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Interpretation and implementation of the Convention

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Review of Significant trade

POPULATION STATUS AND MANAGEMENT PLAN OF THE AFRICAN GREY PARROT IN CAMEROON

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POPULATION STATUS AND MANAGEMENT PLAN OF THE AFRICAN GREY PARROT

Psittacus erithacus erithacus

IN CAMEROON

Report Summary

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May 2012

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1. INTRODUCTION

1.1. Context and justification

Unsustainable exploitation of our biodiversity in general and wildlife resources in particular remains a complex and challenging phenomenon for governments and international organizations to tackle (CITES, 2005: Hills *et al*, 2005; IUCN, 2010). The need to reverse the negative impacts led to the idea of international cooperation regulating the trade in wild specimens of biological resources. The corollary of this was the drafting of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which came into force in 1975. Today, CITES is a legally binding international agreement, with 175 parties and offering varying degrees of protection to over 30,000 species the world over, through the regulation of trade by means of controls and licensing regimes (CITES, 2010). CITES exerts levels of regulation of its listed species based on the level of protection that a species needs through three appendices (Appendix I, Appendix II and Appendix III). However there are still many challenges that CITES faces in controlling illegal trade in some highly valued wildlife species (CITES, 2010). Incidentally, one of the most important goals of the Cameroon Government is to conserve its biodiversity (Tamungang and Cheke, 2009; Nforngwa, 2010). In this direction, the Government is making efforts to modernize the laws and policies on biodiversity conservation at the pace of the current wind of change in biodiversity conservation both locally and internationally.

Parrots (Order *Psittaciformes*) are one group of bird species that are heavily exploited for the international pet trade (Beissinger, 2001). Many species of parrots are exploited within their range states for the pet trade, both locally and internationally. The African Grey Parrot is one parrot species which has attracted high interest in the international market (BirdLife International, 2010; BBC, 2004; Juste, 1996; Mulliken *et al*, 1992). Stemming from an assessment that 21% of the global population is harvested yearly, it is currently assessed as Near Threatened on the IUCN red data list (IUCN, 2010; Birdlife International, 2010; Birdlife International, 2011). The last population evaluation study which permitted the exploitation of the 12000 parrots export quotas was endorsed in 1998 (Fotso, 1998). The permissible trade remained at the same level until the onset of the avian influenza (H5N1) outbreak in 2005 (BBC, 2004; EU Wild Bird Declaration, 2004). During the same period, Cameroon was suspended from exporting parrots since January 2007 until issues of sustainable management of the species are clarified. Among the listed measures are:

- ✓ Harmonization of management issues in the country and the establishment of a management plan for this species.
- ✓ Habitat factors affecting population and measures to be taken that will lead to long term conservation of this species of great significance.

In this direction, the Government of Cameroon through the Ministry of Forestry and Wildlife (MINFOF) arranged for an inventory of the Grey Parrot to be carried out in Cameroon.

1.2. Mission statement

The mission of this study was to gather information that will be used to determine CITES annual export quotas and to ensure long term sustainable conservation of the Grey Parrot in Cameroon. This mission is in compliance with the resolutions of the CITES Animal committee's 22nd meeting held on July 2006 in Lima, Peru and CITES Review of Significant Trade, document-SC55 Doc.17, Pages 2-4 of 2nd June 2007 (CITES, 2006; CITES, 2007). Results of the study are presented in this report summary and details are found in the complete report.

2. MATERIALS AND METHODS

2.1. Field methods identification and standardization

Preliminary work on the field study started with a workshop which identified and standardized methods to be used for data collection. A total of thirty-three persons drawn from various professions (Wildlife Management, Forestry, Agriculture, Sociology and Geography) attended the two day workshop in Dschang. A second workshop was organised in MINFOF, Yaounde and the methods for data collection for this study were validated.

2.2. Study design

The overall study site design adopted for ecological data collection was Stratified Random Sampling (Williams, 1991; Usher, 1991; Sutherland, 2006). Stratified Random Sampling is the optimum survey design to use when there are two or more distinct habitats. This design was best for this study because of the many varied eco-regions that give rise to varied vegetation types, and the ten government administrative regions.

