# Strengthening Capacity for Monitoring and Regulation of International Trade of African Grey Parrot

EU-CITES Capacity-building project
***No. S-414***

**2013**

**CITES Secretariat**

**About the EU-CITES Capacity-building project**

The project *Strengthening CITES implementation capacity of developing countries to ensure sustainable wildlife management and non-detrimental trade* was approved for funding by the European Union in 2009.

A major challenge for many countries is the difficulty in meeting the requirements for trade in CITES-listed species, ranging from legal sourcing and sustainability requirements, to the effective control of legal trade and deterrence of illegal trade. Mechanisms exist in CITES and in both exporting and importing countries that promote and facilitate compliance – although Parties are often hampered by a lack of capacity or a lack of current biological or trade information with respect to certain species. This can result in levels of trade which are unsustainable, which in turn can impact on economic growth and local livelihoods, and reduce options and incentives for conserving and managing wild resources effectively.

The overall aim of EU's support is to strengthen capacities to implement the Convention and satisfy the CITES-related requirements of trading partners (such as the European Union), to prevent overexploitation and to ensure legal international trade in wild fauna and flora does not exceed sustainable levels.

This publication is one of the reports and tools developed under this project, which provide information and guidance to Parties in a particular area of concern based on needs identified by developing countries.



This document was prepared by BirdLife Africa Partnership Secretariat, under a contract with the CITES Secretariat and made possible through funding received from the European Union.



**Suggested citation:**

Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 2013. *Strengthening Capacity for Monitoring and Regulation of International Trade of African Grey Parrot.* Report prepared by BirdLife Africa Partnership Secretariat. Geneva, Switzerland, 104 pages.

# Chapter 1 : A protocol to allow density estimation and monitoring of the heavily traded grey parrots across their huge African ranges

Stuart J. Marsden[1], Emmanuel Loqueh[2], Jean Michel Takuo [3], John A. Hart[4], Robert Abani[8], Dibié Bernard Ahon[5], Charles Showers[6], Nathaniel Annorbah[1], Robin Johnson[7] & Simon Valle[1]

[1] *School of Science & the Environment, Manchester Metropolitan University, Chester Street, Manchester M1 5GD, U.K.*
[2] *Society for the Conservation of Nature in Liberia, Across the River-Transboundary Peace Park Project, Care Compound, Tubman Boulevard, Congotown, 1000 Monrovia, Liberia*
[3] *Cameroon Biodiversity Conservation Society, CO BP 3055, Messa, Yaounde, Cameroon*
[4] *Lukuru Foundation, PO Box 837, Circleville, OH 43113, U.S.A.*
[5] *SOS-FORETS, Campus Universitaire d'Abidjan-Cocody, Centre National de Floristique, Côte d'Ivoire*
[6] *Conservation Society of Sierra Leone, 18b Becklyn Drive, Off Main Motor Road, Congo Cross, Freetown, Sierra Leone*
[7] *BirdLife International, Wellbrook Court, Girton Road, Cambridge CB3 0NA, U.K.*
[8] *SOS Nature, Kisangani, Democratic Republic of the Congo*

## Abstract

Estimating population sizes in the heavily-traded Grey Parrot would provide invaluable insights into sustainability of harvests. However, the species' huge range, current rarity, variable abundance, cryptic habits, mobility, along with difficulty of logistics and lack of resources may present insurmountable obstacles to its effective study. This project piloted candidate survey methods (line transect distance sampling, encounter rates, road surveys, occupancy based on interviews) across five west and central African countries in an attempt to devise appropriate and robust methods for density estimation. Parrot density estimates were calculated for two protected areas in Cameroon, one key forest in Liberia, one in DRC and several areas of Côte d'Ivoire. Density estimates were highly variable across sites - ranging from < 0.5 per sq. km in Côte d'Ivoire and the site in DRC to over 30 per sq. km in Lobéké NP in Cameroon. Most significantly, we were able to define the relationship between absolute density estimates from distance sampling and simple encounter rates derived from casual forays in the forest. We argue that the relationship is especially useful in low density areas where distance sampling may never be feasible. Results also indicated that encounter rates of one group per day or more of searching are likely to indicate population densities lower than one bird per sq. km - a rarity that almost certainly should disallow bird harvest. An application would be for local park rangers to record a simple metric of number of groups recorded in a day's activities in the forest (anti-poaching patrols) which would then be used to estimate 'ballpark' density estimates for the area. The relationship also forms a link between the anecdotal records of birders and non-ornithologist researchers and density estimates.

## Rationale and Aim

Parrots are among the world's most threatened groups of birds, due to habitat alteration and direct exploitation for the pet trade (Rowley and Collar 1997). The African Grey Parrot, now classified as two species, Grey Parrot *Psittacus erithacus* (Central Africa to Eastern Côte d'Ivoire) and Timneh Parrot *Psittacus timneh* of Côte d'Ivoire to Guinea) has a long history of heavy capture, and there is great concern that these harvest levels are unsustainable (CITES 2006). The species has a huge range, but there are anecdotal reports of severe declines and local extinctions (BirdLife International 2013). Efforts to accurately survey the species have been hampered by methodological issues and simply the enormity of the task of expressing density and its variability across the huge range.

Parrots are notoriously difficult to survey accurately. Many are rare (Snyder et al. 2000), they occur in complex habitats such as tall rainforest (Lee and Marsden 2012), they are patchily distributed, cryptic at rest, social in nature, and make long flights between feeding and roosting sites. Several methods have been proposed for abundance estimation ranging from actual counts of rare species, roost counts, simple encounter rates, nest counts, counting along flyways, and distance sampling either from points (Marsden 1999) or transects (Lee and Marsden 2012). Distance sampling has dominated efforts in the last twenty years (Thomas et al. 2010), and most population estimates were derived using these methods (Marsden & Royle *in prep*.). A serious limitation of distance sampling is that it is time/resource demanding in the field, and specifically that it requires good numbers of detections (80 or more encounters; Buckland et al. 2008) to allow precise density estimation. Such sample sizes are practically impossible for rare parrots.

This project aimed to examine candidate survey methods that might be appropriate for quantifying populations of the two grey parrot species across their ranges. Appropriate methods should have the following properties

- Accurate and precise enough to represent meaningful baselines
- Yield actual density/population estimates against which parrot harvest levels can be related
- Cover a lot of ground as the parrot range is huge – and/or results can be realistically extrapolated to unsurveyed areas
- Be repeatable and relatively simple to undertake
- Be applicable in areas where parrots are both 'common' (some areas of Central Africa) and very rare (e.g. Ghana; N. Annorbah *unpublished data*)
- Be cost-effective

A special focus of the project was a test of the relationship between formal density estimates (individuals per sq. km) derived from line transect distance sampling and more simple encounter rates (number of birds or groups per hour) derived from casual walks and stops in the forest.

## Methods and study sites

Five countries were involved in the pilot;

**Sierra Leone:** Gola Forest; occupancy across Gola, Loma Mountains and Kangari Hills
**Liberia:** Gola Forest; Occupancy survey across the country
**Côte d'Ivoire:** Parc National du Banco et sa périphérie, Réserve Dalhia fleur et sa périphérie, Parc National d'Azagny et sa périphérie, and Zone rurale de Soubré.
**Cameroon:** Lobéké National Park; Campo Man National Park; agricultural land outside Yaoundé
**D.R. Congo**: TL2; work on aggregations in various locations; trade surveys in Maniema and Orientale Provinces.

***Line Transect Distance sampling (LTDS)*** – this is an established survey method for various animals, including parrots (Casagrande and Beissinger 1997). It involves walking transects of known length and recording, for each parrot encounter, the perpendicular distance from the bird/s to the transect line. Records from various transects are pooled together and (usually) the program DISTANCE is used to model the fall-off in detectability with increasing distance from the transect line (Thomas et al. 2010). Important assumptions are: that transects are positioned randomly in respect to the bird population, that birds do not move naturally or in response to the observer during the counting process, and, most importantly, that probability of detecting animals on the transect line (at distance = 0 m from the recorder) is certain (Buckland et al. 2008).

During this study, we aimed to achieve around 25 km of transect at each site. Parrots were counted by one or two teams of recorders. Transects were around 4-6 km long, and were walked at speeds of 1-1.5 km per hour between 06h30 and 11h00 and in the absence of rain (Lee and Marsden 2012). Transects were not cut especially for the study due to time constraints, but were positioned along existing tracks in an attempt to represent the site as well as possible. Only perched records of parrots are included in the DISTANCE analysis (Marsden 1999).

***Encounter rates (ER):*** These have a long history in conservation ecology but have become less-often used recently due to bias associated with differences in detectability across species and habitats, and the need/desire for actual population figures rather than abundance indices (e.g. Buckland et al. 2008). They involve walking, standing or other detecting method and counting animals/groups per hour of recording, unit of distance walked, mist net capture effort etc. (Lancia et al. 1994) .

In our study, encounter rates were undertaken by the same teams as the distance sampling and in the same areas. Transects which were walked one day using LTDS were surveyed using ER on a different day. Some transects were surveyed using only one method but all surveying was done in same area. Path width could be greater with ER than with LTDS and some ER work was done along roads. ER sampling was done between 06h30 and 12h00 and 16h00 to 18h30. Recorders could spend variable amounts of time walking or standing, and they recorded after each half-hour period whether they were standing still or walking, along with a GPS reading and a broad habitat type assessment (primary forest; secondary forest; farm bush). Importantly, unlike in LTDS surveys, flying records of parrot are included in ER calculations.

***Occupancy of large areas:*** These methods are generally used to gain an idea of the overall distribution/occupancy of a species across a large area. For example, interviews with villagers

might help to define the occurrence of a rare species (O'Brien et al. 1998), while geo-referenced occurrence points might be feed into a species distribution model such as MAXENT (Phillips and Dudík 2008).

In this study, we asked survey personnel to contact as many likely people as possible from around the country to ask them a set of questions about grey parrot occurrence and ecology/abundance. Interviews could be done in person, by telephone or email. People targeted for the interviews were government officials, wildlife staff from protected areas and NGOs, parrot traders and trappers, researchers working in the field etc. Chapter 1.1 shows the interview questions.

***Road transects:*** This method is widely used in surveys of diurnal raptors in USA (Andersen et al. 1985), but is not well-used outside of this field. It involves driving, usually at a set velocity, along exiting roads and counting animals visible whilst moving (e.g. Vinuela 1997). The result is usually a simple encounter rate (individuals/groups per hour or 100 km) although some correction might allow density estimation. Survey placement is a serious issue as roads are certainly not randomly located (Vinuela 1997).

We counted parrots from vehicles travelling at < 60 km per hour in rural areas. Sample units were five kilometre stretches of road, the start and end of which were GPS-referenced. Roads transects were performed in Côte d'Ivoire, DR Congo and Cameroon. We made a broad habitat type assessment at each one km marker (e.g. primary forest; farm bush, village), encounter rates are expressed as bird groups per km.

***Aggregation counts:*** Being often communally roosting (Rowley and Collar 1997) or gathering at claylicks (Lee et al. 2010), counting parrots at aggregation sites has potential as a monitoring tool. It involves finding the aggregation and making a robust count of all birds within it. Work on roost counts has shown significant across-day variation in numbers of parrots entering roosts, some related to weather (Cougill and Marsden 2004). In some cases, this noise may mean that several or many day's observation might be needed to get a proper idea of numbers using the aggregation as well as hampering inter-year monitoring power.

In this study, we examined the efficacy of roost counts but limited time meant results were inconclusive.

***Trade interviews***: Persons associated with grey parrot trade were interviewed face-to-face in Cameroon and DRC. Interviews were conducted both with trappers/traders and with ecoguards and rangers tasked with controlling trade. A set series of questions was asked of each respondent (see Chapter 1.1).

Table 1. Parrot survey tasks set for each of the five countries involved in the pilot study.

| Country | Distance sampling | Encounter rates | Occupancy | Road transects | Other |
|---|---|---|---|---|---|
| Cameroon | Y | Y | | Y | AGG, TRADE |
| DR Congo | Y | Y | | Y | AGG, TRADE |
| Ivory Coast | Y | Y | | Y | AGG |
| Sierra Leone | | Y | Y | Y | |
| Liberia | Y | Y | Y | Y | |

### The relationship between parrot density and encounter rates

We accumulated LTDS and comparable ER data from seven sites visited during the project (Table 2). Additionally, we used density and encounter rate data from recently conducted surveys on the island of Príncipe (S. Valle *unpublished data*) where grey parrot is very common. The author surveyed parrots within 28 one-kilometre squares in the north and south of the island. The north is dominated by secondary forest while the inaccessible and rugged south is mainly primary forest. He divided surveyed squares randomly into LTDS and ER squares. During LTDS surveys, flying parrots were recorded as such but were not included in the analysis – these were included in the ER figures.

Since we did not assume the relationship between LTDS and ER to be linear, we used Spearman's rank correlation analysis in R to examine the relationship across the nine sites. We did not assume that ER is zero when density is zero as parrots can be (and often are) recorded flying over areas where their on-the-ground density is in fact zero. We also tested the relationship between density estimates and mean group sizes of parrot recorded at sites (mean of mean group sizes per transect).

## Results

### Experiences from the field from pilot teams

Teams from all five countries were able to collect field data on parrots. Logistics were of course an issue but good amounts of data were collected in the time allocated.

### Density estimates and other notable results

Table 2 shows density estimates and encounter rates from the seven sites surveyed in this project plus north and south Principe. Côte d'Ivoire recorded no parrots along either LTDS or ER transects (62 km and 85 hrs.). They did, however, record parrots using aggregation counts. DRC recorded very low encounter rates in the white sand/black water forests on TL2. Densities in the Cameroonian protected areas were high, with Lobéké NP having notably high densities locally. The density estimate from agricultural land in Cameroon was actually higher than any other from our surveys.

Table 2. Density estimates (birds per sq. km) and encounter rates (number of groups and individuals per hour of effort), and mean group sizes from the seven pilot survey sites from this project plus north and south Principe.

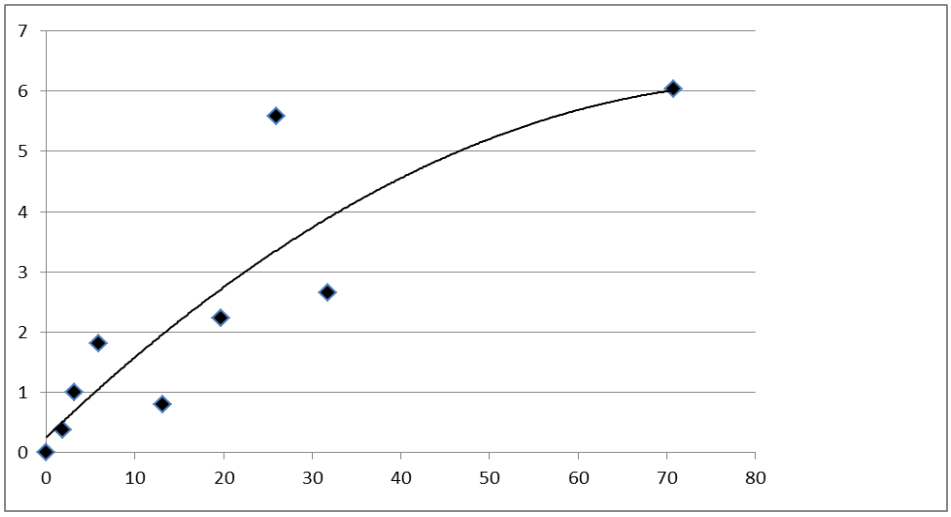
| Site | Population density | Enc Rate (groups) | Enc Rate (Individuals) | Mean group size |
|---|---|---|---|---|
| CampoMan 1 | 13.1 | 0.79 | 2 | 4.2 |
| CampoMan2 | 5.9 | 1.8 | 5.4 | 2.7 |
| Cameroon AGR | 3.2 | 1 | 2.5 | 2.5 |
| Lobeke 1 | 31.8 | 2.7 | 6.8 | 2.2 |
| Lobeke 2 | 19.7 | 2.3 | 3.9 | 1.8 |
| Ivory Coast | 0 | 0 | 0 | 0 |
| LiberiaGOLA | 1.8 | 0.37 | 0.67 | 2.1 |
| Principe North | 70.8 | 6.1 | 14.3 | 1.8 |

| | | | | |
|---|---|---|---|---|
| **Principe South** | 26 | 5.6 | 13.3 | 1.5 |
| **DRC** | 0.33 | | | |

### The density-encounter rate relationship

Figure 1 shows the relationship between density (LTDS) and casual encounter rates across the nine sites. There was a strong relationship between the two measures ($r_s$ = +0.93, $n$ = 9, $p$ < 0.001). The relationship may be non-linear, with lower than expected encounter rates at very high densities, perhaps due to the recorder being swamped with aerial records. Encounter rates of around one group per hour appear to correspond to densities of around 5 individuals per sq. km, so ERs of less than one group per day should indicate very low density (< 1 individual per sq. km). Encounter rates of groups per hour were strongly correlated with ERs of numbers of individual birds seen per hour, but the former is easier to record in the field than the latter so this was used in analyses. There was no relationship between density estimates and mean group sizes for parrots ($r_s$ = -0.05, $n$ = 9, $p$ = 0.90).

Figure 1. The relationship between parrot density estimates (individuals per sq. km; x axis) and encounter rate (number of groups recorded per hour of recording; y axis).




### Results from other methods

*Road transects*

Road transects were conducted in Cameroon, Côte d'Ivoire, and in DRC. Table 3 shows the summary results. Road transects in Cameroon and DRC yielded parrot records, with encounter rates in DRC being ten times greater than in Cameroon. No parrots were recorded in 146 km of driving in Côte d'Ivoire. All parrot records on road transects are geo-referenced (to within 1-2 km) so, in addition to representing a gross idea of local abundance, they could also represent presence points that would fit into presence-only models.

Table 3. Summary results of road transects in Cameroon and DRC.

| | Distance covered (km) | Number of encounters | Mean and max group size | Encounter rate (groups per 10 km) |
|---|---|---|---|---|
| Cameroon | 105 | 2 | 1.5/2 | 0.19 |
| Côte d'Ivoire | 146 | 0 | - | 0.0 |
| DRC | 93 | 12 | 3.3/11 | 1.29 |

*Occupancy*

Two countries presented occupancy data. Of these, only Liberia produced an adequate sample size to provide informative results. Figure 3 shows the counties of Liberia and Table 4 shows summary results of the occupancy interviews. Occupancy data were collected from 14 respondents from ten of 15 counties. Continued presence of grey parrots was 'confirmed' from nine of these counties, and parrot trade from six counties. Likely abundance varied across county, with parrots being patchy or restricted in distribution in most counties, but with River Gee perhaps being a possible hotspot for the species.

Figure 3. The counties of Liberia considered in the occupancy survey.


Table 4. Summary data from occupancy surveys/interviews from Liberia. 'Assessed' is the number of respondents.

| County | Assessed ? | Grey Parrot present? | Indication of abundance | Grey parrot trade |
|---|---|---|---|---|
| Grand Cape Mount | 3 | No/No/No | NA | No |
| Lofa | 1 | Yes | Occasionally groups of 6-8 birds fly over | No |
| Gbarpolu | 0 | - | - | - |
| Bomi | 1 | Yes | Only in Belleh Forest, 4 | |
| Montserrado | 0 | - | - | - |
| Margibi | 1 | Yes | 6-10 individuals but only if specific place visited | Parrots on sale in market |
| Bong | 2 | No/Yes | Occasionally seen flying over by one respondent | Used to be traded apparently; still so |
| Grand Bassa | 2 | Yes/Yes | Patchy, groups of 2-4 | Yes, birds sold to white guy on beach |
| Nimba | 0 | - | - | - |
| Rivercess | 0 | - | - | - |
| Sinoe | 1 | Yes | 6-8 individuals | Not any more |
| Grand Gedeh | 1 | Yes | Groups of 2 flying over forest or town | Yes |

| | | | | |
|---|---|---|---|---|
| River Gee | 1 | Yes | 50 or more flying over reserves or even town | Yes, continues |
| Grand Kru | 0 | - | - | - |
| Maryland | 1 | Yes | Occasionally group of 2 flying over | Yes |

*Aggregation counts*

Five aggregations in DRC were visited between 10 August and 3 September. A further two aggregations were identified from fieldwork in 2011 (Table 5). Additionally, the large aggregation at Djange in Lobéké was visited by SM in July 2013. A supplementary chapter (Chapter 1.3) details the work of the partner in DRC, with reference to the high number of known clearings, and subsequent potential of aggregation counts there.

Table 5. Details of parrot aggregations visited/identified during the fieldwork.

| **Country** | **Aggregation type** | **Position** | **Number of parrots counted/estimated** |
|---|---|---|---|
| DRC | Roost | Trees | 22 |
| DRC | Feeding/salt-drinking | Clearing | approx. 650 |
| DRC | Feeding/salt-drinking | Clearing | approx. 160 |
| DRC | Feeding/salt-drinking | Clearing | approx. 300 |
| DRC | Nesting | Tree cavities | no data |
| DRC | Nesting | Cliff cavities | no data |
| DRC | Feeding/salt-drinking | Clearing | no data |
| Cameroon | Feeding/salt-drinking | Clearing | approx. 600 |

*Trade questionnaires*

In Cameroon, interviews were conducted with twelve parrot trappers, 19 rangers, and five exporters. Importantly, in Cameroon, juvenile parrots were never taken from nests. Birds were caught either in any month or during the period November to May (dry season). Birds are trapped invariably using glue. Birds are usually sold 10-30 or more at a time, after being kept for 1-2 weeks. Most trappers sold parrots to itinerant traders, with birds being sold to the highest bidder. Individuals are sold for between 5000 and 1000 CFCA (US$10-20). Table 7 shows the responses of five exporters to questions.

Data from DR Congo identified 23 trappers, eight persons involved in transporting birds, and six involved in its control. Trappers work at parrot aggregations or along known flyways, in parrot clearings and nest colonies, and in urban Kisangani. Capture methods recorded were glue (with decoy birds to attract wild birds), nets on the ground in clearings, and fledglings taken from nest holes. Trappers receive US$15-25 per parrot. Most importantly, mortality along the chain was high.

- Trapper-related mortality averaged 24.4% (9.3-48.3% by individual trapper)
- Local buyers declared 10-40% mortality
- Air transport - Service Air at Kisangani averaged 10.2% (0 – 43% of total birds per shipment; $n = 24$)

Overall mortality, from capture to transport to Kinshasa, was thus estimated to average 59% (likely range - 45–65%). Thus, a volume of trade of around 800 birds leaving Kisangani per month may actually represent an offtake of 1000-1500 birds per month, or 12000 to 18000 birds taken annually from Orientale Province (see Chapter 5).

## Discussion

### The importance of the relationship between encounter rate and density

We argue that the establishment of the relationship between density and encounter rate is extremely important as it means that the latter can be used as a surrogate for the former. Encounter rates can form a useful method

- where expertise in distance sampling lacking
- for areas outside of protected areas/forests
- as a basis to monitor parrots
- where expertise are lacking

It allows us to gauge rarity in situations where parrots are far too rare to effectively survey using distance sampling. For example, in forests where one cannot see one parrot group in a day then densities of parrots are almost certainly very low indeed. Such low encounter rates also form a threshold beyond which it seems extremely unwise to consider harvest of parrots. Of course, there is no set threshold, but if demonstrable encounter rates are lower than one parrot group per day, or per few hours, then densities are likely to be lower than one bird per sq. km – a low population density that presumably disallows harvest at the local level.

### How might encounter rates work in reality?: Gola Forest case study

Following the Monrovia workshop, Stuart Marsden, Simon Valle, Nathaniel Annorbah and Rowan Martin joined Emmanuel Loqueh on a field trip to the Liberian side of the Gola Forest Transboundary Park (proposed Lofa-Manu National Park). We had two aims for the five day visit. First, to assess the status of Timneh parrot *Psittacus timneh*, the recently split western form of grey parrot (Figure 4). Parrots were rare in the park but we managed to gather data to allow a density estimate. We were fortunate to record a flock of around 70 birds feeding on oil palm inside the park.

Figure 4. Timneh Parrots.

Figure 5. Parrot survey training at Gola

Our second aim was to train the park rangers and Site Support Group in parrot, hornbill and turaco monitoring methods. This took the form of one afternoon of classroom-style discussions (Figure 5) followed by three days of training in the forest for eight park rangers and five Site Support Officers. The local staff picked up the simple encounter rate method quickly. Discussions before we left the site with John Konie (Chief ranger) and his staff allowed us to

recommend a monitoring protocol for the park and to promise delivery of recording forms to support this work.

**Recommendations as to monitoring protocols/actions for each country**

Table 6 shows the current state of knowledge of grey parrot populations in the five range countries and recommended monitoring protocols and recommended approaches to parrot harvests.

**Recommendations as to management planning actions for each country**

At the regional workshop, focal country representatives drafted management plan project tables. The next steps are to develop full management plans, based on these drafts, and then begin implementing projects. Overall responsibility for this lies with each country's CITES Management Authority. Partners should play a key role, especially in monitoring, as they have direct experience in using the methods. Partners should work with CITES Authorities to refine and implement monitoring plans nationally.

