. A site was carefully evaluated and chosen where the released population would have limited contact with wild populations, individuals were screened for disease that might threaten wild populations as well as the individuals, and released individuals with and without radio collars were followed by observers (Ancrenaz et al. 1995, Tutin et al. 2001). After three years post reintroduction, at least 70% of released individuals survived (this survival rate could be as high as 90% since some mortality was not confirmed and disappearance could be due to outmigration), and more recently, females have successfully given birth (Beck 2007). Presumably in the future, this population will begin to contribute to the genetic diversity of the surrounding chimpanzee communities (Goossens et al. 2002), but meanwhile the release itself has generated significant media and governmental attention that has allowed for an increase in protection of the areas surrounding the release site. Importantly, the success of the project was not due to a large budget, but is attributed to the hard work of professionals and non-professionals who volunteered to help with the release (Tutin et al. 2001).

The First Bonobo Release

Bonobos remain the only great ape species for which a method for release of captive individuals into the wild has not been developed. We believe that it is an important step to take in the near future to assure that release can be used as a tool in bonobo conservation. While there are significant risks involved in such a strategy, including the long-term survival of the released bonobos, the disease risks they may potentially pose to wild populations, and the long-term costs of such projects, we feel that such risks can be managed effectively and thus may be worth taking, if the current situation in bonobo habitat areas continues to decline. In the long run, the strategic release of sanctuary bonobos may provide an important technique, as it has for other critically endangered mammals (Kleinman 1989), to stabilize remnant wild populations with outside genetic material or to repopulate forests that were emptied of wild bonobos due to previous human activities. In addition, the individual interest stories that such a program will create should generate increased attention to the plight of wild bonobos, while offering the possibility to develop unique tourist experiences for future bonobo enthusiasts.

Thankfully, as reviewed above, we have many people who have gone before us in releasing captive animals, so we can heed some important lessons learned from previous release programs. Therefore, in preparation for a proposed bonobo release, we have begun identifying long-term partners within both the conservation and business community who are interested in providing support for the project with financing and expertise.

We are currently designing plans for a soft release in which a stable social group of 15–20 bonobos from the sanctuary will be released within a large forest block that prevents the possibility of contact with wild populations through natural barriers (i.e. an island) or even fencing. We are following IUCN guidelines closely to help

evaluate potential release sites and we have identified a number of scientists who will help us follow and improve upon the IUCN guidelines regarding pre- and post-release health checks, genotyping strategies, and behavioral monitoring. We will then prevent contact with wild populations largely to limit any possibility of disease transmission between populations due to premature immigration. But, if the released bonobos are able to sustain themselves, artificially constructed barriers could eventually be removed to allow for immigration. In addition, such barriers supplemented by tracking collars on a number of key individuals will also give us a chance to intervene if certain individuals have difficulty adapting to life in the wild.

Although we will design such a safety net to protect the released bonobos, we have reason to predict that they will adapt rapidly to life in the wild. Stoinski et al. (2004) concluded from their systematic comparison of wild and released tamarins, that released captive tamarins have behavioral deficiencies because they were not allowed enough time to adapt to a simulated wild environment; instead of years, they only had a few months to gain survival skills before being released. However, as in the case of the HELP Congo chimpanzees who lived on large forested islands before their release, the bonobos at Lola ya Bonobo have been living in large stable social groups within a sizable forest enclosure for years, and thus have much experience foraging for dozens of plants they will also find available in the wild. Therefore, given the success of the chimpanzees from the HELP Congo release project in quickly adapting to life in the wild and the similar pre-release experience our bonobos have to those chimpanzees, we are optimistic that our sanctuary bonobos will also adapt quickly. However, in a soft release phase, depending on the site, we can potentially provision with food and even intervene in extreme circumstances (e.g. disease outbreak).

In addition, our bonobo release program will also have an enormous advantage over any chimpanzee release program simply because of the differences in these species social systems – bonobos do not display lethal forms of aggression seen in chimpanzees, and have behaviors used to effectively reduce social tension that are not found in chimpanzees (Hare et al. 2007, Kano 1992, Wrangham 1999). Therefore by controlling immigration, and due to the bonobos less aggressive nature and the pre-release environment, our release program should result in even higher survival rates than those seen in chimpanzees (Tutin et al. 2001), assuming human activities are effectively controlled.

We are currently assessing whether we can provide consistent and effective protection for the release area through the presence of tourist activities and education programs that can not only generate sustainable revenue for the project and the surrounding communities, but allow for countless education opportunities for Congolese living in and around bonobo habitat areas. In addition, we are also investigating whether our local and international partners will help us in maintaining active patrols around our release site.

As we write this, we are still in the initial phases of our planning, so our review only includes some of the strategies we will use in designing our release, with our ultimate goal being the development of a systematic method for the release of bonobos that can supplement conventional protected area strategies in use today.

With an effective release method available, we will have one more important tool to make sure that wild populations remain viable.

Summary

Without an appropriate facility to receive great apes confiscated from the pet trade, application of existing trade and detention laws, including CITES, is not possible. Lola Ya Bonobo sanctuary in Kinshasa, DR Congo, was created by Friends of Bonobos in Congo (ABC) in response to this need and focuses its efforts on protecting bonobos (*Pan paniscus*), which are our species' closest living relative, but also among the most endangered primate species. In order to stymie the trade in live bonobos, ABC is pro-active in working with the Ministry of Environment to ensure the legal confiscation of all infant bonobos reported for sale in the streets of Kinshasa.