2.3. Ground team travels

Ground team surveys were carried out from 2008-2011 involving collection of nationwide geo-spatial data on parrot population distribution and abundance, habitat threats and socio-economic use. Data on socio-economic use of parrots were collected nationwide. All the ecological regions of the country were also sampled.

2.4. Bird population data collection

The point count with two counting bands was used for counting Grey Parrots for this study. This method is widely used to sample bird communities in tropical forests from which changes in bird abundance over time are calculated (Volpato *et al*., 2009; Hill *et al*., 2005; Seavy *et al.*, 2005; Hutto *et al.*, 1986 and Dawson, 1981a). Point counts are similar in conception and theory to transect-based counts (Bibby *et al.,* 1992; Blondel *et al*., 1970; Hutto *et al*., 1986). The point count has an advantage over transects of being easier to incorporate into a formally designed study. Although a plausible method for the study of Grey Parrots, relative density estimates from point counts are susceptible to errors that can arise from inaccurate distance estimates or from the violation of basic assumptions when counting birds.

2.5. Socio-economic data collection

Structured questionnaires and interviews were administered to collect data on trapping and transportation techniques, parrot trade and deforestation activities.

2.6. Data Analysis and population Modelling

Datasets were synthesized for quantitative and qualitative analysis using relevant statistical packages (SPSS, Map Info, Microsoft Excel, GIS software).

The Point Count formula for calculating density of counts within and beyond a fixed radius (Bibby *et al.,* 1992) was used for calculating Grey Parrot densities and numbers for each region of the country.

3. GEOGRAPHIC DISTRIBUTION AND VEGETATION ASSOCIATIONS

3.1. Range identification and delimitation

From results of the study, the natural range of the Grey Parrot falls in major parts of the South West, Littoral, South, Centre and East Regions, and small parts of North West and West Regions. This range harbours about sixteen national protected areas and four important non-protected areas. Therefore, most Grey Parrots are found in the southern part of the country. They are roughly evenly distributed within this range in Cameroon though with severe habitat fragmentation in some localities.

3.2. Distribution according to eco- regions

Data were further analysed to show the distribution of Grey Parrots in the study area with respect to the ecological regions of Cameroon. There are seven eco-regions in the country and three of them harbour Grey Parrots in significant numbers. In order of decreasing abundance of Grey Parrots, they are North-western Congolian Lowland Forest, which is a typical lowland rainforest; Atlantic Equatorial Coastal Forest, which is made up dominantly of mangrove swamp forest; and the Cross-Sanaga-Bioko Forest, which is made up of a mélange of lowland, and highland rainforest.

3.3. Distribution according to vegetation types

Grey Parrots were found in many types of vegetation in and around the rainforest region of the country. Various authors have classified the various vegetation types perhaps to suit their various needs. The rainforest vegetation is classified into two vegetation types: the Evergreen Broadleaf Forest and the Deciduous Broadleaf Forest. These vegetation types occupy major parts of the East, Centre, South and Littoral Regions and harbour Grey Parrots in great numbers. Minor parts of this vegetation are found in the South West, West and North West Regions. The third vegetation type that harbours minor populations of Grey Parrots is the woodland savannah, also known as the Guinea savannah and is a transitional vegetation type between the rainforest and the grassland. Guinea savannah vegetation is prominent around Kenzou through Garoua Boulai to Meiganga, North of Nanga Eboko, Bangante through Tonga to Bafia, Ngambe Tikar through Bankim to Mayo Banyo and from Magba towards Foumban. The continuous fragmentation of the endemic range of the Grey Parrot has also influenced the dispersal pattern of the species.

3.4. Home range and habitat requirements

The African Grey Parrot is a very mobile bird in the rainforest environment. As a fruigivore, it moves intensively in search of flowers, fruits and seeds. Distances covered are determined by the seasonal distribution pattern of the needed habitat resources in the forest. In a related study, an average home range of the parrot was estimated at 10.27 km^2 with a home range area of 283.25 km^2 in Cameroon (Tamungang*, et al*. 2001). Feeding, breeding and roosting activities are major parameters that determine the home range of the African Grey parrot in a given place and time. Shorter ranges were observed by the above mentioned study during the rainy season, implying that habitat resources were readily available.