The role of BirdLife and the CITES Secretariat should be to provide guidance and technical support where necessary. The following actions are recommended to guide management plan implementation.

MP = management plan, SAP = species action plan

1. **Formal adoption**
    a. Secure formal adoption of management plan to ensure national government support and authorisation for projects.
2. **Monitoring and training**
    a. Involve partners in monitoring and training for monitoring
    b. Mainstream monitoring into existing projects and processes, making full use of existing capacities, e.g. existing patrols. Opportunities may exist with government agencies and large NGOs.
        i. E.g. Liberia: If the training provided in Gola forest (see Discussion) proves successful in the long-term it could provide a case study of how easy and cost-effective such interventions can be.
    c. BirdLife to provide technical support and guidance on monitoring to partners and others
3. **Legislation**
    a. Follow up on legislation review (Chapter 2) to identify whether national legislation meets satisfies obligations CITES, and where current legislation is lacking in this respect.
    b. Those countries in the process of revising their national conservation legislation (Côte d'Ivoire, Liberia, and Sierra Leone) should clarify how likely changes will affect AGP protection status, and identify opportunities for introducing elements to address areas lacking.
4. **Socio-economic importance of trade**

This project recognised the need to understand the role of communities in AGP trade, and to analyse the AGP trade chain, though it did not succeed in doing so due to limitations on resources and the difficulty in contacting (illegal) trappers and traders.

a. Analyse AGP trade chain at the national level, to understand:
    i. The impact of trade in terms of scale and mortality
    ii. Where benefits from the trade accrue, and in what quantities
b. Given the difficulties highlighted in the approach taken here, the CITES Secretariat may consider supporting the use of undercover methods to gather these data. The above may be undertaken by CITES Secretariat or a consultant

**5. Regional management**

This work will contribute to CITES Decision 14.82, directing range states of *Psittacus erithacus* and *P. timneh* to participate in the development and implementation of regional management plans for the conservation of and trade in these species.

a. Moves towards regional management should be split along species lines:
    i. Timneh Parrot: Côte d'Ivoire, Liberia, Sierra Leone
    ii. Grey Parrot: Cameroon, DRC

(While *P. erithacus*' range does include Côte d'Ivoire, it is unlikely that the species persists in sufficient numbers to consider this country as part of that group).

b. Focal countries should engage with other species range states not included in this project
c. Draft National MPs should be used as starting points for regional MPs, in consultation with neighbouring co-range states
d. Range states within each species range should:
    i. Agree on a format for the regional MP
    ii. Identify areas for regional cooperation, including those in existing national MPs
    iii. Identify existing trans-boundary initiatives
        1. e.g. Fauna and Flora International's work in Liberia, Sierra Leone and Guinea, and BirdLife's Across the River Transboundary Peace Park Project in the Gola region of Liberia and Sierra Leone
e. BirdLife can provide technical assistance and expertise for development of regional management plan

**6. Fundraising**

a. Funding for the development of full management plans, and their implementation should come from government budgets, either from tax revenue or more likely from existing agreements with bilateral donors. The CITES Secretariat and BirdLife can provide support and guidance where necessary.
b. MP projects and activities should be least-cost, and wherever possible integrated into existing activities (See Monitoring and training, above)
c. Countries should incorporate into national MPs details of how to fund the development and implementation of MP projects, identifying internal sources of funding wherever possible. Where this is not possible, possible external sources should be identified. Governments should identify where technical expertise are lacking to implement projects or activities. The CITES Secretariat, BirdLife, or other NGOs may assist in such cases.
d. Each country should appoint a 'MP champion', within government, to lead on MP funding.
e. To provide examples, SAPs and MPs have, in the past, been funded in a variety of ways. The Saker Falcon SAP was funded by the Saudi Wildlife Authority: a government agency. Cameroon's 2012 AGP MP was jointly funded by the

Programme Sectoriel Forêt Environnement (donated by the UK/France/Canada), the British Ecological Society and Loro Parque Fundación. In Africa, SAPs have been funded by Darwin Initiative projects. Some have been funded by BirdLife Species Champion funding.

f. External donors are likely to fund projects that support capacity building of governments and community organisations to implement and administer local plans, as building local capacity can help make the intervention a sustainable one.
g. The CITES Secretariat and BirdLife should assess the funding plans developed as above, to determine the funding and capacity needs of focal countries in implementing AGP MPs. Recommendations for action may be made on the basis of this assessment.

**7. Captive breeding**

This was a popular topic of discussion at the regional workshop, and came up in interviews with traders in Cameroon. There is support for the idea from government representatives and trade stakeholders; however there exist many challenges, including economic viability.

a. Any country considering a captive breeding programme should first conduct a feasibility study including:
    i. Review relevant policy/legislation environment including tax, and what changes would be needed to make captive breeding an economically viable alternative to wild capture.
    ii. Investigate background of captive breeding in country, including previous attempts and successes or failures. All focal countries bar Sierra Leone have been the reported origin of captive-bred AGP.
    iii. Identify existing experience and capacity within the country
    iv. Identify and prioritise needs
b. Based on the results of the above, authorities should work with the stakeholders identified to develop a captive breeding plan, stating how the identified needs would be met. It should be stated how captive-bred origin would be verified, e.g. through inspections.
c. CITES Secretariat or a consultant should then assess the plan and advise, where necessary.

**Country recommendations**

In addition to the above, the following recommendations are made for Cameroon and DRC, based on their status as active exporters, and particular conditions.

**8. Cameroon**

a. Set deadline for implementation of exiting MP projects (based on stated timeframes).
b. CITES Secretariat to consider withdrawal of current quota if non-compliance with own MP implementation timetable persists.
c. Implement electronic system of permits and exports, to address fraudulent use of permits and exports in excess of national quotas.

**9. DRC**

a. Develop a provincial-level basis for population and trade monitoring with national level coordination to manage information, and synthesise an eventual national MP

        i. Requires support from NGOs operating at provincial level and coordination from the CITES Secretariat/BirdLife in data management and reporting at the national level. This would bring added value to other species of concern.
    b. Further develop options for monitoring parrot clearings/aggregations (trailed by this project and described here and in Chapter 1.3), to monitor both populations and exploitation.
        i. Requires applied research component and coordinated outreach, to secure buy-in from NGOs and ICCN to monitoring programme. Results would feed into data management and reporting (above)
    c. Outreach to trappers, traders and air transport to monitor national transportation and international export.
        i. Requires involvement of DRC's CITES Management Authority, customs, air transporters, air transport regulators
    d. Implement electronic system of permits and exports, to address fraudulent use of permits and exceeding national export quotas

**Quota setting and the role of Population Viability Analysis**

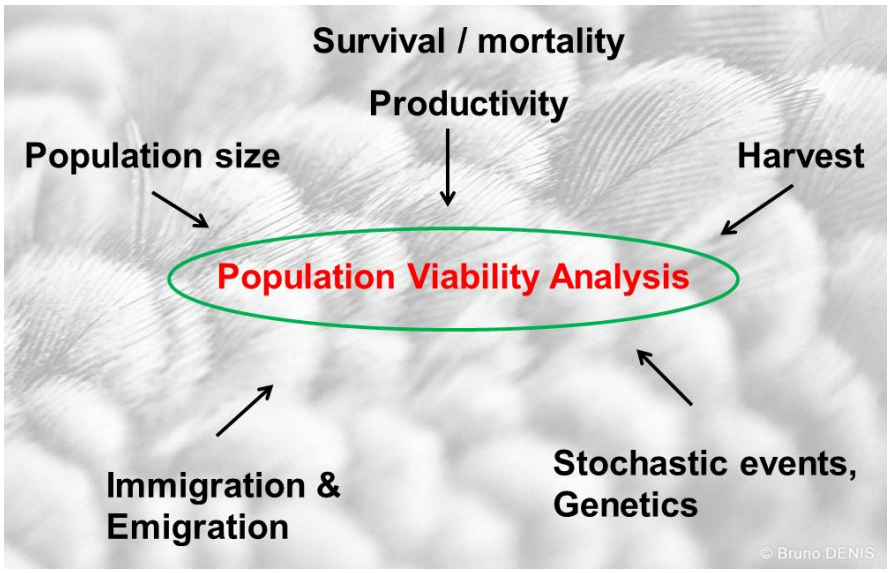
Of course, the quantification of population sizes by protected area, province or by country is only the first step towards setting realistic harvest quotas which are non-detrimental. Various harvest models have been proposed for sustainable harvest of parrots and other wildlife (e.g. Beissinger & Bucher 1992; van der Heijden 2003). At the Monrovia meeting, we introduced and discussed Simon Valle's PhD work on Grey Parrots on the island of Príncipe, Gulf of Guinea. He has been working on demographics of the species to quantify those important life history/reproductive/mortality parameters to build a population viability model (e.g. Gilpin & Soulé 1986; Morris *et al*. 2002) for the species. This model would be 'harvest-explicit' meaning that different intensities of harvests, including different mixes of juvenile and adult birds harvested, can be modelled/simulated onto the background PVA (Figure 6).

Table 6. Current state of knowledge and recommendations for monitoring protocols/actions for each country, along with initial indications of distribution and abundance and potential for harvest.

PA = protected area; DS = distance sampling; NP = National Park.

| | **Sierra Leone** | **Liberia** | **Cote d'Ivoire** | **Cameroon** | **DR Congo** |
|---|---|---|---|---|---|
| **Current knowledge** | | | | | |
| Have we an adequate idea of occupancy across the country? | No. Large areas of the country unstudied | Partial. Recent coverage at a county scale. | Partial. Recent surveys of likely areas yielded very low occupancy | Partial. Data from inside some PAs. Few Occupancy data from the wider landscape | No. Some incidental records for PAs and wider landscape but huge areas unknown |
| Do we have density estimates from protected areas in the country? | No | One. Density estimate from Gola represents first density estimate for Timneh Parrot | Density estimation attempted in several areas but encounter rates were zero. | Density estimates available for Lobéké and Campo Man NPs – two of perhaps eight key PAs | One density estimate for TL2. No data from huge PAs across the country |
| Do we have an idea of likely parrot abundance across the wider landscape? | No. Likely to be absent form most unprotected areas | No. Occupancy data suggest that parrots may occur outside protected areas – but data are scant | No. Given low density inside protected areas, parrots likely to be rare across the landscape | Partial. One density estimate available and road surveys, casual surveys suggest widespread but patchy occurrence/abundance | No. |
| **Data needs** | | | | | |
| Basic occupancy surveys | Yes – for entire country | Yes – for unsurveyed regions such as Rivercess | Yes – surveys unlikely to yield many birds? | No. Wider-scale surveys should encompass abundance | Yes – for entire country |
| Density estimation in key areas of the country | Yes – should include Gola forest and nearby PAs. Also surveys close to the coast. | Yes – should include forests identified in occupancy surveys (e.g. Belleh Forest) and other PAs. | No. Densities likely to be so low that Distance surveys may not be feasible. Encounter rates may be appropriate | Yes. Distance surveys should be extended to 5-6, or all the other key PAs holding parrots | No. PAs huge and densities may be low in many areas. Encounter rates may be more appropriate |
| Abundance estimation for the wider landscape | Yes – to gauge likely occupancy and abundance across the country. Likely to be low | Yes – encounter rates outside of PAs, although these likely to be low | No. Occupancy likely to be low across the country. Concentrate in PAs | Yes. Will compliment density data from inside PAs. Could be achieved with encounter rates | Yes. Data needed for areas outside PAs - abundance may not be lower in these areas. Encounter rates useful. |
| **Potential for sustainable harvest** | | | | | |
| Is there evidence to support a harvest decision? | **No.** Almost nothing known of distribution and abundance of parrots | **Partial.** Some data on occupancy across the country and one density estimate | **Partial.** Few data on occupancy but abundance estimates for some key areas | **Partial**. Some ideas of occupancy across wide areas plus density estimates from two PAs | **No**. Little idea of occupancy rates across the country. One density estimate from one PA. |
| Might likely abundance support a harvest? | **No**. No evidence that population is anything but tiny and localised | **No.** Density estimate from Gola is low and there is no evidence that good numbers occur anywhere in the country. | **No.** The few data that exist indicate that parrots are absent or extremely rare even in their apparent 'strongholds' | **Possibly**. Densities are reasonable to high in Lobéké and Campo Man NPs. Parrots still exist in the wider landscape. More data from more areas are needed. | **Possibly.** DRC is huge and we know almost nothing about densities across the country. Many more data are needed to inform on likely quotas. |

Figure 6. Schematic model of 'harvest-explicit' population viability model.




Specifically SV is identifying the following parameters from field data and from literature onto which the harvest will be superimposed.

| Parameter | Likely source |
|---|---|
| Monogamous / polygamous | Literature |
| Age of first breeding | Literature |
| Maximum age of reproduction | Literature |
| Maximum number of broods per year | Field Data |
| Maximum number of chicks per brood | Field Data |
| Sex ratio at birth | Literature |
| % of females breeding ± SD | Field Data |
| Number of chicks per female per brood | Field Data |
| Mortality for age classes 0-1, 1-2, 2-3, adult | Field Data |
| Initial population size | Field Data |

**The Wildlife Conservation Society (WCS) Grey Parrot monitoring meeting**

WCS recently organised a meeting of interested staff to discuss Grey Parrot population monitoring and trade in Central Africa. The four-day workshop, held in Limbe, Cameroon from 15-18th October 2013 was attended by Stuart Marsden, Robin Johnson, Stephen Zack (Head of Bird Research WCS), Fiona Maisels, Liz Bennett (WCS Africa/Great Ape researchers), David Wilkie (WCS economist), Ken Cameroon (WCS vet), Jerome Ikonga (WCS Deputy-coordinator Congo) and Roger Fotso (Country coordinator Cameroon). The agenda was based on the following

Day 1 Goal. Introduction of attendees and overview of African Grey Parrot natural history, conservation, and politics in Central Africa.

Day 2 Goal. Developing survey techniques, survey locations, and coordinated methods among stakeholders. Discussion of utility of existing data and methods.

Day 3 Goal. Understanding and addressing the pet trade (geography of capture, international geography of trade, main end markets, captive-bred vs. wild-caught birds in trade): Data assembly, range country politics and capacity, and possible interventions.

Day 4 Goal. Developing a Strategic Plan for Conservation of the African Grey Parrot, with emphasis on gathering information in time to inform the 2016 CITES Conference of Parties in South Africa.

We had excellent and highly productive discussions, especially on future population surveys. At the end of the meeting, Stuart Marsden was asked to submit a proposal for major monitoring work on Grey Parrots in Cameroon, Congo, and Gabon. Such surveys would piggy-back on current surveys of forest elephant *Loxodonta cyclotis* and apes in Congo and Gabon (Maisels *et al.* 2013). They would also include some further work on the calibration of encounter rates with densities and distance sampling surveys in around 15 protected areas and other sites across the region. Such surveys would be organised to take place in the next 16 months – with reporting on abundance at the CITES Conference of Parties in South Africa in 2016.

## References


Andersen, D., O. Rongstad, and W. Mytton. 1985. Line transect analysis of raptor abundance along roads. Wildlife Society Bulletin 13:533-539.

Beissinger, S. R. and E. H. Bucher. 1992. Can parrots be conserved through sustainable harvesting? BioScience 42:164-173.

BirdLife International. 2013. Species factsheet: *Psittacus erithacus*.

Buckland, S. T., S. J. Marsden, and R. E. Green. 2008. Estimating bird abundance: making methods work. Bird Conservation International 18:S91-S108.

Casagrande, D. G. and S. R. Beissinger. 1997. Evaluation of four methods for estimating parrot population size. Condor:445-457.

CITES. 2006. Twenty-second meeting of the Animals Committee, Lima, Peru. 7-13 July 2006 AC 22 Doc.10.2 Annex 1.

Cougill, S. and S. J. Marsden. 2004. Variability in roost size in an Amazona parrot: implications for roost monitoring. Journal of Field Ornithology 75:67-73.

Gilpin, M.E. and Soulé, M.E. 1986. Conservation biology: The Science of Scarcity and Diversity. Sinauer Associates, Sunderland, Massachusetts.

van der Heijden, A. 2003. Management of the trade in Parrots from West and Central Africa. Unpublished report to CITES Secretariat.

Lancia, R. A., J. D. Nichols, and K. H. Pollock. 1994. Estimating the number of animals in wildlife populations. Pages 215-253 Research and management techniques for wildlife and habitats. The Wildlife Society, Bethesda, Maryland, USA.

Lee, A. T., S. Kumar, D. J. Brightsmith, and S. J. Marsden. 2010. Parrot claylick distribution in South America: do patterns of "where" help answer the question "why"? Ecography 33:503-513.

Lee, A. T. K. and S. J. Marsden. 2012. The Influence of Habitat, Season, and Detectability on Abundance Estimates across an Amazonian Parrot Assemblage. Biotropica 44: 537-544.

Maisels, F., Strindberg, S., Blake, S. et al. 2013. Devastating Decline of Forest Elephants in Central Africa. PLOS One: 8: e59469.

Marsden, S. J. 1999. Estimation of parrot and hornbill densities using a point count distance sampling method. Ibis 141:327-390.

Morris, W.F. , Hudgens, B.R., Moyle, L.C., Stinchcombe, J.R., and Bloch, P.L. 2002. Population viability analysis in endangered species recovery plans: Past use and future improvements. Ecological Applications 12: 708–712.

O'Brien, T.G., Winarni, N.L., Saanina, F.M., Kinnaird, M.F. & Jepson, P. 1998. Distribution and conservation status of Bornean Peacock-pheasant *Polyplectron schleiermacheri* in Central Kalimantan, Indonesia. Bird Conservation International 8: S373-385.

Phillips, S. J. and M. Dudík. 2008. Modeling of species distributions with Maxent: new extensions and a comprehensive evaluation. Ecography 31:161-175.

Rowley, I. and N. Collar. 1997. Order psittaciformes. Handbook of birds of the world. Vol. 4, sandgrouse to cuckoos: 246-477.

Snyder, N. F. R., P. McGowan, J. D. Gilardi, and A. Grajal. 2000. Parrots: status survey and conservation action plan 2000-2004. IUCN.

Thomas, L., S. T. Buckland, E. A. Rexstad, J. L. Laake, S. Strindberg, S. L. Hedley, J. R. B. Bishop, T. A. Marques, and K. P. Burnham. 2010. Distance software: design and analysis of distance sampling surveys for estimating population size. Journal of Applied Ecology 47:5-14.

Vinuela, J. 1997. Road transects as a large-scale census method for raptors: The case of the Red Kite *Milvus milvus* in Spain. Bird Study 44: 155-165.

# Chapter 1.1 : Survey method instructions, trade and occupancy interview questionnaires

**Occupancy interview survey**

Imagine dividing your country up into squares – each 20 km by 20 km. Liberia is around 500 km x 200 km which would give around 200 squares; Sierra Leone is 230 km x 300 km which would give around 165 squares. **An important task is to determine the proportion of squares within the country that are still occupied by Grey Parrots**. To do this, we are asking you to find as many locations that the parrot occurs in as possible. The primary way you will do this is by interviewing people from around the country who have knowledge about the parrot and whether it still occurs in their area. These should include

*Protected area managers and their staff*
*Forest reserve workers*
*Government wildlife staff*
*Other government workers (for example working in agricultural industry)*
*Logging company workers*
*Environmental consultants*
*Mining company workers*
*Local community leaders*
*Parrot catchers and traders*
*Police and border officials*
*Bird-watching and other tourist guides*
*Anybody else you can think of who may know about parrots.*

An aim of the work is to cover as much of your country as possible. Once you have 1-2 responses from a forest reserve for example, then additional information from that place is not as important as getting news from a totally new place where nothing is known. You should be aiming to **ask people in as many of the 20 x 20 km squares as possible**.

I would hope that you can get responses **from more than 80 people in the six weeks**. You can get responses in several ways:

- **Interviewing people on the phone – you ask them each question and write the answer**
- **Face-to-face interviews**
- Emailing a copy of the questionnaire
- Posting a copy of the questionnaire (least reliable).

Below are two version of the questionnaire: the first ('QUESTIONNAIRE') contains annotations and is for you, the interviewer, to use while asking questions. The second ('PARROT OCCUPANCY QUESTIONNAIRE') is to use if emailing or posting to respondents.

**QUESTIONNAIRE (*annotated in italics*)**

1. Where do you live or work? Give a map reference or a name of village/town or protected area
*(it is crucial that you can locate the interviewee within around 10 km of where they are – ideally exactly!)*

2. What is your job and who is your employer?
*(be as specific as possible – maybe using the categories in the list above)*

3. How long have you lived/worked in the area?
*(this is important to gauge how well the person knows the area)*

4. How many days in one month do you spend in the forest?
*(a difficult question to answer – but the idea behind it is to find out if this person really knows the forest and the parrots…or do they sit in an office all year)*

5. Do Grey Parrots occur in your area?
*(this should be a yes/no…but then with some qualifying information which can be text)*

6. Where precisely are they seen? *(circle on or more of the habitats below)*
Forest reserve / unprotected forest / agricultural land with trees / over town / swampy areas

7. Have you seen grey parrots yourself recently?
*(this question is trying to find out if they have seen them in the last year)*

8. What are the parrots usually doing? *(circle one or more of the list below)*
Flying over / feeding in fruiting trees / sleeping in trees / only caught birds seen

9. If you did go looking specifically for parrots, how many might you see in a day in your area?

10. What is the biggest group you could see if you looked for one day?

11. Were parrots much commoner in the area 10 years ago?
*(this is an important question – spend some time trying to find out some textual information describing how common parrots were ten years ago compared to now…not necessarily their thoughts on why they have become rare)*

12. What is the biggest group you could see 10 years ago?
*(try to make this comparable with question 10)*

13. Do you still see parrots for sale or traded in your area?
*(by 'your area' I mean in and around their reserve, town or small region)*

14. Did parrots used to be caught and traded in large numbers from your area 10 years ago?
*(a yes/no answer but supported with some textual information)*

**PAR ROT OCCUPANCY QUESTIONNAIRE**

1. Where do you live or work? Give a map reference or a name of village/town or protected area
……

2. What is your job and who is your employer? ……

3. How long have you lived/worked in the area? ……

4. How many days in one month do you spend in the forest? ……

5. Do Grey Parrots occur in your area? ……..
……

6. Where precisely are they seen? *(circle on or more of the habitats below)*
**Forest reserve / unprotected forest / agricultural land with trees / over town / swampy areas**

7. Have you seen grey parrots yourself recently? ……

8. What are the parrots usually doing? *(circle one or more of the list below)*
**Flying over / feeding in fruiting trees / sleeping in trees / only caught birds seen**

9. If you did go looking specifically for parrots, how many might you see in a day in your area?
……

10. What is the biggest group you could see if you looked for one day? ……

11. Were parrots much commoner in the area 10 years ago? ……

12. What is the biggest group you could see 10 years ago? ……

13. Do you still see parrots for sale or traded in your area? ……

14. Did parrots used to be caught and traded in large numbers from your area 10 years ago?
……

## Calibration of simple encounter rate methods with formal line transect distance sampling surveys

(Sierra Leone, Liberia, Côte d'Ivoire example)

We are particularly interested in finding the relationship between local population density and some more simple encounter rates – this would enable us to gauge and monitor likely parrot densities over reasonably large, or very large areas. We have already some data from Principe and Ghana which will feed into this 'model'.

The fieldwork requires you to use the two methods in the same survey area. For Sierra Leone, we think this should be **Gola forest.** For Liberia, we suggest it should be the **Eastern part of Gola forest in Gbarpolu County**. For Cote d'Ivoire, we suggest you do this fieldwork in **Soubré rural area** – or in/near Tai national Park – find an area where there are good densities of parrots.

**Line transect distance sampling**

In your chosen area, the team, or half the team, should walk around 20 km of transects along existing small paths, at a walking speed of about 1 km per hour. These 20 km of transect should take around 6-7 mornings to complete. The total length of the transect would be recorded along with the start and end time – ideally each transect should be around 2-4 km long but this will vary. In effect, this method is standard distance sampling tailored for parrots. Walk transects starting from around 06h00 if you can. Do not do any line transect walking after 10h00 – as parrot activity will have reduced too much. Try to find new transect lines to walk each day rather than repeating ones you have done already. Make sure you are not walking too fast or too slow, and concentrate your searches on parrots which may be perched close (less than 50 m ) from the transect line.

The perpendicular distance from the transect line to each PERCHED bird group seen would be recorded, along with the group size. It is important that **no flying birds** are included in the sample from the Distance sampling. The only exception is parrots which you flush from trees as you walk the transect – include these. You may want to also include a few other large bird species in your survey – these could include hornbills and turacos, and other parrot species if they are there. Try to estimate the exact distance from the transect line to the parrot – within around 5 metres accuracy should be fine.

The team should record habitat features after every 500 m of walking. You should use a GPS and stop every 500 m along the transect. Take habitat measurements at this point. Measure the DBH of the largest 3 trees within a circle of 20 m radius of this 'point'. Also make a habitat classification of the habitat at each point (e.g. is it disturbed primary forest; swamp forest; agriculture mixed with trees; village; secondary forest; plantation etc.?).