In addition, the sanctuary's slogan is "conservation through education." By hosting thousands of Congolese each year at the sanctuary, we are able to convey the value of conserving bonobos and the tropical forest on which they depend. While our records of confiscations over the past ten years show that there has been a threefold increase in confiscations that is tightly linked to political instability in the DRC, there is evidence that the sanctuary has raised awareness of the bonobos' plight among Congolese – perhaps the most important way we can protect bonobos for the future. In this chapter we outlined the continued value of Lola ya Bonobo for the protection of wild bonobos, while discussing some of the pros and cons of potentially releasing sanctuary bonobos back into the wild as another tool for managing wild bonobo populations.

By working with civil servants to enforce Congolese and international laws banning the trade in bonobos, and by presenting over ten thousand Congolese each year with the opportunity to personally visit and learn about bonobos in the country's capital, we have argued that Lola ya Bonobo offers an added level of protection to wild bonobos. Therefore, we believe sanctuaries like Lola ya Bonobo will continue to play an important conservation role by supplementing conventional protected area strategies.

Further, we have presented arrival data on bonobo orphans at the end of the bushmeat chain that suggest that the two periods of most intense conflict over the past decade co-occurred with an influx of orphans. And perhaps most disturbing is that another significant increase in arrivals has occurred since the Lusaka peace accord was signed in 2002. We believe this data has bearing on the situation within the bonobo habitat, and thus suggests that while our efforts along with those of many others are making sure that the bushmeat trade does not go unchecked (in particular making poaching for the sake of trading live bonobos intractable), the aftermath of the peace process may present us with the conservation community's greatest challenge to date. Thus, it seems that bonobos are at a crossroad – with their future tied to how well we respond to the way Congo's development affects

their continued survival. Luckily, together as a conservation community, we have far more tools available to us now that peace has returned.

We have briefly reviewed the possibility of developing the release of sanctuary bonobos back into the wild as one such tool. While we acknowledge there are significant risks involved in such a strategy, we feel that such risks can be managed so that the potential benefit will far outweigh the costs. If we can succeed in developing a systematic method for releasing bonobos, sanctuary bonobos will provide a plan B for conservation, if in the short run, things continue to deteriorate in habitat areas. Sanctuary bonobos can be used to stabilize crashing populations or repopulate habitat areas where bonobos no longer exist – even if this scenario only plays out long into the future.

Using strategies new and old, Lola ya Bonobo stands together with the conservation community and looks forward to working with all parties involved for the conservation of bonobos and DRC's natural resources. It is with our combined efforts – no matter how disparate the methods might seem – that we will assure that our closest relatives will remain wild in Congo. In addition, our teamwork will also help develop a powerful tool kit that the next generation of conservationists can continue to utilize and develop further to assure that they too are successful in protecting bonobos on the next watch.

Acknowledgements We would like to thank the editors for inviting us to contribute to this volume and for their work in putting it together. We appreciate the helpful comments by an anonymous reviewer. We appreciate Vanessa Woods allowing us to use the photos in Fig. 15.1. We would also like to thank the generous funding provided by a number of welfare groups, businesses, individuals, and others for their continued financial support of Lola ya Bonobo sanctuary. Particularly relevant to this chapter, is the financial support of Disney's Wild Animal Kingdom that provided for the evaluation of our education program. Please see our website at www.lolayabonobo.org for a full list of our sponsors. The research of the last author (B.H.) is supported by a Sofja Kovalevskaja award received from the Alexander von Humboldt Foundation and the German Federal Ministry for Education and Research.

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Appendix I

Questionnaire Pre- and Post-Test for Congolese Children from Figure 15.4

1. Bonobos do not make good pets. TRUE, FALSE
2. Bonobos are not an endangered species. TRUE, FALSE
3. Bonobos are not important for the forest. TRUE, FALSE
4. Do you think that bonobos are protected? TRUE/YES, FALSE/NO
5. Check the word which in your opinion best matches bonobos:
 - a. frightening
 - b. amazing
 - c. beautiful
 - d. dangerous
6. Illegal hunting and snares are dangerous for bonobos. TRUE, FALSE
7. Planting trees is something you can do to help bonobos. TRUE, FALSE
8. Bushmeat trade exposes bonobos to the risk of extinction. TRUE, FALSE

Questionnaire Pre- and Post-Test for Congolese Children from Figure 15.5

Identification of the participant:

Name: _____ Class: _____
Age: _____ School: _____

Questions:

A. TRUE/FALSE QUESTIONS: “Do you think that...?”

1. Bonobos make good pets.
2. Bonobos are currently in danger in their natural habitat.
3. Bonobos live in many countries of Africa.
4. The number of bonobos in the forest has been stable over the past decade.
5. Bonobos are more closely related to gorillas than to humans.
6. Bushmeat trade does not necessarily expose bonobos to the risk of extinction.

7. The survival of the Bonobo in the forest depends on our actions today.
8. It is not our responsibility to protect the Bonobo.

B. CHECK ALL THE CORRECT RESPONSES

9. What can you do to help the Bonobo?
 - a. Learn more about the bonobo to become a well-informed advocate.
 - b. Explain to my relatives, friends, and neighbors that the bonobo is unique to the DRC.
 - c. Reassure those who don't know too much about bonobos, so that they leave them alone in their forest,
 - d. Only eat bushmeat that has been well cooked to prevent diseases.
 - e. Discourage my relatives, friends, and neighbors from eating monkeys, apes, and other kinds of bushmeat.
 - f. Cut only the biggest trees in the forest, but leave the shrubs for the bonobos to hide in.