In conclusion, the natural range of the Grey Parrot in Cameroon falls in major parts of the South West, Littoral, South, Centre and East Regions and small parts of North West, and West Regions. This range of the Parrot is relatively large compared to the size of the country but is gradually being reduced and fragmented through agricultural activities, urbanization, infrastructural development and timber exploitation.

4. ECOLOGY AND HABITAT THREATS

4.1. Roosting ecology

Over fifteen roosts were identified in five regions of Cameroon and some were found very close to human homes while others were located far into the forest. Abundance of population at the roosting sites varied from season to season. It was observed that parrots did not use the same roost throughout the whole year. Seasonal migration was noticed in the late dry season with the birds returning in the early rainy season. All the birds did not leave the roost at the same time.

All the roosts identified were threatened by anthropogenic pressure! Those that roost on domestic palm trees are at risk of losing the habitat to humans in two major ways: the branches on which the parrot roosts are frequently cut down (pruned) as a management measure by owners of the palms thereby depriving the bird of its roost. In another instance, the branches are cut down when the mature palm fruits are being harvested. All the palm trees on the site can also be destroyed and replaced by young ones planted by management, thereby depriving the parrots of their total habitat in the region. Those that roost on trees around human habitations are vulnerable to human predation and at the same time habitat destruction.

4.2. Feeding ecology

A diversity of food types on which the African Grey Parrots fed was identified in many regions of the country. The food types are made up of twelve families and fourteen species. Two tree species belong to the family Caesalpinioideae and two other species belong to the family Burseracea. The rest of the families are only represented by one tree species. The most common documented food types are the oil palm (*Elaeis guineensis*), plum (*Prunus africanum*) and maize (*Zea maiis*) (Fry *et al.*, 1988). In all these places, parrots feed on a variety of plant species, which can be classified into leaves, flowers, fruits and barks of trees. Parrots were observed in the Lobeke National Park feeding on soils and weeds in marshy areas. The habit of feeding on soils (geophagy) by parrots is known in Cameroon mostly in the Lobeke area.

The birds were noted to feed heavily on some economic tree species such as plums, guavas, oil palm nuts etc. thereby reducing the economic yield of the farmer. Various methods were adopted for chasing them away or trapping or killing the birds, including shooting with guns and catapults. This is again another type of parrot-human conflict.

4.3. Nesting ecology

Both active and non active nests of Grey Parrots were observed in many sites in the field. Nests were found on very tall trees of 25 to 45m in the forest. A majority of tree species identified with parrot nests were usually found in secondary vegetation such as *Terminalia superba, Terminalia ivorensis, Alstonia boonei and Vitex grandifolia*. Nest densities ranged from 0.034 to 0.373 nests/ha in the Centre, East and South Regions.

Lack of suitable nesting sites is a major limiting factor to population growth of parrots in Cameroon. Due to scarcity of nests, parrots seemed to re-use their nests every year. The cutting down of trees for timber exploitation, farming and infrastructural development brings about the destruction of nests. This scarcity of nesting sites due to forest exploitation can result in the migration of the parrots of Cameroon towards neighbouring countries thus reducing their numbers locally.

5. PARROT TRADE AND EMERGING CHALLENGES

5.1. Extent of the trade

Cameroon has been a melting pot for the commercialization of parrots for the past three decades until forced by the international community to slow down trading activities and justify the future sustainability of the remaining parrot population in the country. Since 2006 till date, the legal trade in parrots has been drastically reduced throughout the national territory.

5.2. Trapping techniques

Parrots are captured all year round depending on the demand, parrot species behaviour and the trapping method. On one hand, they are either captured in the day or night, depending on the site and method used. On the other hand, they are either captured alive or dead depend on the on the objective of use of the capturer. All sexes and ages are captured and no breeding season is observed. This study estimated that 3-5 parrots die out of every 35 from the forest before arriving at the trappers' home.

5.3. Utilization methods

Parrots are widely used in many cultures and traditions in Cameroon. Methods of use vary from one culture to another depending on the objective of use, but it can be consumptive or non-consumptive. Non-consumptive use such as parrot tourism is highly encouraged because it is more conservation friendly. The use of this bird is evident in the many indigenous names by which the Grey Parrot is called in Cameroon. Twelve ways in which Grey Parrots are used were documented by this study.