**Casual Encounter rate method**

At the same sub-sites as the above transects are walked, teams should record the following during 'informal walks' or 'long watches' around the subsite. These informal walks and stops could be along roads, or tracks, and could be conducted at any time of day. Long watches could be from random stops in the forest (say for 30 mins) but should **not** be at aggregation sites as this would inflate parrot encounter rates. In effect you should cover **similar** areas to the distance sampling transect

counts. You could use parts of the same transects that you used for the Distance sampling but you could also add in other areas, such as drivable tracks and even rivers. They must be independent of the distance sampling transect walks – i.e. **not done at the same time**. You can do these casual walks/watches any time of the day – just record when you did them with a start and finish time. It would be good if you could get around 5 days of encounter rates done. It may be possible to do around 6 hours of encounter rates in a day so that would give 30 hours of encounter rates per site.

The fieldworker would record the start and end time of the informal walk or long watch. Every 30 mins, make a note of what habitat type you are in – these would be the same categories as described in the Distance sampling section (e.g. secondary forest etc). You should also take a GPS recording every 30 minutes and categorise what you were doing at that point in time (walking, standing watching). You record every parrot group seen or heard regardless of where they are or what they are doing. Record each group size separately (i.e. 2,6,1,4,2,2 etc). Record for each group seen the following – **whether the birds were flying or not flying** and the group size. You do **not** need to record the distance from you to the birds encountered.

**RECORDING FORM – DISTANCE SAMPLING**

Site: Date: Observers:
Transect start time: Transect end time:
GPS Transect start: GPS transect end:

**0 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

**500 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

**1000 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

**1500 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

**2000 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

**2500 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

**3000 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

**3500 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

**4000 m** Time:…….. Hab type…….. DBH 1…….. DBH 2 …….. DBH 3 ……..

| Bird Species | Perp. distance | Group size | Flying/perched |
|---|---|---|---|
| …… | …… | …… | …… |
| …… | …… | …… | …… |
| …… | …… | …… | …… |
| …… | …… | …… | …… |
| …… | …… | …… | …… |
| …… | …… | …… | …… |
| …… | …… | …… | …… |
| …… | …… | …… | …… |

**RECORDING FORM - CASUAL ENCOUNTER RATE**

Site: Date: Observers:

Survey start time: Survey end time:

| | | | |
|---|---|---|---|
| **0 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **30 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **60 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **90 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **120 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **150 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **180 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **210 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **240 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **270 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |
| **300 mins** | Habitat type…… | GPS…… | Walk/long watch (circle) |

| Bird Species | Group size | Fly/perch | …… | …… | …… |
|---|---|---|---|---|---|
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |

**Casual Encounter rate method**

This fieldwork relates to the encounter rate method described in the Calibration document. We would ask you to conduct the casual encounter rate method at five sites in Cote d'Ivoire. These sites have already been identified by yourselves as

* Site 1: Soubré rural area (village Gnamangui): 05 ° 47 '.42.6'' N / 006 ° 40'50 .0'' W;
- Site 2: Classified Forest Yapo Abbe: 05 ° 42'N / 004 ° 06'W;
- Site 3: National Park Azagny: 05 ° 13'N / 004 ° 53'W;
- Site 4: Banco National Park: 05 ° 23 'N / 004 ° 30' W;
- Site 5: Reserve Dahlia flower: 05 ° 22 'N / 003 ° 55' W.

***** Note that at this site we are also asking you to collect distance sampling data

The team should record the following during 'informal walks' or 'long watches' around the site. These informal walks and stops could be along roads, or tracks, and could be conducted at any time of day. Long watches could be from random stops in the forest (say for 30 mins) but should **not** be at aggregation sites as this would inflate parrot encounter rates. You could use some transects but you could also use drivable tracks, lookouts and even rivers. You can do the casual walks/watches any time of the day – just record when you did them with a start and finish time. It would be good if you could get around 5 days of encounter rates done at each of the five sites. It may be possible to do around 6 hours of encounter rates in a day, so that would give 30 hours of encounter rates per site.

The fieldworker/s would record the start and end time of the informal walk or long watch. Every 30 mins, make a note of what habitat type you are in – these would be the same categories as described in the Distance sampling section (e.g. secondary forest etc). You should also take a GPS recording every 30 minutes and categorise what you were doing at that point in time (walking, standing watching). You record every parrot group seen or heard regardless of where they are or what they are doing. Record each group separately (i.e. 2,6,1,4,2,2 etc). Record for each group seen the following – **whether the birds were flying or not flying** and the group size. You do **not** need to record the distance from you to the birds encountered.

**CASUAL ENCOUNTER RATE RECORDING FORM**

Site: Date: Observers:

Survey start time: Survey end time:

| | | | |
|---|---|---|---|
| **0 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **30 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **60 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **90 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **120 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **150 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **180 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **210 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **240 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **270 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |
| **300 mins** | Habitat type……. | GPS…… | Walk/long watch (circle) |

| Bird Species | Group size | Fly/perch | …… | …… | …… |
|---|---|---|---|---|---|
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |
| …… | …… | …… | …… | …… | …… |

**Road Encounter rates for parrot presence outside of protected areas**

This fieldwork will allow us to examine the presence/absence and likely abundance of parrots in large areas outside of protected areas and other forest blocks. This is important – in your country as we want to know "are parrots mostly restricted to discrete areas of the country that are protected/forested, or do parrots generally occur in the wider landscape in agricultural land?" – this will have important implications for population levels and sustainable harvest levels in your country.

During drives to and between study sites, count all parrots seen or heard during short periods of driving time – 5 km of driving. It would be good if you could conduct around 20 of these 5 km 'transects'. You should choose your 5 km transects randomly or at equal intervals across your journeys. When you are about to start your transect, record the time, the GPS position, and the habitat type through which you are driving (see recording from below). It may help to reduce your speed (if you are driving along a good tarmac road) down to around 40 km per hour at most – to ensure that you are not missing a lot of parrots as you are going too fast.

For each parrot group seen or heard, record the group size and whether it is flying or not. Also record the habitat type after each km driven – so you should have six habitat type recording per 5 km transect. You also need to record a few other details – see the recording sheet below.

**ROAD ENCOUNTER RATE RECORDING FORM**

Site: Date: Observers:

GPS start: GPS finish:

Survey start time: Survey end time:

| | | | | | |
|---|---|---|---|---|---|
| 0 km | Habitat type: | | 3 km | Habitat type: | |
| 1 km | Habitat type: | | 4 km | Habitat type: | |
| 2 km | Habitat type: | | 5 km | Habitat type: | |

| Group size: | Fly / perch: | Group size: | Fly/perch: |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**Counts at aggregations**

This fieldwork will examine variation in counts and identification of robust field methods to estimate usage of aggregation sites by parrots in Cameroon and DRC. Methods are very much a work-in-progress and we aim to work with the partners to devise best-practice methods. Stuart Marsden has some experience of aggregation counting in parrot roosts (Cougill & Marsden 2004) and counting parrots on claylicks/colpas (A. Lee, unpublished PhD Thesis 2010). Marsden will also be working for a short period with the Cameroon team in Lobéké to work up some methods.

Identify as many aggregation sites as you can. It would be good to be able to plot these on a map within your study site. Then, and it is up to you how you do it, identify 2-3 focal aggregations to work on. The aim is to examine how the parrots use the aggregation site through the day on a number of days (perhaps four days at each site). Numbers of parrots visiting will be different on different days, and at different times of each day. I will be, hopefully, using a video digital camera in Lobéké to help with counts and in the hope that we can identify numbers of adults and juveniles among the flocks.

Our goal is to find a robust metric which will allow effective monitoring of parrot populations through counts of visitation at the aggregations within a region. The metric we use may be

- Maximum number at aggregation at any one time
- Number of parrot individuals x minutes of visitation (this would require scan sampling at fixed intervals (say, every 5 minutes for 2 hours) and multiplying the number of individuals in each count x 5 and adding up these totals.
- Another metric of visitation

The basic field method will involve counting the number of parrots at the aggregation every five minutes through sections of the day – and this repeated for four days (or mornings if sites only visited then). Some environmental supporting data should also be recorded, especially that related to human disturbance and disturbance of birds by other animals (if birds are flushed then the visitation metric might be low). The recording form below shows which measures to take.

**References**

Cougill, S. & Marsden, S. J. (2004). Variability in roost size in an Amazona parrot: implications for roost monitoring. Journal of Field Ornithology 75: 67-73.

**AGGREGATION ENCOUNTER RATE RECORDING FORM**

Site: Date: Observers:
Weather: Watch start time: Watch end time:

| | | | |
|---|---|---|---|
| 0 mins | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 5 mins | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 10 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 15 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 20 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 25 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 30 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 35 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 40 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 45 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 50 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 55 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 60 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 65 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 70 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 75 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 80 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 85 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |
| 90 min | Parrots (grnd) …… | Parrots (trees) …… | Disturbance …… |

Notes and observations

## Trade interview questionnaires

### Traders and Middlemen

1. Record
    a. Date
    b. Location
    c. Interviewer name
    d. Interviewee name
2. Background
    a. How long have you been trading in African Grey Parrots?
    b. Do you sell..
        i. nationally?
        ii. internationally?
3. Sourcing: Trappers
    a. Whom do you buy parrots from?
    b. Do you employ trappers, or buy birds from them?
    c. How many trappers do you employ/buy parrots from?
    d. Do you know how to tell the difference between an adult and juvenile parrot?
    e. How much do you pay for each..
        i. adult parrot you buy?
        ii. juvenile parrot you buy?
4. Sourcing: Location
    a. Where (which part/s of the country) do the parrots you trade in come from?
    b. How do you know this?
5. Time of year
    a. Which months of the year do you..
        i. buy parrots?
        ii. sell parrots?
6. Mortality
    a. If ten birds are delivered to you how many usually die before you sell them?
    b. What do they die of?
    c. Do juveniles die more than adults?
    d. Do you do anything to stop the parrots you trade in from dying? (prompt: keep them in small cages; feed them certain things)
7. Selling/ exporting
    a. For every 100 AGP you sell, how many are **adult** and how many are **juvenile**?
    b. How long do you keep parrots before you sell them on?
    c. Where do you sell parrots to..
        i. Nationally?
            1. Which town?
        ii. Internationally?
            1. Which country?
    d. How many birds do you trade annually..
        i. Nationally?

ii. Internationally?

e. Whom do you export to? (Prompt: E.g. Retailers, wholesalers, individuals?)

8. Restrictions
    a. What can you tell me about restrictions on…
        i. Where (which parts of the country) birds can be caught from?
        ii. When (which months) they can be caught?
        iii. When (time of day) parrots can be transported?
        iv. How they can be transported (containers)?
    b. If yes, how do you make sure that the parrots you trade meet these requirements?
9. Licencing
    a. How do you obtain authorisation to trade in parrots? (describe the process)
    b. How do you get permission to sell/ export parrots in a given year?

## Trappers

1. Record
    a. Date
    b. Location
    c. Interviewer name
    d. Interviewee name (if given)
2. Sourcing
    a. In which areas do you catch parrots - **be specific**? (give the name of the area)
    b. What type of environment do you catch parrots in in? (Prompt: e.g. from nests; roosts; on the ground in clearings; perched in trees)
    c. Do you know how to tell the difference between an adult and juvenile parrot? If so, please describe.
    d. Do you catch adults **or** juveniles **or both**?
    e. Do you ever take chicks from nests? (exclude if gave this answer in 2b.)
    f. In which months do you catch parrots?
    g. How many parrots do you catch in each of these months?
3. Selling
    a. Whom do you sell parrots to?
    b. Do you always sell parrots to the same person?
    c. Do you know what the people you sell to do with the parrots you sell them?
    d. Do they sell them ..
        i. nationally?
        ii. internationally?
    e. How many parrots do you sell at any one time?
    f. When you have caught some parrots, do you try to sell them immediately, or keep them for a while? (e.g. to wait for a buyer offering a better price?)
        i. For how long do you wait?
    g. How much do you sell parrots for?
    h. Do you always sell each parrot for the same amount? (prompt: e.g. fixed price or depends on quantity)
4. Methods and mortality
    a. What methods do you use to catch parrots?
    b. Do you use different methods in different areas? (describe)
    c. For every 10 birds you catch, how **many live birds** do you sell to the middleman/trader?
    d. Do you do anything to stop the parrots you catch from dying? (prompt: keep them in small cages; feed them certain things)

## Rangers / Ecoguards

1. Record
    a. Date
    b. Location
    c. Interviewer name
    d. Interviewee name (if given)
2.
    a. Have you ever seen someone trapping African Grey Parrots?

    If yes:
    b. When was it? (**which month/s** and **year/s**)
    c. Where, specifically (**name of location**)?
    d. What kind of environment/habitat?
    e. How many parrots had he caught?
    f. What method of capture was he using?
    g. What did you do?
    h. How many times has this happened?
        i. In how many years?
3.
    a. Have you encountered signs that a parrot trapper has been operating in your area (e.g. abandoned camps, discarded traps/trapping equipment, parrot feathers, cages)

    If yes:
    b. When (which month and year)?
    c. Where (specifically)?
    d. How often does this happen?
    e. Based on what you have seen, could you estimate the number of parrot trappers operating in the area?
4. Have you received any training in catching poachers/trappers? (describe)

5. What are the laws concerning parrot trappers?

6. If you found someone catching parrots, what would you do?

## Chapter 1.2 : Cameroon exporters' responses

Table 7. Responses of five Cameroonian parrot exporters to questions concerning aspects of the parrot trade.

| **Question** | **Exporter 1** | **Exporter 2** | **Exporter 3** | **Exporters 4&5** |
|---|---|---|---|---|
| Location | Carrefour Biammasi, Yaoundé | Douala | Douala | Yaoundé (CBCS Office) |
| For how long have you sold AGP? | 2001 until ban Tried since 1998, but "very hard, did not have a quarantine then", was easy when he built a quarantine facility | 10 years ago (until ban) | 2000-2005 (was a ranger "garde de chasse" for 28 years, at Douala Airport (enforcement) for 17 years.) | Ny: since 1995. has been involved with his uncle as a capturer for 25 years<br>NC: similar |
| Do you sell parrots nationally? | no | no | no | no |
| Do you sell parrots internationally? | yes | Yes | Yes | Yes |
| To which countries? | Belgium, Holland sometimes UK<br>Asked: Asia?: Rarely | Portugal, Spain, France, UK, South Africa, only | Holland, Spain, Germany, South Africa | Holland, Belgium, Asia: Singapore; approached by people in Pakistan. Looking to export to non-EU eastern Europe. Turkey, Russia. Some clients come to Cameroon |
| How many do you sell per year internationally? | Yearly quota of 200 some years, up to 1000. | Approx. 2800 per year on average | 600, 800, 1000 | 1000, 500, 200 depending on yearly quota |
| Who do you sell to middlemen, wholesalers, individuals? | large buyers only | Large buyers only | large buyers only | |
| In what numbers/quantities? | Send 100 or 200 at a time. | 200-800 at a time (accompanied shipments to Europe) | 200 at a time | min 100, usually 200 at a time |
| For how much? | Not prepared to say | €110-€140 each. The amount increased over time. Sells for €30 more than the competition because of increased cost of care | €100 each | |
| Do you only export by aeroplane? | Yes | Yes | Yes | |
| With which airlines? | Swiss Air, Camair-Co | Many - chooses the cheapest | | |
| From whom do you buy AGP? | trappers | Middlemen ('buyers'), who buy from trappers | Middlemen | Trappers |
| Do you employ trappers, or purchase birds from them? | Regular trappers are employed - may be their main source of income, but they do other work | employed by him. Pays them a fixed percentage - 2-3 or 5% - of the profits | Casual work | Full-time employees. Family income. Give training of 1 month |
| How many trappers do you employ or purchase birds from? | 7 regular trappers, buy from others on an ad hoc basis | 10 middlemen | 4 or 5 | 5 (each of them employ 5) |
| Do you know how to distinguish between a juvenile and adult AGP? | Eye colour: young birds have green eyes, adults, grey eyes | juveniles have black eyes | juveniles have black eyes | very young: black eyes; juvenile: grey eyes; adult: white or very yellow eyes |

| | | | | |
|---|---|---|---|---|
| How much do you pay for each...? | | | | |
| Adult AGP that you buy? | in 2007 5000-1000 FCFA | 15,000 FCFA (€22.50) | 15000 FCFA (says that middlemen pay 5000-6000) | 7-12000 FCFA depending on distance/quality. Won't take if quality is too poor |
| Juvenile AGP that you buy? | more, 15,000 FCFA | 15,000 FCFA (€22.50) | don't sell any | 10000 FCFA (as above, depending on quality) |
| From where (which part/s of the country) do the parrots you sell come from? | In the South, East, Southwest Regions. Some Anglophone, in Centre - Lalekié [?] | everywhere/ all regions, except the West | bought in Bertoua, P/Douma, Kumba, Abong Abam, Campo Ma'an, Thinks that they are bought around these towns. | South, East, Centre, Littoral provinces |
| In which months do you buy AGP? | During some months they are more abundant. June, July, Aug. More are bought during this period. They are rare during November/December | Buys and sells up until around June, or until such time as he has used up his quota. Then business is inactive for 6 months | buys and sells Sept-May. | depends on the quota and the availability of clients only |
| For how long do you keep AGP before selling them on? | Can be around 4 months. Her husband has a larger quota than She. If she has exhausted her quota the two of them may continue to purchase parrots from the same traders | 1 month - habituation period | 15 days In the quarantine | max 40 days - once longer when had problem with reneging client |
| For every 100 AGP you sell, how many are adult and how many juvenile? | For every 100 birds sold, 95 will be adults, 5 juveniles. This reflects what is requested by the client | All adults... Don't know... Would only procure juveniles on request | Only sold adults (to Europeans) and trappers he uses don't know how to catch juveniles (but Ghanaians/Nigerians do). Has heard that Asians ask for juveniles | |
| If 10 parrots are delivered to you, how many would die before you sell them on? | E.g. once picked birds up in Bertoua. 200 birds. 50 died on the way | Max. 2% mortality once at his quarantine. In transport (from trappers to him) 5% if distance is not too great, up to 40% (what he has "heard from others"). For trappers (from the wild to sale to middleman) could be up to 50%. One shipment to Portugal through France - 90 of the 800 died on the way | 1-2% | 10-15% if have made a good choice of birds |
| What is the cause of death? | fatigue, thirst, cold | stress, negligence, poor/insufficient food | fighting, falling | stress, illness, injuries (bites from other parrots) |
| Is it more usual for juveniles to die | yes, a lot more | yes, "much more" | NA | Yes |

| | | | | |
|---|---|---|---|---|
| than adults? | | | | |
| Do you normally do something to prevent them from dying? (Prompt: give them special food; put them in small cages...) | Give them sugar cane for the journey as it gives them strength. Given them medicine as soon as they arrive. "Anti-stress" medicine, which can be bought from a vet. It is administered in water given to the birds to drink. | 3 to 4 days of observation, check the droppings (once took to laboratory to diagnose illness, was amoeba) 3 days of treatment with antibiotics and “anti-stress” medicine. | Administer vitamins, anti-stress and anti-parasite medicine | Administer veterinary products: anti-parasitic, anti-stress, antibiotics, other medicines, give them 'all the food they eat in the wild' |
| Have you received notification [by ‘notification de circulation’ de MINFOF] / What has been communicated to you by MINFOF on restrictions on where, which months AGP can be captured? | Nothing | (In 2002) there was no specific period or place of capture stipulated | Yes he is up to date | |
| What do you know about former efforts in your country to captive breed AGP? | | He bought 20 incubators from Europe which have remained unused. There are no grants/support for doing so and the tax is the same as for wild birds. Thinks there is great potential for captive breeding and would be keen to do so but policy climate is not favourable | No but he is keen to raise parrots. It is not currently possible. Recommends training young person in this, who can train others. | |

# Chapter 1.3 : Monitoring and ecology of African Grey Parrot in Orientale and Maniema Provinces, Democratic Republic of Congo

The two provinces, Maniema and Orientale, cover more than half of the African Grey Parrots (AGP) range (estimated at 1.25 million $km^2$) in Democratic Republic of Congo (DRC).

Both provinces are important sources of AGP exported for the captive bird trade, yet very little has been done to assess population numbers or monitor their exploitation.

We have anecdotal information that AGP, historically a flagship species for the region, are in decline. A tributary of the Congo draining Maniema Province is named the Parrot River (Kasuku River) in reference to large flocks of birds that occurred there in living memory but are no longer encountered.

In 2005, Reto Kuster, a wildlife photographer and naturalist, documented the extraordinary numbers of AGP and other birds coming into Mehwa clearing in the Reserve de Faune à Okapi (RFO) a World Heritage Site in Orientale Province's Ituri District. The birds came down to the ground to drink at several rocky springs that presumably contained concentrations of preferred minerals. This discovery confirmed the importance of the RFO and Mehwa in particular for AGP conservation.

Subsequently we have discovered other clearings where AGP and other species of birds descend to drink or ingest soil.

"Parrot clearings" where AGP come down to the ground in large numbers are known elsewhere in the AGP global range (for example at Lac Lobéké in Southeastern Cameroon); however, the phenomenon is not well-documented. Nevertheless, clearings appear to be a dominant dynamic in the ecology of AGP over large areas of eastern DRC.

This report describes the results of a pilot study with the primary objective of trialing survey methods to provide an evaluation method to survey AGP over their range in DRC.

## Methods

Between July and September 2013 we undertook a series of trial surveys to assess the feasibility of standardized census methods for AGP in Maniema and Orientale province.

We focused our survey efforts on the proposed Lomami National Park where AGP occur widely and where we had established a system of line transects and point counts for primates that we could use to survey AGP. Three parrot clearings where AGP come to the ground are known from the park and its surrounding area.

The RFO and Mehwa clearing were inaccessible due to insecurity during the period of this survey and could not be surveyed.

We provide initial information on several other types of AGP agglomerations in addition to the parrot clearings that we had discovered over the past five years.

We assessed the following methods for feasibility for APG surveys:

- Line transect counts on foot
- Points counts
- Motorbike road counts of AGP
- Counts of AGP at clearings.

Table 1 provides additional information on survey effort.

## Results

**Transects and point counts**

Results of line transect and point counts are presented in Figure 2. Only two perched AGP and 6 flying birds were encountered in 108 km of foot transect. All but one point count yielded no birds. At one point we recorded 8 flocks with an estimated 23 – 26 birds total.

Measures from the transect line are required for use of DISTANCE software. We were able to measure distances for only the two perched birds and no measures were made for the point counts.

**Road counts**

The results of the motorbike road counts are shown in Figure 3.
Road count traversed 90 km through a mosaic of forest, farmland and savanna islands in the Kasuku River watershed.

We had 12 encounters with AGP totaling 40 birds. All but one bird were observed in flight. We used a laser range finder to measure distance and a compass to measure the angle from the point of observation to the bird and classed observations into distance classes of 25 m.
Seven observations were within 25 m of the road. Three observations were between 25 and 50 m and the remaining two observations were at more than 50 m.

**Aggregations**

We identified three types of AGP aggregations: roosting sites including night roosts, nesting colonies and parrot clearings where the birds come down.

We surveyed or inspected 4 aggregations, including a roost, a nesting colony and two clearings during the survey period (Table 2). We conducted counts at two parrot clearings. Count methods included counts of birds in hand-held camera photos of large flocks seen by the observer, and camera trap records of birds coming down to the clearing.

The hand held camera counts yield up to 129 birds.

The maximum camera trap count was 78 birds.

## Evaluation of methods

**Foot transects and point counts**

While these methods have the advantage of a well-established analytical protocol, they have the fundamental disadvantage of producing very low encounter rates of perched birds where required measures could be taken. Given costs and the logistical problems these methods cannot be used for generalized assessments of AGP populations over large areas. They may be useful for smaller areas, where birds are known to be more frequent.

**Road counts**

These can provide indices of abundance but are unlikely to yield unbiased estimates of density since the roadside environment is not representative of AGP occurrence (in fact AGP may prefer the mosaic of agricultural lands and forests that roads usually traverse). It may be possible to estimate densities using distance classes. We found we could estimate distances of flying birds with the range finder (by measuring to a landmark that had a known reference to the birds).

**Aggregation counts**

Aggregations counts are important to develop given their importance to AGP and because they are also a target for trappers. The hand held camera counts are a useful index of the relative activity of the clearing, however we recommend development of camera trap methods appropriate for the site to estimate density. This might include using the camera on timed-plot mode and measuring the area covered in the plot as well as the count of the birds. Developing a representative design to sample the clearing in space and time is required.

One problem with clearings is that they are not representative of parrot occurrence across the range. In addition, seasonal and other variation in use of clearings would have to be assessed before clearing counts can be considered useful. Both these technical problems have potential solutions, but will require some research and development.