5.4. Value and economics of the trade

The parrot trade is big business in the Cameroonian society involving the public and the private sectors. It begins with the trappers and villagers in the rural communities (who are custodians to parrot resources in the forests) and extends to the middlemen (local traders and exporters). MINFOF is the major arm of the government that implements wildlife laws and regulates the trade. MINFOF works with CITES to determine exploitation quotas of parrots for a given period, determines individual quotas to be exploited by legal traders and supervises export procedures in the country. The driving force behind the trade is poverty alleviation and unemployment. Major suppliers of Grey Parrots live in the rainforest areas of Cameroon. At the regional level, three regions (South 31%; Centre and East, 23% each) are the major sources of Grey Parrots in the country. The international parrot trade is financially motivated as exporters get much higher prices per bird abroad than their local counterparts. With the ban on parrot exports imposed by CITES since 2007, many exploiters in Cameroon have a problem of selling their birds locally because prices are very low. The Grey Parrot has been the most exploited and exported wild bird species in Cameroon. From 1981-2005, Cameroon exported 367,166 with a yearly average of 15,299. From 1990-1996, Cameroon exported 48% of the Grey Parrots in the 25 countries in Africa, thereby positioning itself as a leading exporter of the wild Grey Parrots in the world. Official figures do not account for parrots that are smuggled across borders into neighbouring countries; those that are consumed locally and those that die in the process of trapping and transportation. Parrots are smuggled across the borders of neighbouring countries and as far as Ghana.

Major threats to sustainable parrot conservation in Cameroon are directly linked to anthropogenic pressure either directly on the parrot or on its habitat. Five major threats to the parrot were identified from the questionnaire sampling: forest deforestation, trapping for food, minor diseases, trapping for trade and predation by wild animals. Irrespective of region, deforestation and trapping for trade were the major threats with a combine value of 63%. The illegal parrot trade is generally difficult to monitor and remains a big challenge to the Cameroon Government.

6. THE MANAGEMENT PLAN

6.1. Why a Management Plan?

The management plan is a flexible strategy that provides guidelines, be used to enhance the development and sustainable conservation and exploitation of Grey Parrot resources in Cameroon.

6.2. Objective of the management plan

To identify and implement projects that will increase the population of the Grey Parrot in Cameroon to its maximum sustained yield level, so as to enable harvesting of the surplus on a continuing basis.

6.3. Vision of the management plan

To increase the current population of Grey Parrots in Cameroon by 50% by the year 2016

6.4. Implementation strategy of the management plan

An Integrated Management approach should be adopted and all stakeholders in the parrot sector are expected to be involved at the level of implementation.

6.5. Scope and limitations of the management plan

Sections of this plan have been have been identified to comply with the resolutions of the 22nd CITES Animal Committee meeting of July 2006 held in Peru and CITES Review of Significant Trade, document-SC55 Doc.17 of 2nd June 2007 (CITES, 2006; CITES, 2007). The Management Plan is broad based thereby involving all stake holders in the sector. The plan is applicable in all regions of the country, and more particularly where parrots survive in captivity and in the wild. The implementation phase of the Plan is envisaged for five (5) years (2012-2016).

6.6. Population size determination

6.6.1. Sample sites distribution for regional quota determination

The 32 sample plots in the range of the Grey Parrot in the country produced a minimum of 1280 counting points per round of visit. Both dry and rainy seasons' data were collected separately per year and this produced a minimum of 2560 samples of counting points. Thus, for the two years, a minimum of 5120 parrot counting points were visited. Total parrot detections for the whole study, showed that the North West and West Regions had very low data entries, reflecting the low level of parrot activities and detections in the regions. From a regional standpoint, the East had the highest parrot detection in 176 points, followed by Centre (114) and then Littoral (112). Out of the 5120 points visited in 4 seasons for the two years of the study, parrots were detected in 628 points.

6.6.2. Determination of Grey Parrot densities

Various parrot densities were calculated using the formula by Bibby *et al*. (1992) as stated in the chapter 3. The East region had the highest parrot density (2.16 GPs/km^2), followed by the South (1.72 GPs/Km^2). The lowest densities were obtained from the Littoral (0.5GPs/km^2) and the South West (0.49 GPs/km^2) Regions.

6.6.3. Translating densities into populations

Total surface area occupied by rainforest within the endemic range of each region was obtained from MINFOF. Similar information was also obtained on the total surface area of each region of the country. Parrot densities were obtained from the formula;

Density = Number of individual animals/Surface area occupied

From this equation, we obtained the number of parrots from the densities and the total humid forest size of each region. The least parrot population size was recorded in the Littoral Region (3487 GPs) and the highest in the East Region (135128 GPs). The second position was occupied by the South Region with 46914 GPs and the third position by the Centre with 10403 GPs. The national point estimate of the parrot population size was 200779 GPs, determined by the sum of regional population sizes. A confidence limit (CL) of the parrot population was used to improve on the reliability of the results. CL at 95% was used to calculate the lower and upper limits to the population size, and the range 199390 – 202170 was obtained. Therefore, the population size of Grey Parrots in Cameroon as a point count was 200779 and as a range was from 199390 – 202170 GPs.

6.7. Intrinsic rate of natural increase for the Grey Parrot in Cameroon

In order to inform policy on a sustainable harvest (offtake) of Grey Parrots, information is required on many parameters including; the intrinsic rate of natural increase (*r*) or population growth rate of the bird. Due to the absence of some information to be used for calculating '*r*' from wild Grey Parrots, we used some information obtained from their counterparts in captivity. With available input data, Cole's formula (Cole, 1954) was used to estimate values of '*r*' for the Grey Parrot in Cameroon. Results obtained show that 'r' varies from 0.51 to 0.56 under captivity and 0.38 in the wild. The higher intrinsic rate of natural increase in captivity is a significant indication that there is good potential to increase Grey Parrot population growth rate for conservation in the wild through mass breeding in captivity.

6.8. Regional harvest quota determination

Harvest quotas for the different forest regions were determined taking into consideration factors that negatively affect the natural intrinsic growth rate of parrot populations in the country. Such factors include; habitat degradation which results in scarcity of nesting sites and then, poaching and trafficking of parrots for the pet trade. It is difficult to quantify the above factors and as such makes the task of determining Grey Parrot harvesting quotas more difficult. Efforts to use harvesting models proposed by Beissinger and Bucher (1992), and Rabinovich (2004) were futile due to absence of sufficient data on natural history and population dynamics of the Grey Parrot in the wild. However, we adopted the approach used in the previous study of the Grey Parrot in Cameroon by Fotso (1998). He estimated that there were 300,000 – 500,000 Grey Parrots in Cameroon and proposed a harvest quota of 12,000 GPs per year which was endorsed by CITES. We took the median of this population size (400,000) and calculated the harvest quota (12,000) as a percentage of it. We obtained 3% as the proportion of that population size. Instead of also using the 3% as used in 1998 to determine the harvest quota, we used a lower sustainable limit of 2% and an upper maximum limit of 3 %. The assumption here is that the above mentioned negative factors have affected the harvest quota in the country by 1% and their intensities vary per region. We also took into consideration that the intrinsic growth rate of the wild parrot population in Cameroon is 0.38. We then used a range of 2% - 3% of the national parrot population to determine regional and national harvest quotas. The harvest quotas obtained were made up of lower regional limits with a range from 70–2703 GPs and upper limits with a range from 105 - 4054 GPs. At the national level, the lower limit was 4015 GPs and the upper limit was 6023 GPs. The regional quota

approach has a major advantage over the previous national "global" quota approach in that harvesting is carried out as a proportion of the known population size in each region. The overall impact is a reduction in regional threats and extinctions that are plausible through over exploitation as practiced in the past. It also enables management to be aware of regions with endangered parrot populations such as the North West and West Regions, and take adequate management measures to develop them to sustainable levels.