Parrot clearings are uncommon features in the environment. We estimate that there are likely to be no more than one hundred parrot clearing in the two provinces, perhaps many fewer, and very few of the importance of Mehwa. Clearing sampling is feasible but requires the universe of clearings to be better known. If a large enough representative sample of clearings is monitored, relative changes in frequentation will provide trends in AGP population numbers, assuming frequentation dynamics remain constant.

Radio telemetry and capture-mark-recapture studies of birds frequenting clearing could be used to develop estimates of the parrot catchment areas of clearings, and estimates of the numbers of birds that frequents the clearing.

Monitoring of all aggregations is also important, as these are focal points for exploitation of AGP.

Indeed, proven precautions would be required to ensure that research and monitoring of clearings does not open them to exploitation.

## Conclusions

AGP are uncommon, but widespread in the two provinces.

AGP in eastern DRC characteristically occur in aggregations. Most birds encountered outside of aggregations are flying birds presumably heading to and from aggregations and or feeding areas.

Randomly or systematically placed transects are unlikely to provide useable encounter rates, across the range of potential habitats in the AGP range in the two provinces.

Development and application of methods for aggregation counts (camera traps and marked birds) are an important next step.

## Authorship

Primary Author:
John A Hart, Scientific Director, Lukuru Foundation, Kinshasa, DRC.

Contributing field work:
Omo Omene, Gilbert Paluku, Ephrem Mpaka, Matthieu Mirambo, Robert Abani, Bravo Bofenda.

Drafted October 2013.

Figure 1. Locations of 2013 African Grey Parrot Surveys and associated surveys of parrot trade in DRC.

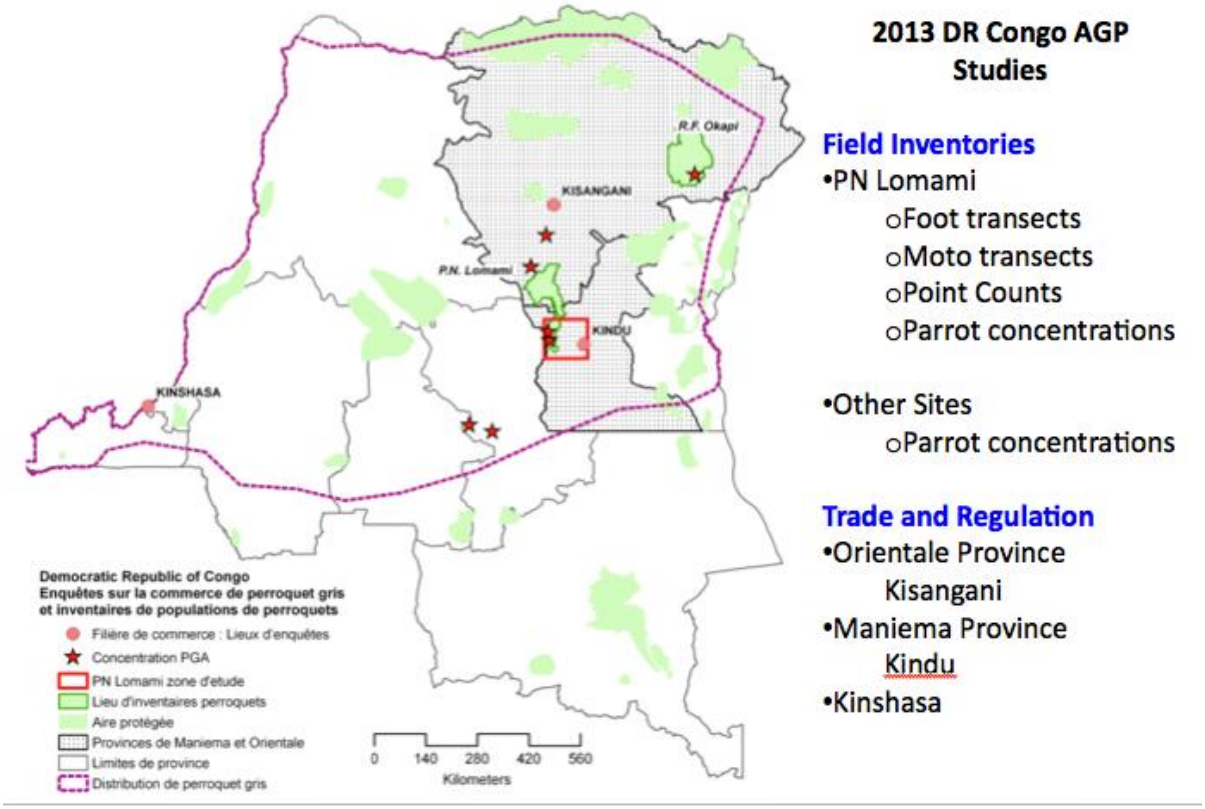
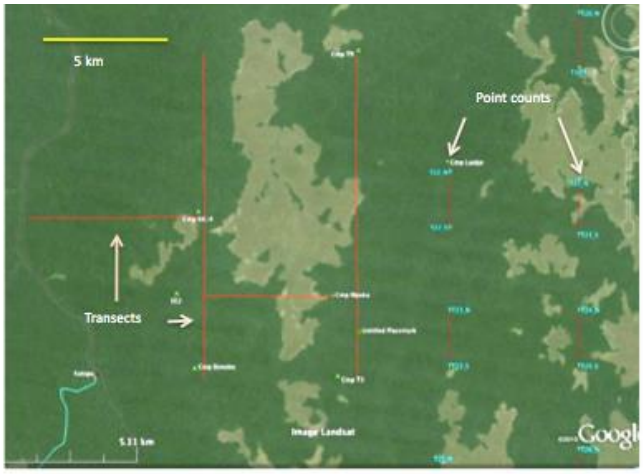



Table 1. Summary of 2013 African Grey Parrot surveys.

## Survey Methods Overview

- Foot transects
  - 7 transects
  - 108 km total effort
- Moto transects 4 transects 93 km total effort
- Point counts 12 locations, 24 samples total
- AGP agglomeration surveys: 4 sites surveyed

Figure 2. Foot transect and point count design and results.




**Foot transects (PN Lomami)**

***Effort***:

- 7 transects, 36 km total, three sampling periods
- 108 km total effort

***Results***

- 8 AGP encounters
- 2 perched; 6 flying birds
- 16 birds total
- **2 measures transect to bird**

**Point Counts (PN Lomami)**

***Effort***:

- 12 point counts ; 2 counts per point, 30 minutes
- Morning count: between 06:30 and 07:30
- Evening count: between 18:00 and 18:45

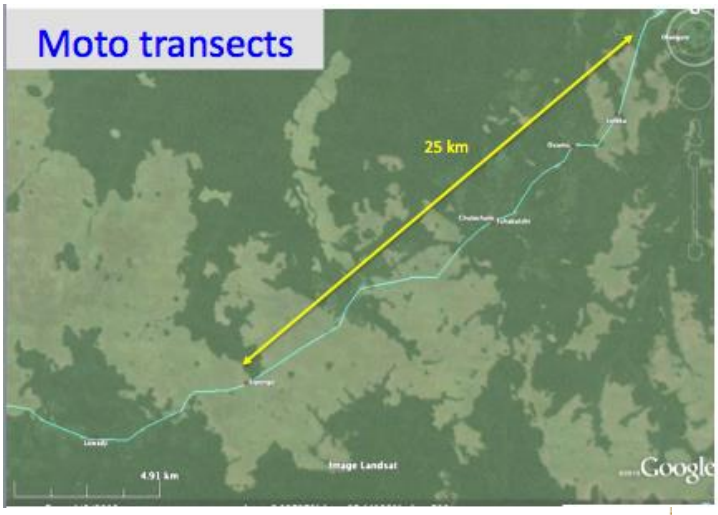
***Results***

- 1 point with AGP observation

Morning count: 3 groups flying 5- 8 birds

Evening count: 5 groups flying at least 18 birds

Figure 3. Road count results




***Effort***:

- 4 transects, 93 km total
- Forest savanna ecotone and forest/agriculture mosai
- Surveys conducted morning or evening

***Results***

- 12 AGP encounters, 40 birds total
- All but one encounter, birds in flight
- Observations in 25 m distance classes from transect

Table 2. Aggregations of African grey Parrots investigated during the study.

# Inventories of AGP congregation points

| Site | Location | Type | Surveys | Max Count | Other species | Exploitation |
|---|---|---|---|---|---|---|
| Bamanga | PNL | roost | camera count | 14 | Water birds | Pas and current |
| Aikongo | PNL | clearing | camera count<br>camera trap | 68 | No data | past |
| Parc Perroquet | PNL | clearing | camera count<br>camera trap | 129 | none | Past |
| Bananguma | Ubundu | nesting | none | No data | No data | Past and current |
| Mehwa | RFO | clearing | none | No data | Pigeons, turacos | None ? |
| Kingombe | Lusambo | nesting | visual count | 40 | none | No data |

Six AGP aggregations or congregation points are known

Four surveyed in 2013.

Two (red outline) known from earlier work.

Aggregations include: communal roosts, nesting colonies, mineral or clay rich clearings.

Methods used to assess AGP numbers in clearings:

Visual counts of birds present at arrival of observer

Hand held camera photos and counts of "large aggregations observed"

Camera traps to record birds coming to the ground.

# Chapter 2 : Review of legislation

## Summary

This document is an appendix to the final report, submitted to the CITES Secretariat, of the project *Strengthening Capacity for Monitoring and Regulation of International Trade of African Grey Parrot*, conducted by the BirdLife Africa Partnership Secretariat during February to October 2013. It provides a summary of the national legislation of Cameroon, Côte d'Ivoire, the Democratic Republic of the Congo, Liberia and Sierra Leone which relates to the legal classification of and trade in the Grey (*Psittacus erithacus*) and Timneh (*P. timneh*) Parrots (hereafter 'AGP'), with reference to CITES and its implementation.

The degree to which this legislation is implemented is not on the whole considered here. Instead, we are concerned with legislation as a tool for the conservation and, where traded, management of the focal species.

The information presented was compiled with the assistance of our national partners and government representatives. It was also gathered through the reviews of legislation which appear in the References .

There is a wide variety in the complexity of the bodies of relevant national legislation, and how well these accommodate the needs of the conservation and management of the species. Protection status across this sample of countries paints a confusing picture, for example: In DRC AGP is fully protected, with no apparent provision to permit capture for trade. There is uncertainty over the legal status in Cameroon, as the classification was recently changed, but via a document of questionable legitimacy. AGP remains fully protected in Côte d'Ivoire, though this is likely to change with legislation currently in process. The reverse is true in Liberia. In Sierra Leone, it appears only to be protected if caught for the plumage trade, though this may change with in-process legislation.

Hunting legislation generally prohibits capture from protected areas in all countries. In most cases capture (the act and intent) are included in a common definition with hunting. There are examples of legislation specific to AGP – a well-developed system for allocating export permits in Cameroon, and a ban on capture in certain regions and in certain months in DRC, for example. However, there is an almost total absence of legislation addressing the many recommendations made in reports on AGP over the years; recommendations which, if entered into force, would provide the tools to improve regulation of capture and trade. Liberia, Sierra Leone and Côte d'Ivoire are all in the process of revising and updating their national conservation legislation and may be in a position to implement some of the recommendations to this effect.

## Methods

Once contact had been established with national CITES Management Authorities through partners, a list of questions was emailed to their focal points, requesting information about the legal protection status of the species, restrictions on capture, legislation governing trade in the species, and regarding the implementation of CITES. Partners followed up to gather responses.

To supplement the information obtained via these channels, previous reviews of legislation were sought out, and their findings scrutinised.

In the case of Cameroon, the project manager was able to meet in person with both Management Authority focal points (there being a change in the holder of this position during the project) and several other experienced individuals within the Ministry of Forests and Wildlife.

## Findings

***Regionally***

It should be noted first that there is a great variety in the time since these countries became parties to CITES. DRC; in 1976, Cameroon and Liberia; in 1981 and Côte d'Ivoire and Sierra Leone; in 1994. This gives an indication of the length of time each has had in which to develop legislation relevant to implementation of their CITES obligations.

Classification of the species varies from technically fully protected (Cameroon, DRC, Côte d'Ivoire) – though unclear in the case of Cameroon and likely to be downgraded in the case of Côte d'Ivoire - to not currently protected, but likely to be under legislation currently under review, in the case of Sierra Leone and Liberia. Where fully protected, it is not clear whether there is a legal provision by which capture for trade is permitted (and consequently whether birds for export are legally acquired).

Present in generic legislation relevant to all species are in most cases found restrictions on the location of capture, forbidding harvest from land of protected area status. While interdictions are apparent against certain hunting and capture methods, these are usually in reference to large mammals, and none were found to be relevant to AGP or similar birds.

Capture, for trade or other purposes, is in most cases included in a common definition with hunting. The intent to capture or kill is in most cases considered equal to the act. For example, in Liberia's Draft Hunting Law "Hunting means to kill, capture, take, trap, injure, shoot at, lie in wait for, wilfully disturb or molest, and include any attempt to do any of these things". Likewise, penalties exercise this precautionary approach, e.g.: "Anyone found in possession of a live or dead animal of class A or B and not in possession of a certificate of origin may be considered to have captured or killed the animal" (Cameroon's Loi 94, section 101, 1). Possessing an individual of a protected species is usually illegal without specific authorisation.

***Nationally***

**Cameroon**

The main law regulating the hunting and capture of wild species, and penalties for transgression, is Loi No. 94/01 (1994), which was followed by Décret/Decree No. 95/466/PM (1995), implementing certain of its aspects. Between them these give a very comprehensive definition of the use of wild resources, with emphasis on hunting.

Cameroon classifies species as Class A, B or C; with A the highest level of legal protection. AGP appear as Class A: fully protected in Arrêté/Order No. 0648/MINFOF (2006). Under this Order capture remains possible with special permit: "Class A comprises rare species or species threatened with extinction. As such, they are totally protected and it is forbidden to kill them.

(2) However, any person who wishes to capture or keep them for management purposes or within the framework of scientific research or for reasons of protection of persons and their property must obtain *a special authorization issued by the services in charge of wildlife*" (Section 2: (1)). Despite this stipulation, the species appears to have been traded without the requirement of special authorisation.

It has been claimed that this earlier listing was a mistake, since rectified in Arrêté/Order n°0083/MINFOF (2008), in which the species is claimed to appear in Class B (K. Abessolo [Sub-director of the valuation and exploitation of fauna, Ministry of Forests and Wildlife, Pers. Comm. 2013), however a copy of the above was not made available for verification. It has been claimed that the process of expert consultation which is required to make a change of class was not observed (R. Fotso, Pers. Comm 2013).

A number of pieces of legislation regulate the trade in AGP. Arrêté N°0456 (1999) set the then annual quota at 12,000 birds, with export permits allocated in 30 lots of 400 birds. Arrêté N° 1837 (2002) dictates how individuals may be licenced as agreed exporters, and how each year's quota of permits to export are allocated to these, including the requirements they need to satisfy (for example the need to have an aviary/quarantine and to pass an inspection). No revision was made to this order after the passage of the above Order in 2006 (i.e. requiring 'special authorisation'). The tax on exported birds was set in 1996 by Loi N° 96/08 and has not subsequently been adjusted. The amount stands at FCFA 8000 (US$ 16), plus an amount above this 'bid' by the individual in application for the right to export a certain number of birds.

Roles relating to CITES are detailed in Décret/Decree No. 2005/2869/PM (2005), and in Arrêté/Order No 067/PM (2006). Responsibilities are divided between various divisions of government, including customs, at the country's frontiers.

While legislation in relation to the authorisation of exporters is thorough, there is a lack of legislation governing restrictions on capture, including location, time of year and methods. Recommendations for these have been made for Cameroon by Fotso (1998a) and Tamungang and Cheke (2012).

The latter, Cameroon's current AGP Management Plan, for example, classifies in which of the country's regions capture may take place: Central Province; 'Class B', South and East Provinces; 'Class C', other provinces; no capture. As such recommendations, like those by Fotso before them, have not been acted upon and reflected in legislation, it remains unlikely that enforcement based on them would be possible.

**Côte d'Ivoire**

Côte d'Ivoire presents a relatively complex legal framework. The main piece of legislation governing species classification and protection, and hunting, is the Wildlife Protection and Hunting Act (Loi) No. 65-255 (1965), with a separate piece of legislation dealing with hunting (including capture) permits in the form of Decree No 66-423 (1966). It is interesting to note that Côte d'Ivoire has a very longstanding decree which regulates the import and export of wildlife products (Decree No. 66-425, 1966).

In 1974 Order 003/SEPN/CAB enacted a total ban on hunting and capture of all wild animals regardless of class. Trade in wildlife, however, remained legal due to a provisions of the above 1966 Decree. In 1994, 20 years after this ban, the government announced plans to partially re-

legalize hunting by reclassifying species through Act (Loi) No. 94-442, with the objectives of provisioning protein, creating sources of income for the state and population, and in recognition of the fact that the ban was largely unenforceable (Caspary, 1999). It is interesting to note that included in this new act are moves towards regional management, for example local authorities are able to issue licences.

Under this 1994 Act, AGP is partially protected and capture is possible with a permit. However, a further Decree will be required for this easing of restrictions to enter into effect, so the total ban (1974) currently remains in force: Technically the AGP, as other wild species of fauna, remains fully protected at present.

The country enacted Decree No. 94-448 (1994) the year that it acceded to CITES. This document outlines the roles and responsibilities of the country's various agencies with reference to the convention. This was also the year in which the country published a National Environmental Action Plan.

**Democratic Republic of the Congo**

DRC possesses a comprehensive legislative framework which criminalizes poaching; dealing in illegal trophies; and importing and exporting wildlife. Law No. 82-002 (1982) regulates hunting and repealed all previous legislation its type. Under this law AGP appears in the list of fully protected species. While there are a number of provisions in the above, none are apparent under which capture for trade may be permitted. It is thus unclear how capture of AGP in DRC for export is not in contravention of national laws. Taking chicks or nestlings is explicitly prohibited. Order No. 014/CAB/MIN/ENV/2004 implements many aspects of the 1982 law. Between them they define many types permit. It is interesting to note that there are no requirements to consult experts in listing animal species. A number of other laws specifically on conservation and wildlife show the attention that the subject has received by the Congolese legislature (e.g. Law 48 of 1983 on the Conservation and Exploitation of Wildlife, Law 003 of 1991 on the Protection of the Environment, Law 37 of 2008 on Wildlife and Protected Areas). The existence of so many laws, and instances of confusing contractions, may contribute to the reportedly poor implementation of legislation in the country.

Decree No. 69 (1980) renders the keeping of protected species to be legal with a permit whose only requirement is the payment of a fee. This raises potential problems in determining the origin of an animal (with reference to the CITES requirement of demonstrating legal acquisition) and subsequently is relevant for enforcement.

DRC has enacted legislation specifically to dictate permitted locations (provinces) and months in which the species may be captured (Order No. CAB/MIN/AFF.ENV.DT/124/SS/2001): Eastern Provinces: Bandundu, Ecuador, Kasai Occidental and Kasai Oriental, capture allowed September to April; Maniema Province, capture from February to July; Bas-Congo Province, capture January to July. It is unclear the bases for these periods, and they are at odds with recommendations made by Fotso (1998b) as permitted during December and April. This document references the (fully protected) Class A status of the species without acknowledging the contradiction.

Despite becoming a party to CITES in 1976, DRC did not implement its own national legislation to this effect until 2000, through Order No. 056/CAB/MIN/AFF-ECNPF/01/00, which divides

responsibilities for management and enforcement between various government agencies, and details the allocation of permits, though not specifically for AGP.

A recent development through an edict by the Environment Minister will open AGP trapping in 2014 in Maniema Province. This will include elements of sub-national management, including a tax of $5 per bird on all exports from the province. This edict specifically cites the need for effective tracking of the trade and controls on exploitation be in place, as well as the need to harmonize with the national legislation, the police, and CITES. It may represent an opportunity to integrate improved management with apparent moves towards decentralisation.

**Liberia**

The Wildlife and National Parks Act (1988) is the main piece of legislation pertaining to the classification and protection of species, including hunting. It details restrictions on general conditions and methods of capture, for example hunting and trapping are prohibited in "National Parks, Nature Reserves, National Forests, Environmentally threatened areas, and other areas so designated". Relevant exceptions include one allowing the capture of any protected species for the purposes of captive breeding or for scientific research, which presents an obvious potential loophole.

A list of protected species appears in the above, and later in the Forestry Development Authority Regulation #25 (2000), which gives revised list administrative fees. In neither does the AGP (or any other species of parrot) appear. Regulation #25 states that "All other [not listed] birds … shall carry a non-refundable administrative fee of US$ l0.00 … per bird payable to the Authority." And that "A Wildlife Conservation Fee of US$ 25.00 … shall be levied on all CITIES Export Permits for Wildlife Products".

Regarding the implementation of CITES, The 1988 act details conditions of export of protected species, and the penalties applicable in case of contravention (Chapter XIII). It also gives fairly broad powers of inspection and arrest to authorised officers (Chapter IX).

A new draft hunting law is currently under consideration by the government of Liberia, in which 'all parrots' are fully protected ('Section II: Fully Protected Animals of Liberia'). If this draft law, as it stands, were passed, it would remain to be seen whether capture for trade were permitted by some provision.

The Forestry Development Authority, established in 1976, is identified as the authority responsible for conservation and management of protected areas and species, and the regulation and control of wildlife trade, including the issuing and control of permits, as detailed in the Act Adapting the National Forestry Reform Law of 2006, and the Forestry Development Authority Act (1976). The Authority has considerable powers to propose new legislation, which could be an avenue through which legislation relevant to AGP could be enacted, if deemed necessary. Currently there appears to be none.

**Sierra Leone**

The Wildlife Conservation Act (1972) is the main piece of legislation governing the protection of wildlife in Sierra Leone. It defines rules for hunting and capture, and sets out different categories of protected area. AGP does not appear in the list of protected species, however "birds used in plumage trade" are protected. This therefore offers the potential of protection, if

the purpose of capture is to sell the plumage, as has been anecdotally reported for AGP within West Africa.

There is a Draft Conservation and Wildlife Policy and Act, currently under review as of late 2013, which is intended to replace the 1972 Act. It sets out five principles for wildlife management (sustainable management, rights-based governance, economic and social benefits, integrated wildlife conservation and culturally-sensitive, knowledge-based conservation) and makes recommendations in key areas, which are complementary to many of the aims of project, including: species management, conservation areas, research and monitoring, education and awareness and capacity building.

It contains a strong element of precautionary principle, for example advocating a "ban on [exports of] [CITES] Appendix II listed species until their status in Sierra Leone is clarified". It also supports updating species listing to "comply with CITES and to be consistent with Red Lists". When implemented it is likely to increase protection for endangered species.

Sierra Leone also has also had in place since 2003 a National Biodiversity Strategy Action Plan, prepared in satisfaction of requirements under the Convention on Biological Diversity. This summarises the status of the country's biodiversity and presents a strategy and actions needed for wildlife conservation and the management of natural resources, and is one potential avenue with which to integrate new conservation legislation.

## Recommendations/areas for attention

There is a need to clarify the legal status of AGP for all countries, regardless of export quota, given the uncertainty in legal status. In Cameroon AGP is either Class A (based on a document of known legitimacy, from 2006, therefore totally protected) or Class B (based on a document of unknown legitimacy from 2008). If the former, then capture for trade is illegal under present conditions. In DRC AGP is totally protected, with no known provision by which current trade is legal. Côte d'Ivoire, Liberia and Sierra Leone are all in the process of revising their relevant legislation, so the situation may change soon.

Many of the reports concerning AGP, including those to the CITES Secretariat, make recommendations on how to improve the regulation of trade in the species and reduce unnecessary mortality (Clemmons (2003), Dändliker (1992a, 1992b), Fotso (1998a, 1998b), McGowan (2001), van der Heijden, A (2003)). A recent example includes those made in Cameroon's current National Management Plan (Tamungang and Cheke, 2012). There is an almost complete absence of legislation that acts on these recommendations. DRC has an Order which dictates during which months AGP may be captured from which region, though these are of unknown origin and counter to published recommendations on the subject.

Enacting legislation specific to AGP and based on relevant published recommendations would be a simple way to improve regulation of the trade. Areas to consider include, regarding capture: Age classes; methods of capture (prohibit methods causing highest mortality); location (confine capture to areas with healthy populations); seasonality (prohibit capture during breeding season). Regarding trade: state required transportation conditions (domestic and international); limit duration of travel (regarding mortality); produce price guidelines for

optimal revenue and benefit sharing; review taxes; enact stricter permit controls to combat falsifies permits (e.g. Alert 36, SC62 Doc. 29). For this last point a simple electronic system could make permit falsification near-impossible.

The possibility of captive breeding is an ever-popular topic among AGP range states, and there is a long history of AGP exports reported to be originating from range states. Côte d'Ivoire, Liberia and DRC are all in the top 10 of these, and of the focal countries only Sierra Leone is not a reported origin. As the cases of Cameroon (above), and of DRC (see Chapter 5 of this report) show, there is no way that captive breeding could compete economically with wild-caught exports given the current tax level and lack of inventive to captive-bred birds. Any range state seriously looking to captively breed and export AGP should therefore consider revising its legislation.

The fact that the three West African focal countries are in the process of reviewing relevant legislation, with the aim of updating their body of natural-resources related policy, may present an opportunity to introduce some of the above AGP-specific elements. Moves towards regional management in Maniema province of DRC also present potential.

## References

To provide access to source documentation referenced here, we provide links to those documents which are available from on-line sources. Where no on-line source exists, scans of the documents may be found on the BirdLife AGP Workspace (access restricted to certain individuals), or by request.

***Cameroon***

- Loi n° 94/01 du 20 janvier **1994** portant Régime des Forêts, de la Faune et la Pêche
  http://data.cameroun-foret.com/bibliotheque/9786
- Decree n° 95-466-PM OF 20 July **1995** To lay down the conditions for the implementation of wildlife regulations
  http://www.gfbcam.com/download/LegislationGestionForestiereCameroun/FAU01.doc and http://bit.ly/1e9Qcfm
- Loi n° 96/08 du 1er juillet **1996** Portant loi de finances de la République du Cameroun pour l'exercice 1996/1997
  http://bit.ly/1dbfTJG
- Arrêté N° 0456/A/MINEF/DFAP/SDF du 29 Juillet **1999** Portant Réglementation de l'Exploitation du Perroquet Gris à Queue Rouge du Cameroun
  BirdLife AGP Workspace
- Arrêté N° 1837/MINEF/DFAP/SAN Du 17 Mai **2002** Fixant les critères de sélection et les procédures de choix des sousmissions des quotas de Perroquets gris à que rouge (Psittacus erithacus erithacus)
  BirdLife AGP Workspace
- Décret N° 2005/2869 du 29 Juillet **2005** fixant les modalites d'application de certains dispositions de la convention CITES
  BirdLife AGP Workspace
- Order No. 0648/MINFOF of 18 December **2006** to set the list of animals to classes A, B and C
  http://data.cameroun-foret.com/fr/system/files/18_90_48.pdf and
  http://bit.ly/18ZEYTy
- Arrêté N° 0649/MINFOF du 18 décembre **2006** portant répartition des espèces de la faune en groupes de protection et fixant les latitudes d'abattage par type de permis sportif de chasse
  http://data.cameroun-foret.com/system/files/18_90_49.pdf
- Arrêté N° 067/PM du 27 Juin **2006**, portant organisation et fonctionnement du Comité Interministeriel de Coordination et de Suivi de la Mise en œuvre de la Convention sur le Commerce Internationale des Espèces de Faune et de Flore Sauvages Menacées d'Exctinction (CITES)
  BirdLife AGP Workspace
- Arrêté n°0083/MINFOF du 06 février **2008** modifiant et complétant certaines dispositions de l'arrêté n°648/MINFOF du 18 décembre 2006 fixant la liste des animaux des classes de protection A, B et C
  **(No copy available)**

***Côte d'Ivoire***

- Loi n° 65-225 relative à la protection de la faune et à l'exercice de la chasse 04 August **1965**
  http://faolex.fao.org/docs/pdf/ivc89113.pdf
- Decret n° 66-425 du 15/09/**1966** reglementant le trafic, la circulation, l'importation, l'exportation des trophies d'animaux proteges et spectaculaires et de leurs depouilles

- Loi n°94-442 du 16 août **1994** portant modification de la loi n°65-255 du 4 août 1965, relative à la protection de la faune et à l'exercice de la chasse http://faolex.fao.org/docs/pdf/ivc89114.pdf

***Democratic Republic of the Congo***

- Loi nº 82-002 portant réglementation de la chasse, 28 mai **1982** http://www.leganet.cd/Legislation/Droit%20economique/Chasse/Loi.82.002.28.05.1982.htm and http://bit.ly/1hkOKHb
- Arrêté nº 056/CAB/MIN/AFF-ECNPF/01/00 du 28 mars **2000** portant réglementation du commerce international des espèces de la faune et de la flore menacés d'extinction (CITES) http://faolex.fao.org/docs/pdf/cng70225.pdf
- Arrêté ministériel nº CAB/MIN/AFF.ENV.DT/124/SS/2001 fixant les périodes de prélèvement des perroquets gris en République Démocratique du Congo, 16 mars **2001** http://www.leganet.cd/Legislation/Droit%20administratif/Environnement/AM.124.16.03.2001.htm and http://bit.ly/1hkP6gR
- Arrêté n° 014/CAB/MIN/ENV/2004 relatif aux mesures d'exécution de la loi n° 82-002 du 28 mai 1982 portant réglementation de la chasse, 29 April **2004** http://bit.ly/1eXEqCN

***Liberia***

- Wildlife and National Parks Act (**1988**) http://www.fao.org/forestry/lfi/31586/en/
- An Act Creating the Forestry Development Authority (FDA), November 1, **1976** http://www.fda.gov.lr/doc/FDA_act.pdf
- Forestry Development Authority Regulation #25 (**2000**) http://faolex.fao.org/docs/pdf/lbr61715.pdf
- Forestry Reform Law (**2006**) www.fao.org/forestry/16151-05fd47b845599b5d3a594a9b0240dacff.pdf
- Draft Hunting Law http://www.fda.gov.lr/content.php?sub=conservation%20forestry&related=conservation%20forestry

***Sierra Leone***

- Wildlife Conservation Act (**1972)** http://faolex.fao.org/docs/pdf/sie41659.pdf
- Sierra Leone's National Biodiversity Strategy Action Plan **2003** http://www.cbd.int/doc/world/sl/sl-nbsap-01-en.pdf
- Draft Conservation and Wildlife Policy **2010** http://www.theredddesk.org/policy/conservation_and_wildlife_policy_2010_sierra_leone

## *Other references*

Caspary, H.-U. (1999) Wildlife utilization in Côte d'Ivoire and West Africa - potentials and constraints for development cooperation. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), Eschborn, Germany.

Cirelli, M.T. and Morgera, E. (2010) *Wildlife Law in the Southern African Development Community*. Joint publication of FAO and CIC. Budapest. 136 pp. (pp.63-66).

Clemmons, JR (2003). Status survey of the African Grey Parrot (Psittacus erithacus timneh) and development of a management program in Guinea and Guinea Bissau. Unpublished report to the CITES Secretariat, Geneva, Switzerland.

Courouble, M., Hurst, F. and Milliken, T. (2003) More Ivory than Elephants: domestic ivory markets in three West African countries. TRAFFIC International, Cambridge, United Kingdom.

Dändliker, G. (1992) The Grey Parrot in Ghana: a population survey, a contribution to the biology of the species, a study of its commercial exploitation and management recommendations. Unpublished report to the CITES secretariat, Geneva, Switzerland.

Dandliker, G.(1992) Le Perroquet Gris (Psittacus erithacus) en Guinée: evaluation des populations, contribution à la biologie, étude de l'exploitation commerciale et recommendations pour la gestion. Report sur le projet CITES S-30. CITES Secretariat, Geneva.

Djeukam, R. (2012) The Wildlife Law as a Tool for Protecting Threatened Species in Cameroon. Ministry of Forestry and Wildlife, Department of Wildlife and Protected Areas. Yaoundé, Cameroon.

Fots**o,** R. (1998a) Survey status of the distribution and utilization of the Grey Parrot (*Psittacus erithacus*) in Cameroon. Unpublished report to the CITES secretariat, Geneva, Switzerland.

Fotso, R. (1998b) Etude sur l'état, la répartition géographique et l'utilisation du perroquet gris (Psittacus erithacus) dans la Zaire. Unpublished report to the CITES secretariat, Geneva, Switzerland.

Goitom, H. (2013) Wildlife Trafficking and Poaching (pp.19-29). The Law Library of Congress, Washington, USA.

McGowan, P (2001). Status, management and conservation of the African Grey Parrot, (Psittacus erithacus) in Nigeria. Unpublished report to the CITES secretariat, Geneva, Switzerland.

Tamungang, S & Cheke, R (2012). Population Status and Management Plan of the African Grey Parrot in Cameroon. Unpublished report to the CITES secretariat, Geneva, Switzerland.

van der Heijden, A (2003). Management of the trade in Parrots from West and Central Africa. Unpublished report to the CITES secretariat, Geneva, Switzerland.

# Chapter 3 : Regional workshop report

**Summary**

A regional workshop was held in Monrovia, Liberia on 23rd and 24th September 2013 as part of the project *Strengthening Capacity for Monitoring and Regulation of International Trade of African Grey* Parrot; the culmination of the bulk of the project work undertaken by BirdLife and its national partners since February the same year, and the departure point for elements of work involving regional cooperation and dialogue.

The workshop had three aims: to share and agree on a framework for monitoring populations of and trade in AGP; to share and agree on best practices for setting sustainable harvest quotas; and make progress on the development of national and regional management plans.

Relevant participants from the five focal countries attended: Cameroon, Côte d'Ivoire, the Democratic Republic of the Congo, Liberia and Sierra Leone. National CITES Management Authorities were represented, in two cases by the focal point. All national partners were represented.

The first day introduced background context on the species and its trade; the current state of knowledge on population status and trends; gaps in knowledge; relevant national legislation, then a group session to brainstorm factors affecting management plan implementation. This was followed by a presentation of the proposed methods designed and tested by this project for surveying AGP across its range. Subsequent discussion saw widespread support for these and further discussion on their application, leading to the collaborative drafting of monitoring plans for each of the countries.

The second day began with a demonstration of how Population Viability Analyses could be used to estimate sustainable harvest quotas from population estimates. While there was not sufficient time to allow for a fully-fledged discussion on the application of this method, questions from the floor indicated comprehension, interest, and support. Investigations on existing quota-setting processes carried out earlier in the project showed that no viable alternatives were in use by focal countries.

This session was followed by presentations – by both government and partner representatives - and discussion on trade issues in Cameroon, DRC and Côte d'Ivoire, with additional and contrasting perspectives from Ghana and Principe. The diversity in conditions of trade described served to highlight the need for regional cooperation and experience-sharing. The second half of the day was devoted to the drafting and subsequent discussion of management plan project tables for each of the countries.

In drafting these key outputs: management and monitoring plans, the focal countries have identified the key projects they plan to undertake as part of full management plans, as well as which of the survey methods presented they intend to implement, and how. They have prioritised key management plan projects, identified indicators, responsible agencies, approximate costs and timeframes.

The representatives who participated now have the key information and resources required to develop comprehensive AGP management plans. Cameroon may use the outcomes of this workshop to improve implementation of its existing management plan, which has as yet been slow. The CITES Secretariat and BirdLife will be able to play a valuable role in guiding the progress of these plans and their subsequent implementation. BirdLife is hosting a Workspace on its extranet as a forum to facilitate follow-up. Access to this resource is extended to appointed representatives. Specific recommendations for follow-up are given in Chapter 1 to this report.

The only main aim that the workshop failed to address was that of clear agreement on a way forward for regional management plans. Given the time needed to complete the above outputs, it was decided to focus instead on national management plan development, at the expense of the session intended to discuss regional plans. Despite this, the cooperation demonstrated by the representatives of the five countries through the workshop, and their evident interest in the topic is a favourable indicator for future collaborations towards genuine regional cooperation on this issue.

Immediately following the workshop, a number of the participants visited Gola Forest National Park, to train local rangers and Site Support Group members in the use of monitoring methods. A plan is underway to follow up on this with the hope of enabling long-term monitoring. This trip is described in Chapter 1 of this report.

## Background

The workshop was planned with the following aims:

- **Population monitoring**
  Share and agree on a population and trade monitoring framework, informed by a new group of methods for surveying AGP populations, developed and tested by this project.
- **Quota setting**
  Share and agree on best practices for setting sustainable harvest quotas.
- **Management plans**
  Agree on a framework for AGP National Management Plans, including the key elements these should include. For each country draft the main elements for the development of a National Management Plan, and agree on a way forward for collecting relevant information and mobilising requisite resources. Agree on a way forward for the development of Regional Management Plans for the Timneh and Grey Parrots.

Liberia was chosen as the host country on the basis of an initial cost analysis which placed it and Ghana as joint cheapest. The presence of a BirdLife office in both Monrovia and Accra held equal sway, but Liberia's position as one of the project's five focal countries, and the benefits conveyed in terms of additional workshop participants, decided in its favour.

Prior to workshop, all participants were sent a Draft AGP Management Plan framework, intended as comprehensive guidance for developing management plans. A revised version of this document is included with this report as Chapter 4. Also sent were the Management Plan tables taken from the proposed draft framework; the workshop programme and list of

participants; and a list of key questions, aimed at priming participants for the discussions to come.

## Workshop content

***Day 1***

The first day's programme aimed to provide the background information to bring all participants up to at least the same level of understanding in certain areas, then present the methods developed by the project and the experiences of those testing them in the field. Finally, to discuss these, in their own right and in terms of how they can be applied in each country to increase understanding of AGP status.

Following a brief presentation to introduce the project and its partners, participants were invited to introduce themselves and state their expectations for the workshop. These were recorded, and are presented below in *Workshop Outputs.* These expectations can be approximately grouped into those that relate to an improved understanding of the status of AGP, both in the participants' countries and in its wider range; an understanding of methods for surveying AGP in the wild; regional cooperation; and in relation to management, ranging from reinforcing capacity to understanding how science can inform AGP management. Many related to an action or management plan, showing the willingness of those present to contribute to one of the workshop's main aims. Some expectations that the workshop was not able to meet included how to link AGP conservation and management to ecotourism, and delivering the contracts necessary for full Management Plan implementation.

Presentations were made on the status and trends of the Grey and Timneh Parrots, highlighting the natural variation across its range, and anecdotal evidence for widespread declines (Rowan Martin, Percy Fitzpatrick institute for Ornithology and Nathaniel Annorbah, Manchester Metropolitan University). Robin Johnson (BirdLife International) gave a summary of national legislation relevant to the protection status of and trade in AGP in each of the focal countries (see Chapter 2 of this report), and Tom De Meulenaer (CITES Secretariat) then gave a presentation outlining the background to the trade in AGP, underlining some of the persistent problems seen, and the requirements on which action by those countries present remains outstanding. A presentation by Dr Roger Fotso (Wildlife Conservation Society) then summarised where knowledge on the species is lacking, and why this matters.

Participants, alone or in small groups, then brainstormed issues that would affect the implementation of a management plan, reporting risks and opportunities against a number of categories. These ideas are recorded in the table in *Workshop outputs,* below. A brief analysis of the responses reveals agreement on some main points. Economically, the species' high value, as pets and for medicine/traditional uses is seen to encourage trade, with benefits accruing higher up the trade chain, to individuals. However there was widespread recognition that AGP represent great untapped potential for income generation, with many citing tourism as a key area. Several pointed out that good management is a prerequisite of accessing such benefits. Comments on the administrative setup see corruption and improper/irrelevant laws as a threat, whist recognising the existence of a legal framework as an opportunity. Regarding the biology of the species, our lack of knowledge (as well as what is known of certain traits, such as nesting habits and low reproductive rate) was seen by as a major risk, recognising the need to attract

further study to better understand the species. The species' appeal was seen as a great source of potential to attract funding for future study and conservation work, and to engender public support. A lack of resources or their allocation was seen as a major risk to management plan implementation, thought the potential of the species to attract donors, and viewing the bird as part of a country's natural heritage or resource, were among factors proposed as opportunities. Captive breeding was mentioned in several sections, and throughout the workshop came up as a popular topic.

Presentations by Stuart Marsden (Manchester Metropolitan University), Jean Michel Takuo (Cameroon Biodiversity Conservation Society), Emmanuel Loqueh (Society for the Conservation of Nature in Liberia), and Willy Mekombo (Lukuru Foundation) then described the work undertaken by the project, in designing and testing a frameworks of methods for estimating AGP populations and investigating trade.

Dr Marsden explained the need for a standardised approach to monitoring AGP across its range, and the rationale behind the his design, importantly, the idea that encounter rate could be used as a proxy for abundance estimates usually only determined through the use of more resource-heavy methods. Partner representatives shared their experiences of field work using the methods. The common difficulties and possible differences served to highlight the importance of regional cooperation.

In the final session of the first day, participants split into groups to discuss which of the methods presented were most relevant in each country and how they could be applied. Two groups, one comprising Francophone participants (from Cameroon, Côte d'Ivoire and DRC) and another comprising Anglophones (Liberia and Sierra Leone) jointly drafted monitoring plans, which are included below in *Workshop outputs*. Both groups came up independently with a series of steps to undertake in order to understand and keep track of their respective national AGP populations. The Anglophones came up with a simple succession of steps including an initial estimate of densities with the 'encounter rate' method and then, depending on the result, a series of more costly and accurate population estimates at regular 2-year intervals. A low population estimate would trigger protection of key areas in order to boost the remaining population, and possibly captive breeding for reintroduction and restocking of the wild populations. If findings indicate the possibility of high population, they proposed to attract the funding and skills to do a more thorough population estimate and possibly a PVA, on which the resumption of trade would be a possible outcome. In both cases they envisaged a constant monitoring programme on the health of the population, with the encounter rate method yearly and with distance sampling every two years, synchronous with updates to CITES.

Francophone countries all agreed that participatory management was a priority, and proposed conducting monitoring on a tri-monthly basis. Countries were in favour of using distance sampling and encounter rate, with the addition of point counts. DRC was not in favour of foot transects and suggest conducting these by bicycle/motorbike instead. They agree on the use of participatory management. All countries aimed to monitor in protected areas, community forests and hunting areas. Côte d'Ivoire and DRC also included monitoring in urban zones. Groups to undertake monitoring were identified in all cases: écogardes, local communities, researchers/scientists (all); NGOs (DRC and Côte d'Ivoire); development partners (Cameroon) and hunting guides (Côte d'Ivoire).

Both groups proved to be extremely engaged with task, and the session was allowed to continue to its conclusion. The programme as circulated was changed to allow for extended discussion towards the end of the first day. As a result the second day's programme was changed, with the final session on a regional management plan being removed to allow countries to complete their national management plan project tables.

***Day 2***

After a brief recap, Simon Valle (Manchester Metropolitan University) gave a presentation on the use of Population Viability Analyses to estimate sustainable harvests based on population data. His explanation included mention of the parameters needed to perform the analysis, the importance of reliable data to the resulting estimate, and concluded with a demonstration. The following discussion demonstrated that there was great interest in the topic. Previous work for the project found that no method for estimating sustainable export quotas has been consistently employed in the focal countries, nor was one brought up at the workshop.

The next session focussed on management and trade, beginning with presentations from the government representatives of Cameroon (on managing the allocation of export permits), DRC (an overview of the challenges the country faces in regulating wildlife trade) and Côte d'Ivoire (which is the process of amending its legislation). Partners in DRC and Cameroon then shared their experiences on researching the trade. The DRC/Lukuru team was able to gather unprecedented access into the functioning of the trade in Maniema province, due to the near-absence of enforcement and subsequent lack of fear of punishment by authorities. The Cameroon team, in contrast, found it far harder to find trappers willing to cooperate, but was able to interview former exporters. Finally, Nathaniel Annorbah and Simon Vallee presented about the trade in Ghana and Principe, respectively. The contrasting case studies described, in the first case, the collapse of a trade due largely to overexploitation, and in the second, a relatively large and stable population despite continued exploitation. The planned discussion session was not held, due to time constraints, however a number of questions were taken from the floor, especially on trade from Principe. Attention was also given to mis-reported captive breeding as a loophole and how it would be straightforward for authorities to inspect facilities to preclude non-compliance.

To begin the management planning session, the group first brainstormed a list of potential projects for inclusion in a hypothetical management plan. The resulting list is included in *Workshop outputs*, below. Participants then divided into country groups and, drawing on their own experience and the previous day and half of the workshop, completed the projects table section of the management plan: identifying and prioritising projects/activities, determining agencies responsible; approximate cost; timeframe; indicators; and risks and opportunities. These draft management plans are included below. All include certain elements, for example the design and implementation of population surveys to establish national population size.

During the wrap-up session, several key needs were identified as crucial to the success of these management plans: Technical assistance, for example through experience exchange; the means to undertake continued monitoring, to gather the baseline data to form the basis of future management, and access to funding.

## Follow-up

The five AGP range states represented at the workshop are now in in possession of the key information to begin development of full national AGP management plans. In the drafting of monitoring plans, they have demonstrated approval of the methods developed, tested and presented, and have further proposed how these can be best implemented in their national context.

In drafting management plan project tables, national representatives have agreed on the key elements to make up their national management plans, and the main details for the implementation of these (priority, responsible agency, approximate cost, timeline, indicators).

Development to full proposals, and subsequent implementation should as much as possible be directed by relevant national authorities. The role of CITES and BirdLife should be to support and guide countries in doing so, where necessary. During the workshop concerns were raised on numerous occasions about the lack of funding to implement these plans, or the difficulty in allocating funds to such activities. Recommendations on this are given in Chapter 1. One approach would be to identify, based on national authority input, where needs exist, and provide training to address these. Emphasis should be placed on how to fund internally (bilateral donors, tax revenue, integration into existing programmes) where possible, and in how to access external funding where not. The partners will play a key role in the future of these management plans, especially with regards to monitoring, as most now have the capacity to monitor using the agreed methods, or train others in doing so. Supporting them in this is one area where external support, or assistance in accessing it, would be well placed.

Continuing work towards regional management should be split by species: Liberia, Sierra Leone and Côte d'Ivoire for the Timneh Parrot, and Cameroon and DRC for the Grey Parrot. While Côte d'Ivoire also falls within the range of *P. erithacus*, it is likely that the country now only holds a negligible population of the species. The similarities in AGP population status and likely future management shared by these two groups of countries make this division a convenient one. Each group should be encouraged to cooperate on the development and implementation of members' management plans, identifying, where possible, particular projects where shared goals would make this mutually beneficial. These groups should seek the involvement of other species range states.

A workspace has been created on BirdLife's extranet as a forum for follow-up work. It hosts all the monitoring and management plans, presentations and other workshop content (http://partnership.birdlife.org/display/AGP/African+Grey+Parrot+Workspace+home) Access has been extended to at least one partner and government representative in each focal country.

More complete recommendations for monitoring management are given in Chapter 1.

## Programme

The following has been amended from the programme circulated prior to the workshop, to reflect the actual progress of the sessions over the two days.

| **Day 1 - Monday 23rd September** | |
|---|---|
| **Topic** | **Facilitator/presenter** |
| **Introductions**<br>• Project<br>• Individuals and expectations<br>*Name, organisation, relevant experience, where based, expectations*<br>*Including expectations of each country*<br>• Objectives<br>• Programme | <br>Robin Johnson<br>All<br><br>National representatives<br>Tom De Meulenaer<br>Robin Johnson |
| **Background**<br>• Population status and trends<br>• Background of trade in focal countries<br>• National legislation in focal countries<br>• Gaps in knowledge of species<br>• Factors affecting the success of Management Plan implementation | <br>Rowan Martin & Nathaniel Annorbah<br>Tom De Meulenaer<br>Robin Johnson<br>Roger Fotso<br>Simon Vallee |
| **Break** | |
| **New framework of methods for surveying AGPs in the wild**<br>• Rationale<br>• Design | Stuart Marsden |
| **Lunch** | |
| **Pilot testing of methods**<br>• Overview<br>• Reporting from the field – *Fieldwork conducted for this project by national teams: Work undertaken, data gathered, successes, challenges, recommendations*<br>• Findings and recommendations – *Preliminary population estimates based on new data, summary of recommendations for future monitoring, additional data needed to calculate reliable population estimates* | <br>Stuart Marsden<br>Jean Michel Takuo<br>Emmanuel Loqueh<br>Willy Mekombo<br>Bernard Ahon<br>Stuart Marsden |
| **Break** | |
| **AGP Population monitoring: Next steps**<br>• Group work<br>o Discuss what refinements or changes may be needed to the methods<br>o Discuss existing possibilities for surveying and long-term monitoring; potential for mobilising resources to gather required data and establish monitoring<br>o Report back and summarise a) **feedback on methods** b) **recommendations for monitoring**<br>• Group work – *Group 1: Cameroon, Côte d'Ivoire, DRC, Group 2: Liberia, Sierra Leone* | Roger Fotso |

| | |
|---|---|
| ○ Groups complete National AGP **Population Monitoring Plan**<br>○ Group discussion | |
| **Day 2 – Tuesday 24th September** | |
| **Population estimates and quota setting**<br>• Using Population Viability Analyses to estimate sustainable quotas, related considerations<br>• Background on quota setting<br>• Group discussion | <br>Stuart Marsden & Simon Vallee<br>Tom De Meulenaer<br>Tom De Meulenaer |
| **Break** | |
| **Management of trade**<br>• Trade management and monitoring challenges<br>• Existing practices in Cameroon, DRC and Côte d'Ivoire<br><br><br>• Experiences from the field<br>○ Current project<br><br>○ Other work<br><br>• Group discussion | <br>Tom De Meulenaer<br>Anicent Messie<br>Léonard Muamba Kanda<br>Elvire Joëlle Mailly<br><br>Willy Mekombo<br>Jean Michel Takuo<br>Nathaniel Annorbah<br>Simon Vallee |
| **Lunch** | |
| **National Management Plan**<br>• Introduction<br>**Projects**<br>• Plenary session<br>○ Groups brainstorm and recorded list of potential management plan projects<br>**Development**<br>• Group work – *One group for each focal country*<br>○ Review and complete **projects table** [table 5.2] in draft National Management Plan for each country, based on discussions. Agree on life time (normally 3-5 years)prioritise, and agree on time scale; agencies responsible; indicators; risks and opportunities<br>• Group discussion | <br>Stuart Marsden |
| **Evaluation** | |

## Participants list

The organisers succeeded in attracting relevant participants to represent their respective countries. Côte d'Ivoire and the Democratic Republic of Congo were both represented by their CITES Management Authority focal points, with the former additionally sending her Director-General of the Ministry of Water and Forests. Cameroon was represented by representatives of the Management and Scientific Authorities. Sierra Leone was represented by a Regional Officer of the Environmental Protection Agency, representing the Management Authority. This country and DRC were the only to send only one government representative, the former due to a schedule conflict, and the latter due to the high cost of flights from the country. Liberia, as the host country benefitted from its position by being represented by its CITES Scientific Authority focal point, the Manager of Wildlife with the Management Authority, two of its most experienced practitioners of conservation, and several members of the partner organisation.