6.9. National harvest quota versus national export quota considerations

It is important to make a distinction between a *national harvest quota* and a *national export quota*. For this document, a national harvest quota is the total number of parrots (both alive and dead) in a population that is legally permitted to be removed from their natural habitat by man. Similarly, a national export quota is the total number of parrots (both alive and dead) that is legally permitted to be shipped from the country. From these definitions, we can deduce that the national harvest quota for Grey Parrots in Cameroon will always be greater than the national export quota, as parrots that are consumed locally in the country are part of the national harvest quota. Local parrot consumption and illegal parrot harvesting are not taken into consideration when determining harvesting quotas. They constitute a problem for national harvest determination since it is never easy to quantify them.

6.10. National harvest quota determination

Considering the above factors which impede sustainable parrot population growth (with an intrinsic growth rate of 0.38) in the country and the management challenges that lie ahead to be tackled, we recommend as follows:

1. A national harvest quota of 2–3% (4000 - 6000 GPs per year) is possible in Cameroon from 2012 – 2016 (5 years).
2. A national export quota is of 4000 – 5000 of GPs is feasible in Cameroon from 2012 - 2016
3. A local consumption quota (used as pets, captive breeding stock, etc) of up to a maximum of 1000 GPs could be sustainably harvested in Cameroon from 2012 – 2016.
4. In a year that the local consumption quota is not requested, a national export quota of 6000 GPs could be permitted.

6.11. Conservation status

The high variability in regional harvest quotas is indicative of the variety of factors that influence parrot populations at different levels in the regions. Such factors include, past history of harvesting, distribution and abundance of habitat resources (in quality, quantity and diversity), and human influences (demographic pressure, forest disturbance as well as community awareness on parrot conservation, practices and participation in such programmes). Out of the seven regions that harbour Grey Parrot in Cameroon, two (North West and West) were listed as *endangered*, one (Centre) with *near threatened*, two (Littoral and South West) with *vulnerable* and two (East and South) were tagged with *least concern*. The status of the Grey Parrot in Cameroon therefore calls for serious conservation and management attention.

6.12. General recommendations

General recommendations were developed from all ecological and socio-economic factors identified by this study to negatively affect the conservation and management of parrot resources in the country. Twelve major recommendations are presented and subsequently developed into projects in the next chapter.

6.13. Projects Identification and Management

6.13.1. Why Projects

Projects for implementation consist of decisions, analysis and action strategies to be carried out by the Government of Cameroon or the implementation partner to revamp the parrot conservation sector. Our driving force in the conception and designing of the projects is to provide an adaptive management approach that is in unison with sustainable conservation and management ethics for the overall benefit of parrot resources over time in Cameroon. This vision is best achieved through the integrated management approach that consolidates human resources and directs their efforts towards the achievement of goals and objectives of each project. To ensure a greater achievement action, enough consideration has been given to all stakeholders in decision making at all levels of project implementation. Each project is designed with a short term or long term prospective in mind. To this end, the first year of project implementation is devoted to short term projects with long term delivery effects on policy enforcement and regulation, with the prime goal to lay a concrete foundation for subsequent take-off of long term projects.

After a 5 year life cycle of project implementation, trends may emerge from results so far obtained. Such trends are then evaluated and used as cornerstones for building the next project cycle. Finally, there is the strong need for the project implementation institution to ensure consistency in the implementation of the vision and mission outline thereof since they collectively form a tangible hierarchy of goals for parrot population development and habitat conditions improvement in the country.

6.14. Projects for implementation

6.14.1. Section 1: Population monitoring and management

Project 1: Ecological Monitoring of Grey Parrot Populations

The objective of this project is to monitor and sustainably manage Grey Parrot populations and their habitat resources in Cameroon. The point count with two counting bands is proposed for regular counting Grey Parrots as a means of obtaining population data that could be used for informed management decisions. It is recommended that parrot harvest should be managed adaptively. In this case, the decision to harvest any quota is revised periodically and there are regular monitoring data in between, to provide feedback about effects of the harvest on the bird populations.

Project 2: Standardization and harmonisation of Grey Parrot research methods in Africa

The objective is to organise an international conference that will be used to standardize and consolidate research methods on the Grey Parrot in Africa. This objective is in consonance with recommendations of the 22nd Animal Committee of CITES' held in Peru in 2006 on the harmonisation and standardisation of regional methods on parrot management and conservation. The conference will be used to seek ways for forming a network for parrot conservation and management parties accross Africa. Such a platform will be used to fight against trans-border parrot/wildlife trafficking and poaching.