Partner representatives were present for all five countries. In the case of all but Sierra Leone (due to sickness) a staff member involved in the project from its inception was able to attend. In the cases of Cameroon, Côte d'Ivoire and Liberia the project focal point responsible for the field work was present, affording a genuine insight into the work undertaken on the ground.

| Title | First name | Last name | Organisation | Position | Project country | Email |
|---|---|---|---|---|---|---|
| Dr | Dibié Bernard | AHON | SOS Forêts | IBA Officer | Côte d'Ivoire | bahon2002@yahoo.fr |
| Mr | Nathaniel | ANNORBAH | Manchester Metropolitan University | PhD candidate | | niidjan2000@yahoo.com |
| Mr | Tamba Samuel | BANDAGBA | Environmental Protection Agency | Regional Officer | Sierra Leone | tsbandagba@gmail.com |
| Mr | Jusufu | CONTEH | Conservation Society of Sierra Leone | Programme Officer | Sierra Leone | contehjusufu@yahoo.com |
| Mr | Tom | DE MEULENAER | CITES Secretariat | Scientific Support Officer | | tom.de-meulenaer@cites.org |
| Mr | William | DRAPER | University of Liberia, College of Agriculture & Forestry | Assistant Professor | Liberia | welteh2002@yahoo.com |
| Dr | Roger | FOTSO | Wildlife Conservation Society | Country Director | Cameroon | Rfotsowcs@aol.com |
| Mr | Michael | GARBO | Society for the Conservation of Nature of Liberia | Executive Director | Liberia | scnlliberia@yahoo.com |
| Mr | Jerry | GARTEH | Society for the Conservation of Nature in Liberia | Programme Officer | Liberia | jnuleegarteh@yahoo.com |
| Mr | Edward | GBEINTOR | Forest Development Authority | Manager, Wildlife | Liberia | gbeintore@yahoo.com |
| Mr | Robin | JOHNSON | BirdLife International | Project Manager | | Robin.Johnson@birdlife.org |
| Mr | George | LANGSI | Ecole de Faune de Garoua [Garoua School of Fauna] | Ingenieur des Eaux et forêts [Waterways and Forestry Engineer] | Cameroon | langsigeorge@yahoo.com |
| Mr | Emmanuel | LOQUEH | Society for the Conservation of Nature of Liberia | Project Coordinator | Liberia | emmanuelloqueh@yahoo.com |
| Ms | Elvire Joëlle | MAILLY | Ministère des Eaux et Forêts [Ministry of Waterways and Forests] | Directeur de la Protection de la nature, Organe de gestion CITES [Director of Nature | Côte d'Ivoire | elvzouz@yahoo.fr |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | Protection, CITES Management Authority] | | |
| Dr | Stuart | MARSDEN | Manchester Metropolitan University | Reader in Conservation Ecology | | S.Marsden@mmu.ac.uk |
| Dr | Rowan | MARTIN | Percy FitzPatrick Institute for African Ornithology | Postdoctoral Research Fellow | | rowan.o.martin@gmail.com |
| Mr | Willy | MEKOMBO | Lukuru Foundation | National Financial Officer & Personnel Manager | DRC | willyamekombo@gmail.com |
| Mr | Anicent Charly | MESSIE | Ministère des Forêts et de la Faune [Ministry of Forests and Fauna] | Ingénieur des Eaux et Forêts [Waterways and Forestry Engineer] | Cameroon | mac_charly@yahoo.fr |
| Mr | Léonard | MUAMBA KANDA | Service de la Conservation de la Nature | Directeur-Chef, CITES Management Authority/Organe de gestion CITES | DRC | lmuambakanda@yahoo.com |
| Mr | Alex | PEAL | Society for the Conservation of Nature of Liberia | Board member/Adviser | Liberia | alexpeal66@yahoo.com |
| Mr | Charles | SHOWERS | Conservation Society of Sierra Leone | Project Coordinator | Sierra Leone | showerscharles@yahoo.co.uk |
| Colonel | Yamani | SORO | Ministère des Eaux et Forêts [Ministry of Waterways and Forests] | Directeur Général [Director-General] | Côte d'Ivoire | colyamani@yahoo.fr |
| Mr | Jean Michel | TAKUO | Cameroon Biodiversity Conservation Society | Project Coordinator | Cameroon | takuojm@yahoo.fr |
| Mr | Simon | VALLE | Manchester Metropolitan University | PhD candidate | | SIMON.VALLE@stu.mmu.ac.uk |
| Mr | John | WOODS | University of Liberia | Professor/Dean, Department of Forestry | Liberia | johntwoods38@gmail.com |

## Workshop outputs

***Expectations***

The following are the expectations for the workshop sa reported by participants at the beginning of the first day. These have been loosely grouped according to category.

Status

- Know the national status of AGP
- To be abreast of general status of Grey and Timneh parrots based on accounts of people's experiences from the field
- All countries well-informed on status of AGP
- Learn about status and loss of species throughout range

Monitoring

- Benefit from the experiences of other focal countries to improve monitoring methods
- Understand the methods of collecting data on AGP in its range
- have accurate ideas about standard survey methods for AGP
- Field survey methods for AGP defined
- Solid scientific basis for management decisions – potential and limits of

Management

- Come up with somewhat adaptive plan of action aimed at ensuring sustainability of parrot exploitation in range states
- Agree on some strong science-based guidelines for conservation and management of the Grey Parrot in the participating countries as well as in the rest of Africa
- Obtain the necessary contracts for the development of AGP studies
- Develop a plan for the sustainable management of this species under different policies in different countries
- Knowing the action plan of the participating countries in this project
- Understand the establishment of quotas for CITES
- Acquire the information necessary to prepare an action plan and advocacy for AGP
- Be well-informed and with capacity to develop a national management plan for the species
- National management authority's capacity reinforced

- Improved understanding of how science can inform management of African Grey parrot

Regional cooperation

- Establish a regional team to fight against fraud in AGP trade
- Understanding of potential/limits for regional management
- To understand how the methods developed under this project can be applied in participating countries for improved conservation and management of AGP
- To agree on a way forward for the development of national and regional management plans
- All countries coordinate efforts
- Share experiences with other AGP range states

Other

- How to link the conservation and management of these species into the ecotourism component of the country
- Satisfy requirements of  resolutions and recommendations on the application of international conventions and national laws on trade in AGP
- share experience with other countries on trading/commercialisation of AGP

***Monitoring Plan drafts***

The following were on the first day of the workshop by delegates of the focal countries. It was conducted as a group exercise, with representatives of the Francophone countries working as one group, and those of the Anglophone countries working as another.

**Cameroon, Côte d'Ivoire, Democratic Republic of the Congo**

| **Country** | **Preferred data collection method** | **Availability of data collection zones (protected areas or others)** | **Availability of human resources (écogardes or local support groups)** | **Management method for each country (approach)** | **Choice and definition of methods on the basis of resources available** | **Method for reporting and analysis** |
|---|---|---|---|---|---|---|
| Cameroon | All methods (distance sampling, encounter rate, point counts) | Protected areas, community forests, hunting zones | - écogardes<br>- local communities<br>- hunting guides<br>- scientists<br>- development partners | Participatory management | OK | Quarterly |
| Côte d'Ivoire | All methods (distance sampling, encounter rate, point counts) | Protected areas, classified forests, urban areas (community forests, hunting zones) | - écogardes<br>- local communities<br>- researchers<br>- NGOs | Participatory management | OK | Quarterly |
| Democratic Republic of the Congo | All methods (distance sampling – but not on foot, encounter rate, point counts) | Protected areas, classified forests, community forests, hunting zones, urban areas | - scientific teams<br>- écogardes<br>- local communities<br>- NGOs | Participatory management | OK | Quarterly (to be reviewed later) |

**Liberia**

| No | Activities | Timeline | Comments |
|---|---|---|---|
| 1a | Casual encounter rate method | Annually | Initial estimate of density using encounter rate.<br>Record during 'informal walks' or 'long watches' around the sub-site. These informal walks and stops could be along roads, or tracks, and could be conducted at any time of day but more effective during morning hours.<br>Depending on the results, next step could either be to conduct a series of more costly and accurate population estimates at 2-yearly intervals (2b), or protect remaining AGP habitat (2a).<br>Repeat every year as part of a regular monitoring programme to determine and then monitor the size of the national AGP population |
| 1b | Distance sampling method | Biannually | When encounter rate and distance sampling years coincide, sampling should be done independently in the same area.<br>Repeat every two years as part of a regular monitoring programme to determine and then monitor the size of the national AGP population<br>Since Liberia has only just begun monitoring AGP, formal monitoring efforts should begin with these two methods for the time |

| | | | |
|---|---|---|---|
| | | | being, with the potential addition of other at a later time. |
| 2a | Protect AGP habitat | | (If surveys in No 1 reveal population to be very low) Protect areas of AGP occupancy in order to boost the remaining populations. |
| 2ai | Captive breeding feasibility study | | Investigate the possibility of a captive breeding programme for the purposes of reintroduction and restocking of the wild populations. |
| 2b | Comprehensive surveys to provide reliable and detailed population estimate | | (If the surveys in No. 1 reveal a large/relatively large population) Fundraise and attract training/skill to conduct a thorough population estimate, using distance sampling etc. |
| 3 | Calculate potential sustainable harvest | | Based on the results of this, consider using PVA to estimate sustainable harvest |
| 4 | Investigate possibility of resuming trade | | Based on the result of the PVA (No. 3) investigate the possibility of reinstating trade. |
| 5 | Seek CITES approval | | Negotiate level of trade with CITES |
| 6 | Revise management | Every 5 years | After first 5 years |

**Sierra Leone's Monitoring Plan draft is incorporated into their management plan draft, below.**

***List of potential Management Plan project***

The following list was the result of a plenary session held on the second day of the workshop. Participants brainstormed the projects which could form part of AGP management plans. The items in the list were subsequently grouped by category.

Review

| | |
|---|---|
| • Review relevant legislation | Examiner la législation pertinente |
| • Review relevant literature and compile database | Examiner la documentation pertinente et compiler des données |
| • Identify existing projects to avoid duplication of effort | Identifier les projets existants afin d'éviter la duplication des efforts |
| • Identify existing opportunities (funding, resources) | Identifier les opportunités existantes (financement, ressources) |
| • Identify all threats (not just trade) | Identifier toute menace (pas seulement le commerce) |

Monitoring

| | |
|---|---|
| • Population monitoring | S*uivi des populations* |
| • Design and conduct surveys | Élaborer et mener des enquêtes |
| • Establish baseline data | *Etablir des données de base* |
| • Determine distribution of species | Déterminer la répartition de l'espèce |
| • IBA monitoring | *Suivi des ZICO* |
| • Habitat and site monitoring (inc. other species) | Surveillance au niveau des habitats et sites (y compris pour autres espèces) |
| • Design monitoring and evaluation programme | Elaborer un programme de suivi et d'évaluation |

Stakeholders

| | |
|---|---|
| • Identify all stakeholders involved in trade | Identifier tous les intervenants impliquées dans le commerce |
| • Identify and work with stakeholders | Identifier et collaborer avec des intervenants |
| • Engage with local communities involved in trade | Collaborer avec les communautés locales impliquées dans le commerce |
| • Awareness raising | *Sensibilisation* |
| • Capacity building | Renforcement des capacities |

Harvest and export

| | |
|---|---|
| • Determine potential harvest | Déterminer la récolte potentielle durable |
| • Review pricing and value chain | Examiner la chaîne de valeur et la tarification |
| • Establish system of permits | *Établir un système des permis* |
| • Regulate and control trade | Réglementer et contrôler le commerce |
| • Enforcement against illegal trade | Application de la loi contre le commerce illégale |
| • Captive breeding programme | *Programme d'élevage* |
| • Policy for confiscated birds (holding and release) | Politique pour des oiseaux saisies (quarantaine et lâcher) |

- Monitor zoonotic diseases — Surveillance des maladies zoonotiques

Regional cooperation

- Cooperate with other source countries (inc. on pricing) — Coopérer avec d'autres pays d'origine (y compris sur la tarification)
- Active regional (inc. trans-boundary) collaboration — Collaboration régionale active (y compris transfrontalière)

Financing

- Secure sustainable funding for overall project — Assurer un financement durable pour le projet global

***Management Plan project tables***

The following documents were drafted during the second day of the regional workshop by delegates from each of the focal countries.

**Cameroon**

| Project name | Objective | Overall priority (1, low to 4, high) | Agencies responsible | Cost | Time scale | Indicators | Risks and opportunities |
|---|---|---|---|---|---|---|---|
| P1 | To monitor and sustainably manage parrot populations and their habitat resources | 4 | MINFOF ET SES PARTENAIRES | | 1 | Evidence of data collected and field activities as required | Poor execution of monitor methods |
| P2 | To standardize and consolidate in range states research and trade in Grey Parrots | 4 | MINFOF ET SES PARTENAIRES | | 1 | Proceedings of the conference are produced and validated | |
| P3 | To establish a specialized and vibrant institution monitoring and management of parrot resources in Cameroon, to be called PRIC | 2 | MINFOF ET SES PARTENAIRES | | 4 | Evidence of major activities carried out leading to the establishment of PRIC | |
| P4 | To create a databank to be used for sustainable management of parrot species in Cameroon | 4 | MINFOF ET SES PARTENAIRES | | 2 | Data base is set up and documented information gather as a start up point. | |
| P5 | Identify and raise conservation status of important parrot areas | 4 | MINFOF ET SES PARTENAIRES | | 1 | IPAC sites are identified and developed for the benefit of parrots | |
| P6 | To increase the breeding rate of Grey parrots in the country | 4 | MINFOF ET SES PARTENAIRES | | 1 | Captive bred parrots are released in to the wild or used for trade as required | |
| P7 | To improve on parrot trapping and handling methods so as to reduce their general mortality rate | 4 | MINFOF ET SES PARTENAIRES | | 1 | Document is produced, validated and made public. | |
| P8 | To improve on the general welfare of recued parrots | | MINFOF ET SES PARTENAIRES | | 2 | Document on rescue and management procedures is produced and validated | |
| P9 | To enhance the involvement of rural communities in sustainable parrot management and exploitation | 4 | MINFOF ET SES PARTENAIRES | | 2 | CIGs and CBOs are created and are functional | |
| P10 | To draw up a parrot trade policy and law containing the species sustainability prospects, non-detriment measures, fairness and viable financial mechanism for all stakeholders. | 4 | MINFOF ET SES PARTENAIRES | | 1 | Handbook on parrot trade policies and law is produced, validated and made available to stakeholders | |

## Côte d'Ivoire

| Project name | Objectives | Overall priority (1=low, 4=high) | Entities responsible | Cost | Timetable | Indicators | Risks and opportunities |
|---|---|---|---|---|---|---|---|
| Capacity-building | To train stakeholders on the collection of data on the GP | 4 | Government/ Ministry/ Civil society | | | 10 training sessions/year | |
| Awareness-raising | To make stakeholders aware of the need for sustainable management of the GP | 4 | Government/ Ministry/ Civil society | | | 10 annual sessions | |
| Site identification and data collection | To learn about the populations, distribution and habitats of the GP | 3 | Government/ Ministry/ Civil society | | | 15 sites upgraded at the end of 3 years | |
| Creation of a database | To establish a database | 3 | Government/ Ministry/ Civil society | | | A yearly database created and operational | |
| Study of the trade in the GP | To identify the actors and structure of trade in the GP | 3 | Government/ Ministry/ Civil society | | | 10 groupings of sellers set up | |
| Revision of legislation/ regulations | To adapt the regulations | 2 | Government/ Ministry/ Civil society | | | Number of regulatory instruments taken | |
| Establishment of a system of permits | To establish the procedure for issuing permits | 2 | Government/ Ministry/ Civil society | | | Annual quota determined | |
| Ensure monitoring of trade | To set up a system for monitoring trade | 3 | Government/ Ministry/ Civil society | | | 1 enforcement brigade set up in every region of the country | |

## Democratic Republic of the Congo

| Project name | Objectives | Overall priority (1=low, 4=high) | Entities responsible | Cost | Timetable | Indicators | Comments, J A Hart |
|---|---|---|---|---|---|---|---|
| Inventory of the population | To determine the size of the national population and discover the threats facing it | 4 | MECNT (Ministry of the Environment) and ICCN (Institute in Congo for the Conservation of Nature) with NGOs working on conservation | Very high | 12 months | Range and population known | Evaluate the possibility of taking a regional approach. Funds for methodology development also needed |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Tracking of the population of the AGP | To ensure ongoing research into the AGP | 4 | MECNT, ICCN with NGOs working on conservation | Very high | Ongoing | Variations in AGP population known | Same comment as above |
| Identification of stakeholders in the sales chain of the AGP | To organize and bring together the stakeholders | 4 | MECNT | Medium | 4 months | Local, regional and national platforms created | Ensuring results will require support from an NGO |
| Capacity-building for the stakeholders | To improve their performance | 4 | NGOs working on conservation/donors | Very high | Occasional | The actors correctly manage the information on and trade in the AGP | |
| Regulation and monitoring of trade | To revise and improve the regulation of trade and the protection of the AGP | 4 | MECNT | High | Ongoing | End to illegal trade | It will be necessary to involve the airlines in order to ensure implementation of the law |
| Identification of threats to the AGP | To ensure continued existence of the species | 4 | Administration and NGOs working on conservation | Medium because included in the inventories | Occasional | Epidemics and illegal hunting under control | |
| Captive breeding | To decrease pressure on wild species | 3 | MECNT and NGOs working on conservation | Very high | Ongoing | Several breeding facilities established in the country | Should be associated with an awareness-raising effort covering international markets to reduce the demand for captured birds and increase that for captive-bred birds |
| Creation of regional coordination platforms | To share experiences to optimize management of the AGP | 3 | MECNT and NGOs working on conservation | Medium | 5 months | The country participating in and organizing regional meetings | |
| Recovery and reinsertion of captured specimens | To discourage illegal trade and reestablish AGP in their natural habitat | 3 | MECNT and NGOs working on conservation | High | Ongoing | AGP population stabilized | |
| Creation of databases | Availability of information on the AGP | 4 | MECNT and NGOs working on conservation | Medium | 2 years then ongoing | Data relating to the biology of and trade in the AGP stored and available | |

**Liberia**

| Project | Timelines | Agencies | Cost | Indicators | Risks | Opportunities | Activities |
|---|---|---|---|---|---|---|---|
| 1 | Review of legal framework<br>National laws<br>International laws (CITES)<br>Other laws | 1 month | FDA, EPA, MJ, CSG, UL | Low | Written report | Difficult to gather people together | Expense people from these government agency |
| 2 | Literature review on species<br>Taxonomy of Timneh<br>Habitat<br>Trade and management in other countries<br>Others | 2 months | FDA, UL | Low | Written report | Difficult to gather people together | Expense people from these government agency |
| 3 | Design population survey<br>Survey methods<br>Timelines<br>Costs | 2 months | FDA, UL, SCNL | Low | Written report | Difficult to gather people together | Good practice put in place by management |
| 4 | Conduct population surveys<br>Mobilization of resources<br>Implementation<br>Report | 3 months | FDA, SCNL, UL | High | Population estimate | Difficult to gather people together | Good practice put in place by management |
| 5 | Trade quota establishment<br>Analyses<br>Negotiations with CITES | 1 month | CITES, SCNL, FDA | Low | Trade quota established | Decrease in the population of AGP in the CITES Country | To regular AGP illegal trade in a particular Country |
| 6 | Establish trade<br>Identification of actors (trappers, transporters, buyers) | 3 months | CITES, SCNL | Low | Granting of permits | Decrease in the population of AGP in the CITES Country | Monitor legal trade of AGP in a particular Country |
| 7 | Monitoring and evaluation<br>Biannual rapid assessments<br>5 year comprehensive surveys | 2 months | SCNL, FDA | High | Written report | People unwilling to provide information to the field agent on the field | Good practice put in place by management |
| 8 | Conservation action plan | 2 months | SCNL, FDA | Low | Written report | Fear that these action plan will not be implemented | Good practice put in place by management |
| 9 | Regional Coordination | Annual | | Low | | Difficult to gather people together | Good practice put in place by management |

**Sierra Leone**

| Project name | Sub-activities | Objective | Overall priority (Low 1, to 4 high) | Agency responsible | Cost ($) | Time scale | Indicators | Risk and opportunities |
|---|---|---|---|---|---|---|---|---|
| Species monitoring | 1. Training of forest rangers in basic monitoring skills of AGP, | To build the capacity of forest rangers basic monitoring skills of AGP | 4 | CSSL/Birdlife International /EPA –SL GFP | 5000 | November 2013 | 4 days training given to 25 forest rangers in AGP monitoring | The Gola Forest with evidence of AGP presence a National park with employed forest ranger. |
| | 2. Designing survey plan, | To get a structure survey plan that will enhance a strategic monitoring of AGP | 4 | CSSL | 2000 | November 2013 | Survey plan designed and adopted | |
| | 3. Conduct survey on quarterly bases to determine population size and seasonal patterns of species distribution | To determining the abundance and distribution of AGP across the country | 4 | CSSL /GFP/ GoSL | 12,000 | January to December 2014 (quarterly) | Quarterly reported on the estimated population distribution within the country produced | CSSL have the capacity and qualified staff to lead the process and do the reporting |
| Awareness raising | 1. Community outreach programmes conducted | To improve community knowledge on the significant of all bird species with special focus on AGP | 3 | CSSL/GFP /EPA | 16,000 | January to December 2014 (quarterly) | 20 community outreach programmes held in 20 communities | CSSL and Gola Forest programme both have conservation education units which can help lead the process |
| | 2. mass media sensitization on the conservation implication of AGP | To increase awareness of the general public on the importance of these species and the potential economic lost to the state due to illegal trade of AGP | 3 | CSSL/EPA / Forestry division | 2,500 | January to December 2014 (4 times per month) | 4 monthly radio/TV discussion programmes per month | Information, Education and communication department of EPA – SL |
| Development of conservation action plan for AGP | Planning workshops | To guide the enforcement against illegal trading of AGP | 3 | CSSL / Forestry division | 2,500 | March to June 2014 | Draft Conservation action plan for AGP produced | The plan will be submitted to the Wildlife division for validation before become a working document |
| Development | Organized 3 days | To develop a strategic | 4 | CSSL/EPA/ | 2,500 | July to | Draft Strategic business | The plan will be submitted |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| of strategic business Plan | Stakeholders workshops | business plan that will guide the regulation of AGP trade in a sustainable manner | | Forestry Division | | September 2014 | plan for AGP trade produced | to the Wildlife division and EPA for validation before become a working document |
| Knowledge Management and experiences sharing | Meeting with stakeholders at national level | To share project outcome and experience and challenges and way forward | 3 | CSSL/EPA/ Forestry Division | 3000 | Quarterly | Minutes of meetings | |
| | Meeting with other partners in the sub-region | To share experience and way forward in enhancing a regional approach to effective AGP management | 3 | CSSL/EPA/ Forestry Division | 10,000 | Quarterly | Tour report | |

***Factors affecting management plan implementation***

The following responses are the result of an individual brainstorming session held during the first day of the workshop. Participants were asked to define the risks and opportunities they foresaw affecting the implementation of a management plan in relation to the factors in the left column of the table.

| | Risks | Opportunities |
|---|---|---|
| Economic implications | • Over-exploitation x3<br>• High value encourages high levels of capture x2<br>• High value as pets and for traditional medicine creates incentive for trade<br>• Trade is valuable and unpredictable<br>• Low income for trappers encourages high level of capture x2<br>• Communities and state do not stand to benefit; only exporters benefit<br>• Illicit trade<br>• Organised crime<br>• Illegal and uncontrolled trade<br>• High level of poaching<br>• Habitat destruction and smuggling | • Potential income generation through eco-tourism/tourism **x4**<br>• Parrot-related tourism opportunities (currently limited)<br>• Income generation x2<br>• Trade is very profitable to individuals<br>• Not economically attractive to individuals in Liberia at the moment due to the ban<br>• Potential income for range states from taxation of trade<br>• If well-managed and controlled, the trade could be a potential source of revenue from taxes and for communities<br>• Sustainable revenue under the authority of the state (management authority)<br>• Organisation of management can profit all parties involved and allow for equal sharing of benefits<br>• Revenue from trade and/or tourism can be used for management |
| Socio-cultural effects | • Use of body parts in traditional practices x2<br>• [demand for] medicine<br>• Cultural decoration<br>• Cultural/fetish role<br>• Over-exploitation<br>• High demand<br>• The acceptability of keeping as pets<br>• High tendency of killing for just part of animal e.g. feathers<br>• Destructive use of certain parts of parrots<br>• AGP presents no value to the people of the [rural] areas<br>• No incentive to maintain species and habitat<br>• [no risk] | • Domestic animal x2<br>• Use as totems could encourage conservation x2<br>• Socio-cultural value will help increase the willingness of communities to protect and<br>• manage the species<br>• Populations of areas where AGP occurs will benefit and contribute to protection<br>• Cultural symbolism of red feathers.<br>• Parts may be used for decoration<br>• Not culturally significant<br>• Committed individuals<br>• Increased awareness<br>• Sensitisation/awareness raising<br>• Boost captive breeding and habitat protection |
| Administrative/ political set-up | • Corruption **x3**<br>• Influence peddling x2<br>• Extreme control measures can encourage illegal capture and trade x2<br>• Unfavourable laws may encourage illegal trade of the species<br>• Illegal trade | • Reasonable management measures can improve transparency in the capture and trade of the species<br>• Sustainable management<br>• Better management of the species<br>• Effective involvement of the administration<br>• Laws and regulation are in place |

| | | |
|---|---|---|
| | • Difficulty in estimating population and controlling trade<br>• Lack of knowledge of species<br>• Confusion over regulations<br>• Laws/regulation<br>• Change the motivation of management<br>• [no risks] | • Legal trade and revenue generation<br>• Structure of power, easy to apply top-down<br>• Trade regulation<br>• Enforce CITES provision in the management of the species<br>• System of permits<br>• There are political structure that will help guide the regulation of the species<br>• Biodiversity conservation opportunity<br>• Programme of awareness-raising |
| Biology of species | • Lack of adequate knowledge of the species biology prevents effective management x3<br>• Poor knowledge of biological and ecological status<br>• Gaps in knowledge of species, hence problems with management planning<br>• Uncertainty on various ecological traits<br>• Poor knowledge of status/ecology<br>• Low reproductive rate<br>• Rely on natural cavities/old trees, doesn't readily use nest boxes<br>• Breeding is limited and range is difficult to determine<br>• Vulnerable to capture<br>• Attractive<br>• Risk of disappearing | • Greater knowledge will in enhance more targeted action x2<br>• Improve knowledge and contribution to better management of species/habitat<br>• Could be [listed as] threatened and create 'hot spot' opportunity for funding<br>• Current monitoring will help. Most of the habitats are in protected areas hence training forest guards will enhance the monitoring of the species<br>• Better knowledge of the species, their biology and ecology<br>• Species can be used for study<br>• Research purposes<br>• Encourage studies of the species<br>• To know the status [of the species]<br>• Conduct a study on non-detrimental trade and the potential of captive breeding<br>• Breeds well in captivity<br>• Role for captive breeding<br>• Boost captive breeding<br>• Adaptable to different habitats<br>• Long-lived species<br>• Take into account policies |
| Local expertise and interest | • Lack of expertise in survey methods in range States hinders effective management x2<br>• Lack of knowledge of the economic value of the species by locals, hence exporters tend to benefit more.<br>• Not [familiar with] systematic [recording of] data, used to anecdotal approach<br>• Lack of adequate scientific training<br>• Lack of knowledge on the species<br>• Less interest to study the species<br>• Lack of interest or opportunity to know about it | • More people with expertise and interest in the species will enhance management activities<br>• Use experts and stakeholders for the implementation of the management plan<br>• Greater interest in the species will result in in in being better-studied, increasing understanding and positively affecting management plan implementation<br>• Increases interest for scientists and study of the species<br>• Boost interest for research and study<br>• Educate local people |

| | | |
|---|---|---|
| | • Increased pressure on wild population<br>• Not available and difficult to develop | • Existing conservation / environmental agencies will help sensitise local people on the significance of the species<br>• The need to introduce conservation studies in schools<br>• Local knowledge on trends, nesting trees, roosting areas<br>• Increase capacity and awareness for better management (low level of population)<br>• Could be [used as a] a justification for attracting funding |
| Appeal of species | • Demand as pets x2<br>• Capture for pet and other uses<br>• Demand only for elites in cites<br>• Drives the demand for species in terms of trade x2<br>• Its appealing nature and existing markets will encourage over-exploitation<br>• Local breeding<br>• Beautiful | • Appeal could be used as a reason for conservation education x2<br>• Flagship species for conservation of forests<br>• Easily recognisable<br>• Public support for conservation<br>• Increased information on the importance of the species<br>• Increased awareness<br>• A greater awareness of the value of the species<br>• Well-managed/regulated trade system will help increase the income of that country – instrumental in ecotourism<br>• Domestic use as pet<br>• [demand by elites] Makes highly profitable and desirable<br>• Non-consumptive use including bird watching |
| Resources | • Lack of adequate resources x2<br>• No financing for implementation<br>• Lack of funding can impede effective implementation of management plans x2<br>• Lack of resource allocation by central government is a big risk<br>• Not much funding to study the species<br>• Lack of management<br>• Lack of centralisation and control | • Increased resources can improve logistical and expertise availability x2<br>• Some of the funds generated from its sale can be allocated to the management of the species<br>• Local knowledge and expertise [exists in abundance]<br>• Conservation systems<br>• Protection status of national parks<br>• Arouse the interest of donors<br>• Any convincing plan could attract funding<br>• Submission of plan and projects to donor<br>• More support for monitoring<br>• A part of national forest resource base x2 |

# Chapter 4 : African Grey Parrot Management Plan Framework

## Introduction

The following is adapted from Action Plans for the conservation of globally threatened birds in Africa: Species Action Plan Development Manual, developed by the BirdLife Africa Partnership, in collaboration with the RSPB, by analysing the strengths and weaknesses of species action plans developed in Europe and Asia, and improving on these for use in Africa.

This document was produced as part of the project *Strengthening Capacity for Monitoring and Regulation of International Trade of African Grey Parrot*, to present a framework to guide the development of Management Plans for the conservation and management of the Grey and Timneh parrots (*Psittacus erithacus* and *P. timneh*), with relevance for other commercially-traded bird species. A single framework is presented, containing elements that apply to National and Regional Plans, and are relevant for both countries that are legally permitted to export the species and those that are not.

Below is a description of the proposed content of Management Plans for *Psittacus erithacus* and *P. timneh*. On pages 11 to 13 is given the proposed format for the Management Plans. There are five major components: Executive Summary, Introduction, Background Information, Action Programme and Monitoring and Evaluation Plan.

## Executive summary

This should be no more than one page, in all languages commonly used by the key stakeholders. The executive summary should clearly and precisely highlight status, distribution, conservation priority and threats to the species; the history of the plan and stakeholders, the aim, objectives and major activities of the plan, plus its wider benefits.

## 1. Introduction

The introduction should also be no more than one page and should introduce the species (distribution, status, habitats and basic ecology, threats), the trade in it, factors limiting its recovery and key stakeholders. The aim and objectives of the plan with timescales should be mentioned in the introduction. The biodiversity justification, benefits of the plan and the anticipated outcome to species and stakeholders should be highlighted.

## 2. The background information

This important section of the plan highlights existing knowledge about the species and describes novel work undertaken to extend this understanding. It is used as the basis on which the subsequent action programme is built.

BirdLife's data zone at www.birdlife.org provides fact sheets on both *P. erithacus* and *P. timneh*, and up to date information on their status. Other online databases such as Ingenta

(www.ingenta.com) are also useful for obtaining published information. The Parrot Researchers' Group maintains an electronic library of parrot-related academic literature.

## 2.1 Taxonomy

The following taxonomic information on the species should be included: Class (*Aves*), order (*Psittaciformes*), family (*Psittacidae*), genus (*Psittacus*), species (*erithacus* [Grey Parrot], *timneh* [Timneh parrot]). The name of the species in English, French and any other languages deemed appropriate from the range-states of the species should be added.

## 2.2 Distribution and population status

### 2.2.1 Global distribution

Information should be presented nationally by country as set out below (Table 1). The population estimate (numbers) and population trends (increasing, stable or decreasing) are coded using the quality codes (A = reliable, B = incomplete; C = poor; U = unknown) as used in BirdLife International's World Bird Database. References can be noted order 'notes' although they will normally by shown in Table 2.

Table 1: Global population, distribution and trends

| Country | Population (plus quality code) | Distribution | Population trend (plus quality code) | Seasonal occurrence | Notes |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| . | | | | | |
| . | | | | | |
| **Total** | Individuals | | | | |

### 2.2.2 National assessment

Existing knowledge on the species based on previous research is summarised, following which novel research undertaken to assess the national distribution and population status of the species is reported. The methods used are described in sufficient detail, including both formal field survey work and interviews to assess occupancy. Interviews and other methods employed to investigate the trade in the species may be described at this point, though the results should be presented in *Threats and potential threats* below.

The potential habitat of the species within the country should be described, accompanied by a map and with reference to the habitat requirements of the species, as this will influence population estimates. Following presentation of the results of survey work undertaken, it may be possible to propose a national population estimate. Accompanying any estimate should be a detailed description of how it was arrived at, and a thorough discussion of the uncertainties involved in the figure. If insufficient data is available to allow for a population estimate, detailed recommendations of additional work needed to allow for this should be made.

At this point the distribution and population information available at the sub-national level region/site) should be presented (see Table 2). The known and potential sites are indicated as k=known and p=potential sites in the number of sites column.

Table 2: Local distribution of species

| Country* | Region /Province | Site (IBA site no. if applicable) | PA status | No. of Sites | No. of pairs (if applicable) | References | Notes |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

*for regional plans only

If the population estimate is deemed sufficiently large, a sustainable harvest quota may be proposed, complete with a detailed description of how the figure was calculated. The precautionary principle should be applied in calculating any sustainable harvest quota. It is recommended that Population Viability Analyses are employed for this purpose (see White, 2000), using a statistical computing package such as RAMAS (http://www.ramas.com/) Vortex (http://www.vortex10.org/Vortex10.aspx) or R (http://www.r-project.org/).

White, G. C. (2000) Population viability analysis: data requirements and essential analyses. Pp. 288-331 in L. Boitani and T. K. Fuller, eds. Research techniques in animal ecology.

### 2.3 Legislation, protection status and enforcement

The national legislation and the international conservation conventions that the species range states have ratified should be summarised in a table (Table 3).

A summary should be given of all legislation that covers the protection, capture, holding and export of the species, as well as legislation relevant to CITES. Some specific areas that such legislation should define are restrictions on seasonality, location and methods of capture, age of birds caught, tax on birds exported and licencing of traders.

A short review should be made of how well this existing legislation meets the requirements of the protection and management of the species, how it is enforced and by whom (agencies responsible), and the degree to which its various parts are enforced. This will allow for the identification of gaps in the body of legislation and their implementation in the form of enforcement and adherence. Projects to address these gaps may be designed in the actions programme section.

Table 3: National legislation and signatories to international conservation conventions relevant to the species.

| Country | National legislation | CITES | CBD | UMB | AC | WHC | Other |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

CITES=Convention on International Trade in Endangered Species, CBD=Convention on Biological Diversity, UMB=UNESCO Man and Biosphere, AC=African Convention, WHC=World Heritage Convention

### 2.4 Relationship with SAPs and biodiversity strategies

Reference should be made to any ongoing biodiversity strategies such as National Biodiversity Strategy and Action Plans (NBSAPs), National Environmental Action Plans (NEAPs), National IBA Conservation Strategies (NIBACs) Site Conservation Action Plans and other Species Action Plans. The plan of the species being prepared particularly at national level should make use of the opportunities of existing strategies to avoid duplication of work.

### 2.5 Biology and ecology

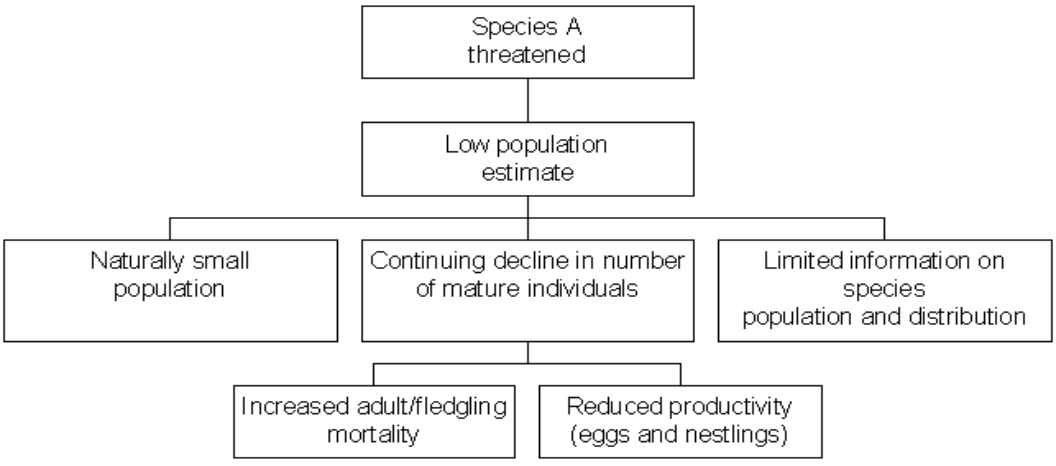
Available concise information on the biology and ecology should be highlighted and referenced. Aspects of the biology and ecology of the species that are not known but believed to be relevant should be noted.

### 2.6 Threats and potential threats

Both the Grey Parrot and Timneh Parrot are categorised as vulnerable on www.birdlife.org, based on specific criteria including the estimated population size. A detailed analysis of the threats that affect the species directly or indirectly, and in each country, will provide the basis on which to plan for appropriate action. It is important to consider all threats and potential threats to the species, and not only trapping for trade, to ensure that the resulting action programme takes into account the full range of factors impacting upon the status of the species. For example, the main threat thought to have led to the large declines in the Timneh Parrot in many West African countries (unsustainable trapping for trade) may be different from current threats preventing the species' recovery. If threats have hitherto been insufficiently assessed, a threat analysis can determine the relative weight of factors involved in the species' decline.

First, the degree of threat to the species should be prioritised as low (◆), medium (◆◆), high (◆◆◆), critical (◆◆◆◆) and unknown (?). These may vary from country to country within the species' range.

The problem tree approach to analysing threats allows for a systematic and critical analysis of the threats all the way down to the root causes. The Figure below provides a generalised example of the start to a problem tree.



After establishing the base of the tree, the main factor responsible for an increase in adult and fledgling morality rates, and a reduction in productivity, are proposed. Once these have been agreed on, each branch of the problem tree is separately analysed, until the root cause of each of the effects has been determined, which may for example include socio-economic factors. Once complete each threat is prioritised as critical (◆◆◆◆), high (◆◆◆), medium (◆◆), low (◆) or unknown (?), depending on the intensity with which it is believed to contribute to the decline of the species. This process ensures that a thorough analysis is done of what is causing the decline of a species, and sets the scene for an effective programme to solve the problems that the species faces.

### 2.6.1 Trade and its impact on wild populations

In cases where trade (including trapping for national and international trade, associated mortality, hunting for parts) has been implicated as a major current cause of population decline, a detailed assessment of this threat should be presented, including novel findings from interviews. This should include a description of the trade chain and the various types of trade, based on the best available information (international live, legal and. illegal, national and international, parts for traditional medicine); the economic importance of the trade to the various stakeholders, the methods of capture; an estimate of mortality at the various levels of the trade chain; and the level of exploitation, with reference to both trade reported to CITES, and illegal, unreported trade.

## 2.7 Stakeholder analysis

These are people or groups of people who directly or indirectly affect the species positively or negatively, or are affected by it and its conservation and trade. Examples of stakeholder groups include: Species interest groups, Traders and trappers, Donors, Media, Education departments, International conventions, Local communities, NGOs, Tourism and safari operators, Ministers and personalities, Scientific experts and Government departments.

Stakeholder analyses involve assessing the relations of individuals and groups with a species. The assessment is done by considering peoples' interest, their activities, how their activities impact on the species (positive or negative), the intensity of the impact (low (◆), medium (◆◆), high (◆◆◆) and critical (◆◆◆◆)) and proposed action(s) (Table 4).

Table 4: Stakeholders analysis

| Country | Stakeholder group | Interest /Mission | Activities | Impact | Intensity | Proposed activity |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |

A thorough stakeholder analysis allows one to get a good idea of the appropriate groups to involve, the knowledge that stakeholders have about each other and about the species, the opportunities that exist among the stakeholders for preparing and implementing the plan.

## 2.8 Factors influencing success of management plan implementation

**This section may be considered optional: If it is felt that the *Threat and potential threats* section has adequately identified and described the range of threats that face the species at the level (national or regional/international) in question, then it may be omitted.**

In addition to incorporating the plan being prepared into existing biodiversity plans and strategies, it is important to consider the risks and opportunities affecting implementation of the management plan. The following headings are provided as a framework to this assessment:

- **Economic implications:** What is the monetary value of the species and how will this impact on the implementation of the management plan?
- **Socio-cultural effects and cultural attitudes**: Are there local cultural attachments of the species which can enhance its persecution or protection?
- **Existing conservation and management measures:** Are there any ongoing projects which can directly or indirectly benefit the species, or help to strengthen management? What are the strengths and weaknesses of these projects?
- **Administrative/political set-up:** The plan being prepared will not change the existing political/administrative set-up. It is therefore crucial that the activities in the plan will fit into existing institutional frameworks, including any agencies that will be ultimately responsible for its implementation.
- **Biology of species:** How well known is the biology of the species? How specialised are its breeding requirements, and what are the requirements for captive breeding? What is its lifespan? The state of knowledge in relation to these and similar questions can influence the implementation of the plan. Gaps in knowledge may also affect success.
- **Local expertise and interest:** Are there local experts i.e. local people who have experience with the species and are interested in conserving it? (These people do not have to be scientists.)
- **Appeal of species:** How charismatic is the species. Is it appealing to the general public, politicians, etc.?
- **Resources:** Are there any opportunities for resources (human/financial) for the implementation of the plan?

These factors affect the effective implementation of the management plan. The risks and opportunities under each factor can be summarised as shown in Table 5.1. The existing conservation and management measures in place can be summarised in Table 5.2 as on-going projects.

Table 5.1 Factors affecting management plan implementation

| | **Risks** | **Opportunities** |
|---|---|---|
| Economic implications | | |
| Socio-cultural effects | | |
| Administrative/political set-up | | |
| Biology of species | | |
| Local expertise and interest | | |
| Appeal of species | | |
| Resources | | |

Table 5.2 Existing conservation and management measures

| Project | Strengths | Weaknesses |
|---|---|---|
| | | |
| | | |
| | | |

## 3. Action programme

This is a critical section of the plan as it indicates what needs to be done, i.e. the vision, aim, objectives and projects or actions. The aim, objectives and projects or actions are derived from the threats identified.

Examples of recommended projects previously proposed for the conservation of these species can be viewed in the following:

Clemmons, JR (2003). Status survey of the African Grey Parrot (Psittacus erithacus timneh) and development of a management program in Guinea and Guinea Bissau. Unpublished report to the CITES Secretariat, Geneva, Switzerland.

Fotso, R (1998). Survey status of the distribution and utilization of the Grey Parrot (Psittacus erithacus) in Cameroon. Unpublished report to the CITES secretariat, Geneva, Switzerland.

McGowan, P (2001). Status, management and conservation of the African Grey Parrot, (Psittacus erithacus) in Nigeria. Unpublished report to the CITES secretariat, Geneva, Switzerland.

Tamungang, S & Cheke, R (2012). Population Status and Management Plan of the African Grey Parrot in Cameroon. Unpublished report to the CITES secretariat, Geneva, Switzerland.

van der Heijden, A (2003). Management of the trade in Parrots from West and Central Africa. Unpublished report to the CITES secretariat, Geneva, Switzerland.

A list of potential project was drafted by participants of the regional workshop held in Liberia in September 2012 as part of the project *Strengthening Capacity for Monitoring and Regulation of International Trade of African Grey Parrot*. This list is available on the AGP Workspace.

Up to date information, IUCN Red List criteria, Red Data Book, World Bird Database should be used when applicable so that standard terminologies are used throughout the text.

### 3.1 Vision

This is the long term end desired state, dream or wish for the status of the species, and for the trade in it, for countries which export. The management plan contributes to the vision which is usually longer than its own duration. The vision for a threatened species can be to remove it from the threatened list of species or to lower the threat status. The vision for trade in the species could be for demonstrably sustainable trade in the long term.

### 3.2 Aim

This outlines what the plan wants to achieve over a 3–5 year period and contributes to completion of only a portion of the vision. The aim should be Specific, Measurable, Achievable, Realistic and Time-Bound (SMART). An aim should have a set of indicators. Indicators can be compiled by asking, 'How am I going to indicate (show) to someone that the aim has been achieved?' Each indicator should be SMART. The aim might differ between the national and

international plans. The national plan should refer and contribute to achieving the aim of the international plan. The aim should contribute to achieving the vision.

### 3.3 Objectives

Objectives unpack the finer details of the aim. Achievement of all the objectives should mean that the aim of the management plan has been achieved. Objectives should also be SMART. An objective should not be stated as an activity but as something that has already been achieved. Each objective should have a set of indicators. Indicators can be compiled by asking 'How am I going to indicate (show) to someone that the objective has been achieved?' Each indicator should be SMART. The objectives should be prioritised according to their contribution to the conservation and management of the species. The following scale can be used to prioritise the objectives: low (◆), medium (◆◆), high (◆◆◆), critical (◆◆◆◆).

There should be a justification for vision, aim and objectives. An example of how the description, justification, and indicators for the vision, aim and objectives can be summarised is shown in Table 6.

Table 6: Vision, aim and objectives: their justifications and indicators

| ***Vision (10 years)*** | ***Description and justification*** | ***Indicators*** |
|---|---|---|
| | | |
| ***Aim (5 years)*** | ***Description and justification*** | ***Indicators*** |
| | | |
| ***Objectives*** | ***Priority (1-low to 4-critical), Description and justification*** | ***Indicators*** |
| | | |
| | | |
| | | |
| | | |

### 3.4 Projects/activities

Projects unpack the finer details of the objectives. A project is a broad concept of what needs to be done and includes a set of activities. Achievement of all the projects listed for an objective should mean that the objective has been achieved. Like the vision, aim and objectives, the projects should also be SMART.

In order to evaluate the thoroughness with which projects or activities have been determined, they are listed under the headings: policy and legislation, species and habitat, population monitoring and research, trade monitoring and management, public awareness and training and community involvement. A review should be completed to ensure that the timing of the various projects or activities has been correctly determined and that there are no projects or activities (steps in the process) missing.

### 3.5 The Projects Table

This is a summary of the projects or activities. It provides information on the relative priority of each project or activity to the conservation and management of the species, countries where specific projects are of high priority, agencies responsible for undertaking them, cost, time scale, indicators and risks and opportunities. Table 7 provides an example of a projects table.

- **Project:** each project is numbered with a binomial. The first number indicates the objective to which it belongs, and the second number indicates its position in the list of projects under an objective, e.g. project 3.4 is project 4 listed fourth under objective 3. In the projects table, projects or activities are listed under the headings *policy and legislation, species and habitat, population monitoring and research, trade monitoring and management, public awareness and training and community involvement*. Hence, activities from different projects may be included under each of these headings – see Table 7
- **Countries:** This is an indication of the country or countries within the species range where the project is relevant. Certain projects or activities may only apply to a portion of a species entire distribution range.
- **Overall priority:** This should indicate the relative importance of the project to the conservation and management of the species. Projects can be prioritised as of low (◆), medium (◆◆), high (◆◆◆) or critical (◆◆◆◆) importance
- **Agencies responsible** for the implementation of the project should be stated. It is important to highlight the one that will take the lead.
- **Cost:** The approximate cost for the specific project should be highlighted as ◆ for < US$ 10,000, ◆◆ for US$ 10,000 – US$ 50,000 and ◆◆◆ for US$ >50,000.
- **Time scale** indicating length of the project/activity and its intended start and end dates
- **Indicators** showing how you will indicate (show) to someone that the project/activity has been achieved.
- **Risks and opportunities** specific to each project should be highlighted and monitored. Projects/activities may need to be included that address a problem raised by risk or capitalise on an opportunity.