Project 3: Parrot Research Institute of Cameroon (PRIC)

The objective is to establish a reference institute for field research and sustainable management of parrot species in Cameroon. The institute should be empowered to carry out fine and specialised research, build capacity for continuity, and draw up strategic development programmes for the sustainable conservation and management of parrot species in Cameroon.

Project 4: Development of a parrot data-base for Cameroon

The objective is to create a data bank on parrot species in Cameroon. Such information will be used to monitor and manage parrot populations and trade dynamics in the country. Currently, data on parrots in general and the Grey Parrot in particular is not readily available for informed management/policy decisions in Cameroon. The creation of a parrot database for the country will go a long way to provide information for both long and short term informed decisions.

Project 5: Important Parrot Areas of Cameroon (IPAC)

The objective is to identify and raise the conservation and management status of important parrot areas of Cameroon (IPAC). This study identified some sites with high parrot populations outside protected areas and close to human habitats. These parrot populations are vulnerable to poaching activities and habitat destruction and hence urgently need special protection measures.

Project 6: Step-up the breeding rate of Grey Parrot populations

The objective is to study the breeding ecology and behaviour of the Grey Parrot in the wild and to use this knowledge to improve on breeding techniques of both captive and wild species. The project will go a long way to increase potential nesting sites of Grey Parrots in the wild by providing home-made nests in selected areas, and to enhance parrot populations growth rate in the country by encouraging captive bred specimens, which can be used for commercial purposes.

6.14.2. Section 2: Biologically sustainable capture and/or export quota

Project 7: Parrot welfare promotion and death rate reduction

The objective is to improve on the quality of parrot trapping methods, step-up the quality of transportation, handling and treatment of parrots in general, so as to reduce casualties to minimum levels in the country.

Project 8: Management of rescued parrots

The objective is to improve on management conditions of rescued and confiscated parrots as a means of reducing mortality rates. The project will set up a more functional and efficient structure for determining the final destination and improved management of rescued or confiscated parrots in the country.

Project 9: Community empowerment with respect to parrot conservation

The objective is to empower rural communities (villages) at the level of decision making, management and exploitation of parrot resources in their forests. The project will go a long way to promote the value of parrot conservation and ecosystem services through attitude change in rural communities. These activities will give additional value to parrot conservation in rural communities.

6.14.3. Section 3: Prevention of illegal capture and trade in parrots

Project 10: Restructuring policies and harmonising the parrot trade

The objective is to draw up a parrot trade policy and law containing the species sustainability prospects, non-detriment findings, fairness and viable financial mechanism for all stakeholders. The project will step up vigilance and security measures against poaching and trafficking of parrots and other wildlife resources all over the national territory and especially at the frontiers. It will also enhance the general management of protected areas as insurance for improved parrot conservation and management.

6.15. Log-frame for project implementation and management: 2012 – 2016

The logical framework for all projects with main objectives, implementation strategy, execution dateline and success indicators are presented in the complete version of this report.

6.16. Yearly datelines for project implementation and management

Yearly datelines and major activities of each project are summarised in a table, to be used daily as a checklist for systematic project implementation. A detailed table for this purpose is presented in the complete version of this report.

6.17. Conclusion

With the enforcement and regulation of the parrot trade in Cameroon since 1981, the Grey Parrot has remained a species of great biological interest as well as socio-economic and political importance to Cameroon. The sustainable conservation of the bird and its habitat resources through the mitigation of emerging challenges should be a top priority to the Government of Cameroon. The management plan developed in this report is a flexible strategy that provides guidelines that can be used to enhance the development and sustainable conservation and exploitation of Grey Parrot resources throughout the national territory. An integrated management approach should be adopted and all stakeholders in the parrot sector are expected to be involved at the level of implementation. Finally, it should be remember that *the survival of our parrots tomorrow depends on our conservation efforts today*.

Coverpage photo: Grey Parrots feeding on weeds in the Lobeke National Park, Cameroon
Photo by S. A. Tamungang/PARROTPRO