Table 7: Projects Table

| Project | Countries | Overall priority | Agencies responsible | Cost | Time scale | Indicators | Risks and opportunities |
|---|---|---|---|---|---|---|---|
| **A) Policy and legislation** | | | | | | | |
| 1.1 Name of project | List of countries with priorities ◆◆◆, ◆◆◆◆ | Score ◆-◆◆◆◆,? | Generic for international, specific for national plan | ◆-◆◆◆ | Length, start | | |
| 1.2 Name of project | | | | | | | |
| 3.4 Name of project | | | | | | | |
| **B) Species and habitat** | | | | | | | |
| 1.5 Name of project | | | | | | | |
| **C) Population monitoring and research** | | | | | | | |
| **D) Public awareness and training** | | | | | | | |
| **E) Community involvement** | | | | | | | |
| | | | | | | | |
| Etc. | | | | | | | |

## 4. Monitoring and evaluation (M & E) Plan

The M & E plan is the means by which progress towards achieving the projects/activities, objectives and aim of the management plan is determined. The M & E plan is prepared by

adding two columns to the projects table, one for recording the completion date (CD) of projects/activities and another for inserting additional remarks. This modified M and E Table is distributed to the national species co-ordinator for them to fill in their information. The completed projects tables from each country are compiled into a single M and E Table providing information on progress for the species across its entire range.

Table 8: Monitoring and Evaluation Table.

| **Project** | **Countries** | **Overall priority** | **Agencies responsible** | **Cost** | **Time scale** | **C D** | **Indicators achieved** | **Risks and opportunities** | **Rema rks** |
|---|---|---|---|---|---|---|---|---|---|
| **A) Policy and legislation** | | | | | | | | | |
| 1.1 Name of project | List of countries with priorities ◆◆◆,◆◆◆◆ | Score ◆-◆◆◆◆,? | Generic for international plan; specific for national plan | $US | start | | | | |
| 1.2 Name of project | | | | | | | | | |
| 3.4 Name of project | | | | | | | | | |
| **B) Species and habitat** | | | | | | | | | |
| 1.5 Name of project | | | | | | | | | |
| **C) Monitoring and research** | | | | | | | | | |
| **D) Public awareness and training** | | | | | | | | | |
| **E) Community involvement** | | | | | | | | | |
| Etc. | | | | | | | | | |

CD= Completion date,

## Draft African Grey Parrot Management Plan Format

***Presentation:***

- *Not too plain, not too glossy (This will vary from country to country)*
- *Appropriate language, executive summary also in English*

**A) Front Cover**

- Logos
- Picture of species
- Date
- Title
- Subtitle
- National Emblem [1]

**B) Inside Front cover**

- Authors
- Contributors
- Interest Group
- Credits
- Citation
- Thanks to local people, if appropriate

**Foreword**

- *Government official, Head of State Royalty*
- Internationally famous conservationist

**Table of content**

- clear and all on one page

**Acronyms**

**Definition**

- What is a Species Management Plan?
- Why this plan?
- Geographic scope
- Introduce SMP history and objectives
- National plan to refer to International plan

**Executive summary**

- *No more than 1 page.*
- *Multilingual, if appropriate*
  - status
  - distribution
  - conservation priority
  - threats
  - aim, objectives and major activities
  - history of plan and stakeholders
  - wider benefits

[1] underlined: national plans only

## 1 Introduction

- *no more than 1 page*
  - introduce species (distribution, status, threats)
  - introduce trade (history, current status)
  - introduce factors limiting recovery
  - introduce key stakeholders
  - biodiversity justification and benefits of plan and outcome to species and communities
  - aim and objectives with timescale

## 2 Background Information

- taxonomy
- distribution and population status
  - global: summary of existing knowledge (present as summary table)
  - national assessment
    - summary of existing knowledge
    - approach and methods
      - survey methods
      - interviews
      - potential habitat, re. requirements of species
      - map
      - results
      - population estimates (if possible) with related uncertainties
      - local distribution of species (present as summary table)
      - sustainable harvest quota recommendation (if possible), related considerations
- Legislation, protection status and enforcement
  - national legislation (in table, country by country)
  - international legislation (in table)
  - legislation governing the protection, capture and export of the species, and relevant to CITES
  - review of legislation, enforcement and gaps
- Relationship with SAPs and biodiversity strategies
- Biology and ecology
  - only relevant information
  - bibliography contains all references
- Threats and potential threats
  - Short description of each threat
  - Develop list of key words to ensure consistency of use between plans
  - Link threats with ecology and biology of species
  - Always try to quantify threats
  - Rank threats
  - State of current knowledge of other threats
  - Gap analysis
  - Summarise as problem tree, start with conservation status, prioritise direct causes (◆◆◆◆: critical, ◆◆◆: high, ◆◆: medium, ◆: low,, ? unknown)
  - Trade and its impact on wild populations
    - Trade chain and types
    - Economic importance of trade
    - Trapping methods

    - Mortality
    - Level of exploitation
- Stakeholder Analysis
  - *Summary table*
- Factors influencing success of management plan implementation
  - Economic implications
  - Socio-cultural effects
  - Strengths and weaknesses of existing conservation and management measures
  - Administrative/ political set-up
  - Biology of species (e.g. does it breed in captivity, how specialised is it, how long does it live?)
  - Local expertise and interest
  - Appeal of species (eco-tourism)
  - Resources

**3 Action Programme**

- Aims, objective and projects developed from problem tree
  - **Vision**
    - Long term vision for the status of the species and for trade in the species
    - Specific and measurable/ clear indicators
    - Time frame
    - Add short text
  - **Aim**
    - Aim of the species management plan
    - Specific and measurable/ clear indicators
    - Time frame
    - Targets might differ between national and international plan, but national plan contributes and refers to international plan
    - Use IUCN criteria, Red Data Book, World Bird Database when applicable
    - Add short explanatory text
  - **Objectives**
    - Strategic objectives
    - Specific and measurable/ clear indicators
    - Use key headings
    - Prioritised (◆-◆◆◆◆,?)
    - Add short explanatory text for each objective (include summary of activities)
  - **Projects**
    - Table and short description for each
    - Should always refer to benefits to local people
    - Number each project according to related objective
    - List under the following headings:
      - Policy and legislation
      - Species and habitat
      - Population Monitoring and research
        *e.g. baseline population data and estimates, species monitoring programme*
      - Trade Monitoring and Management
        *e.g. trade monitoring programme*
      - Public awareness and training

- Community involvement
    *e.g. traders and trappers' code of conduct*
- Monitoring and Evaluation Plan

**Acknowledgements**
**Bibliography**
**Annexes**

- List of relevant web pages
- Entry from 'Threatened birds of the world'
- List of protected areas and IBAs where species occurs
- Occupied areas most in need of action
- List of contacts (stakeholders, species interest group, others)

# Chapter 5 : Summary Analysis of the Trade Chain and controls in African Grey Parrot in Orientale and Maniema Province, DR-Congo

## Context

Exploitation of wild African Grey Parrots (AGP) for the international and national captive bird trade has been underway across the species range in DRC (estimated at over 125 million $km^2$) for decades, and probably since the early colonial era a century ago.

Export records have been kept only since1975 (CITES), but reporting is spotty. Data from one transit country, South Africa, points to a major illegal trade from a number of African countries including DRC (Mulliken 1995).

Little current data exists, and for DRC, there are no records or monitoring of the trade in recent years. There is an urgent need for this as the trade is thought to be largely uncontrolled and the DRC's AGP population is potentially well into a state of over-exploitation.

The information and data presented here contribute to a continental scale assessment of trade. Our goal in this report is to show how AGP trade could be monitored in DRC and to provide initial data on captures and trade at selected sampling sites.

Specific objectives included:

1. Determine the trade chain from capture to export
2. Provide data on numbers of birds captured and mortality and identify to a preliminary extent the impact.
3. Contact administration and other authorities responsible for control of trade and determine how trade is controlled and regulated

We focused on Orientale and Maniema Province and specifically on the trade hub of Kisangani and secondarily Kindu, the provincial capitals. These provinces constitute a major portion of DRC's AGP range and are focus of current captures. Kisangani is a primary departure point for AGP from eastern DRC. In addition we had a number of contacts in the provinces that facilitated the study.

## Methods

Data for this study were collected from July through September 2013.

We identified trappers, local traders and the air transport companies that moved birds to Kinshasa as well as the officials that had responsibility for controlling the trade and capture of parrots.

We conducted interviews, made observations at capture sites and had collaborating trappers, traders and transporters produce log books to allow us to track the trade.

We have no data for PGA export from Kinshasa. We attempted to learn the individuals and / or commercial operations involved in export but were not able to get this information in the time we had. There is some indication that at least some actors at this level preferred not to be known or contacted.

A summary of the data collected is presented in Table 1.

## Trade Chain

The links leading from capture of AGP to their transport to Kinshasa, what we term the trade chain, is presented in Figure 1.

The trade chain at the provincial level goes through three primary steps, with different actors involved at each step: Trappers, Local buyers and Air Transport.

A variety of officials play some role in authorizing and taxing the trade, but with little involvement in regulating capture or transport.

## Parrot trappers

Trappers operate at a variety of sites and use a range of methods to capture birds. Currently in Orientale and Maniema, parrots are captured at points of aggregation or along local flyways and corridors where the frequently pass and regularly can be found.

Large numbers of parrots are captured in nets placed in clearings where the birds come to the ground to drink or ingest soil. Birds are also captured in cities and other locations where they regularly fly, and fledglings are taken from nests.

We made observations at two parrot clearings. In one clearing in Maniema, in 2010, we found a team of trappers that had 90 birds in captivity. They had acquired these in under two weeks.

For this study we observed 4 urban trappers who captured AGP along their flyways in the city of Kisangani, and we made observations of captures of fledglings at a communal nesting site.

The urban trappers caught AGP on glue-covered perches they placed in oil palms along the flyway. They attracted AGP to the sticks with live and wooden decoys.

Summary results from log books of four collaborating trappers are presented in Table 2.

## Local buyers

Local buyers operate when they receive advance funds from exporters based in Kinshasa. Advance funds can amount to several thousand dollars. The exporters place orders with the local buyers who then travel to the capture sites to mobilize captures and buy trapped birds.

(We were not informed of buyers other than those in Kinshasa, though there is a history of exports from Kivu province).

The local buyers accumulate birds in Kindu or Kisangani and ship them from there.

We focused on the market in Kisangani. We identified 8 buyers, contacted 4 and were granted interviews by 3 buyers. One buyer allowed us to accompany him into the field where we observed him negotiate purchase of fledgling AGP from a local trapper.

Summary of the interviews with the three traders is provided in Table 3.

## Transport of AGP from Kisangani and Kindu.

Air transport is the primary means by which captured AGP are shipped from Kindu and Kisangani.

At present most captive AGP leave Kindu and Kisangani by one air transport operation, *Service Air*. Transport by other means (boat and vehicle) is likely to be used for only a small number of birds. Mr. Amisi, the loadmaster of Service Air based in Kisangani, agreed to keep a log book of numbers of birds and their mortality, from July to early September 2013. His results are summarized in Table 4.

## Regulation of the trade

We identified at least 6 national or provincial level pieces of legislation that directly protect AGP or regulate their trade.

In reality, and at present, capture and trade in AGP is inefficiently regulated and poorly monitored at best.

Most trappers and buyers operate without any valid permits and pay scant attention to closed periods for capture. Indeed most of the shipments made by the Service Air from Kisangani occurred during the nominally closed period.

Table 5 summarizes results from interviews made with provincial authorities in Kisangani.
Of 20 permits reported, 12 were for individually held pet birds. Eight permits only were for captures, most out of date. Of the buyers we interviewed, only one had a permit, and it was out of date.

One recent development, the opening of parrot captures and trade in Maniema suggests that regulation may be possible if there is a focus on the provincial level (see Box 1).

At the local level where parrots are captured, local authorities exert the most direct control on captures and trade. They levy taxes (at present, mostly non-codified), and in some cases attempt to impose closures on captures.

None of the people interviewed had knowledge of CITES quotas for AGP export, and had little or no contact with national CITES authorities.

**Mortality**

The logbooks of the trappers and air transport agent, along with the interviews of the local buyers indicate that there is considerable mortality in AGP along the trade chain.

Our results are summarized as follows:

- Trappers: average 24 percent mortality for 4 urban trappers surveyed. Mortality is higher when fledglings are captured or birds are transported a long distance.
- Local buyers: report from 10 to 40 percent mortality of birds during the period they hold them
- Air transport. Average 10.2 percent mortality (range 0 – 43 percent) for 23 shipments. One shipment of 8 AGP consisted of only dead birds.

We can conclude from this sample that half or more of all birds captured will perish before they arrive at the point of export in Kinshasa.

## Conclusions and Recommendations

At present capture and trade in AGP appears to be almost entirely uncontrolled in DRC. There is a nearly total disjuncture between the capture and transport of AGP at the local and provincial level and the national CITES authority.

AGP mortality is high and based on the pilot data collected, it is highly likely that far more than the 5000 quota birds are exported from DRC. Certainly many more are captured and die before any leave the country.

Regulation of the trade will be best supported from the bottom up, beginning with the local authorities who have jurisdiction over the capture sites and in collaboration with the provincial authorities, but there must be mandate and codification of regulations and taxes at some level.

Local and international NGOs will have to step in to assist in both the control and monitoring of the trade.

Not much has changed since Dr Roger Fotso's 1996 assessment of the status of AGP and their trade in DRC: Captures and export still largely exceed quotas. High mortality, uncontrolled and unmanaged trapping characterizes the trade chain (Fotso 1996).

What seems to have changed since in the last 17 years is that the process of depletion of the most accessible populations mainly in the west of the country is well underway, and that the focus of trade has now concentrated in the east where the remaining parrots are vulnerable.

Fotso thought in 1996, that DRC's AGP population could withstand exploitation. However, he emphasizes that given the total lack of control and the disorganized nature of the trade any discussion of quotas is irrelevant and meaningless.

In all effect the exploitation of AGP in DRC has not changed since then.

Our results are in accord with Fotso and we conclude as well that any establishment of quotas is meaningless without concomitant proof that they will be enforced and that the trade and capture of AGP will be effectively monitored.

## References

Fotso, R. 1996. Examen du statu,t étude de la distribution et l'utilisation du perroquet gris (*Psitaccus erythacus*) au Zaire. Unpublished report for CITES secretariat.

Mulliken, Tersea. 1995. South Africa's trade in African Grey Parrots. Traffic Eastern and Southern Africa. Unpublished report.

## Authorship

Primary Author:
John A Hart, Scientific Director, Lukuru Foundation, Kinshasa, DRC.

Contributing authors:
Robert Abani, SOS Nature, Kisangani
Leon Salumu, Lurkur Foundation, Kindu

Draft date 30 October 2013.

Table 1. Data collection for DRC pilot study of trade in African Grey Parrots and its regulation.

| Element | Lieu | Methods | Activities | Survey leader |
|---|---|---|---|---|
| Captures | Kisangani | Trapper field books | 4 carnet, 14 days | Robert Abani |
| | | Interview | 8 persons | Robert Abani |
| | | Direct observation | 4 sites, 14 days | Robert Abani |
| | Bamanga | Interview | 3 persons | Gilbert Paluku |
| | Bananguma | Interview | 4 persons | Robert Abani |
| Local buyers | Kisangani | Interview | 3 persons | Robert Abani |
| | | Direct observation | 1 transaction | Robert Abani |
| | Bananguma | Direct observation | 1 transaction | Robert Abani |
| Transport | Kisangani | Log book | 1 air service, 60 days | Robert Abani |
| | Kindu | Interview | 1 person | Leon Salumu |
| | Kinshasa | Direct observation | 1 incidental case | John Hart |
| Export | No current survey | | | |
| Regulation | Kisangani | Interview | 3 persons | Robert Abani |
| | Bananguma | Direct observation | 2 persons | Robert Abani |
| | Kindu | Interview | Ministerial cabinet | Leon Salumu |

Table 2. Summary capture data for four urban African Grey Parrot trappers in Kisangani., July-August, 2013.

| Trapper | Survey days | Number captured | Number injured | Number died | Percent Mortality |
|---|---|---|---|---|---|
| Pimbo | 18 | 33 | 8 | 10 | 30.3 |
| Freddy | 25 | 43 | 16 | 4 | 9.3 |
| Norbert | 18 | 42 | 4 | 4 | 9.5 |
| Amolo | 18 | 29 | 16 | 14 | 48.3 |
| **TOTAL** | **79** | **147** | **44** | **32** | **24.4** |

Table 3. Summary of profile and operations of three local African Grey Parrot buyers in Kisangani, August, 2013.

| Name | Years in business | Operational Zones | Relations with trappers | Relations with buyers | Mortality | Response to regulations |
|---|---|---|---|---|---|---|
| Jean Paul | 10 | 12 | • Up to 10 teams, 40 -50 trappers<br>• Hired when funds available.<br>• Provides advances funds, transport<br>• Accompanies trappers in the field | • 8 buyers, Kinshasa<br>• Pre-finance captures | Up to 40 percent<br>Fledglings high mortality | Captures all year |
| Robert | 29 | 10 | • 10 – 12 trappers<br>• Hired when funds available<br>• Provides advances funds<br>• Accompanies trappers in the field | • 2 buyer, Kinshasa<br>• Pre-finance captures | 20 – 30 percent | No response |
| Bienvenu | 27 | 5 | • 10 – 20 trappers<br>• Hired when funds available<br>• Provides food when in the field<br>• Accompanies trappers in the field | • 1 buyer, Kinshasa<br>• Pre-finance captures | 10 – 40 percent | Valid permit for one shipment only |

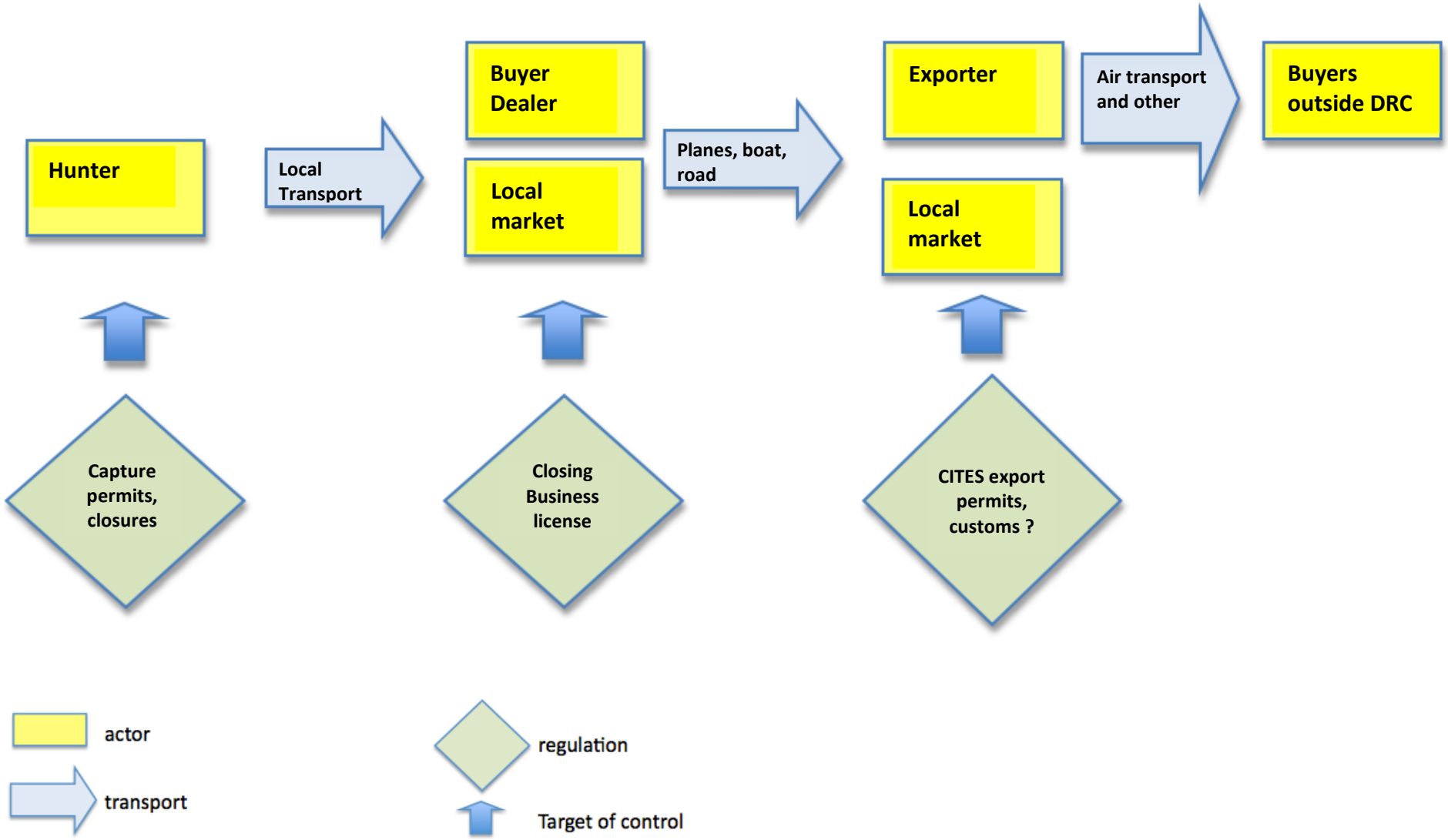
Table 4. Summary logbook of African Grey Parrot shipments provided by the loadmaster for Service Air, an airfreight company that transports parrots from Kisangani

- Survey period: 63 days included the closed season.
- 37 shipments including 25 during the closed capture season
- 24 shipments with count data
  - 1047 birds:
  - average 44 birds/shipment ( range 0 -70).
  - One shipment of 8 had only dead birds
- Mortality:
  - 245 birds dead in crate at time of shipment
  - Average 3.1 dead birds / shipment
- 6 persons sent 37 shipments.
  - Three were identified and interviewed during the project. Three are unknown to project.
- 3 individuals are listed as recipients of 37 shipments.
- All shipments were sourced
  - Bunia (19), Kisangani (13), Ubundu (5)

Table 5. Results of interviews with administrators in Kisangani responsible for regulating capture and trade of African Grey Parrots.

| Office | Intervention | Permits seen |
|---|---|---|
| Coordonateur Provinciale de l'Environnement | Authorized interviews and field work. | None |
| Chef du Bureau Department Conservation de la Nature | Explains operations | No current permits |
| Secretaire Coordination Provinciale de l'Environnement | Showed current and past permits | 20 permits, dating over 10 years |

Figure 1. Provincial level Trade chain and it potential points of control for Orientale and Maniema Provinces in DRC, leading from capture of parrots to their transport to Kinshasa



BOX 1

**Bref rapport sur le perroquet gris au Maniema**

Depuis longtemps le commerce de perroquet gris est commercialisé dans la province du Maniema, le plus grand flux de cette commerce a commencé en 2008 avec l'arrivé des équipes de préleveurs et acheteurs venus de la province l'Equateur. Ces derniers ont utilisés les jeunes de milieux pour ces activités, un perroquet gris aux villages s'achetait à 1000FC ou 1500FC soit 1 à 2 USD.

Les hommes liés à ces activités étaient souvent les enfants de militaires ou commissionnaires de grandes personnalités politiques et administratives du Pays et personne n'avait pas la main sur eux.

L'évacuation se faisait sur le fleuve Congo et par l'avion vers Kisangani, Kinshasa et Goma.
En date du 07 sept 2010, le Gouverneur de province du Maniema Son Excellence Pascal TUTU SALUMU a signé un message officiel N°01/0336/OKP/CAB/GP – MMA/2010, mettant en copie tout les administrateurs de territoires, secteurs, chefferie, et les membres du conseil provincial de la sécurité de province du Maniema sur l'interdiction formelle de prélèvement des perroquets gris sur toute l'étendue de la province (annexe I), ce même message sera renforcé le 13 sept 2010, par l'actuel maire de la ville de Kindu Mr Tambwe Kinana jadis ministre provincial en charge de l'environnement a soumis le dossier au cours d'un conseil de ministre pour présenter le cas de commerce sans traçabilités des perroquets gris dans la province du Maniema. A l'issus de ce conseil un communiqué officiel N°002/CAB/MIN-PROV/AFF.F.ECN.T/MMA/2010 signé (annexe II) interdisant le prélèvement des perroquets gris dans le province.

Le 10 mars 2012, que le Gouverneur de province a signé l'arrêté portant réglementation de la capture et commercialisation des perroquets gris *Psittacus erithacus*, dans la province du Maniema. (Annexe III)

La coordination provincial de l'Environnement a essayé plusieurs à recenser les commerçants sur les perroquets jusqu'à présent aucune donnée n'est disponible à son bureau.

Pour cette année 2013, le ministre provincial en charge de l'environnement Excellence Monsieur **Patrick Lupia** a convoqué trois réunions avec les services techniques (ICCN, Environnement) et les partenaires œuvrant dans le domaine de la conservation de la nature (GIZ, et LUKURU) au cours de ses réunions le ministre a insisté sur la saison de fermeture prochaine de capture, échangé sur la nouvelle approche de traçabilité avec CITES. Un point de presse a été tenu ce samedi 25 août 2013, par le ministre provincial portant la fermeture de prélèvement de perroquets gris sur toute la province du Maniema jusqu'à février 2014.

27 aout 2013
Léon Salumu, Point Focal LWRF Maniema.