

# USAID CARPE PHASE IIA - FINAL TECHNICAL REPORT 2003-2006

## Lac Télé Lac Tumba, ROC, WCS

### 1. Introduction

Landscape leader: WCS

Landscape and segment: Lac Télé – Lac Tumba Swamp Forest Landscape, Republic of Congo

Other partners:

*Funding: \$933,840*

*Cost share: \$299,738*

*WCS LTLT, ROC segment objectives:*

Objective 1: Develop and adopt a participatory strategy to reduce threats to natural resources and human welfare throughout the Lac Télé Community Reserve Landscape.

Objective 2: Develop and implement mechanisms to strategically address threats to natural resources and human welfare across the Lac Télé Community Reserve Landscape.

Objective 3: Develop and implement locally appropriate tools to measure conservation effectiveness and adapt the conservation strategy as the context changes.

### *Summary of achievements*

Objectives 1-3 detailed above have been comprehensively addressed by the achievements of the WCS LTLT program in ROC. We reviewed carefully the potential nature and feasibility for community conservation in the LTLT landscape. It was clear that an effective long term solution to current unsustainable exploitation of wildlife and other natural resources must be derived from the customary authority of local communities over their traditional territories. This solution was chosen as previous traditional management had been successful before modern governance systems degraded local management potential (Objective 1). The development of participatory community management, including mapping of traditional territories and creation of village natural resource management plans, is the major strategy by which the threats to natural resources and human welfare will be reduced (Objective 2). To ensure effective conservation and appropriate adaptive management, we have implemented monitoring of the biodiversity of the landscape and the natural resources upon which local communities rely (Objective 3). We have established protocols for monitoring changes in forest cover, large mammal populations, intensity of human activity and waterbirds. These comprise some of the most significant parts of the biodiversity in the landscape and an indicator of threats to its sustainable management. Communities rely for almost all of their protein from wild sources: fish and bushmeat with fish being the most

important. Offtake monitoring program provides clear indicators of variation in abundance of these two food sources. This will provide an early warning system if over-exploitation reduces food for communities or indicate if the implemented community management system has increased availability (and therefore wildlife densities) of these resources.

The list below summarises the main activities which have contributed to the success of our program:

- a) Preparation of a participatory strategy incorporating existing and reinforcing degraded traditional management systems to reduce threats to natural resources and human welfare.
- b) Development of participatory management planning including participatory mapping of traditional community territories.
- c) Creation of community and women's natural resources management committees and community identification of internal regulations for local natural resource management in all reserve villages.
- d) Development and implementation of an education and awareness-raising program across LTCR and landscape to inform communities of their access and usage rights over natural resources, the law regarding natural resources and best practices to reduce unsustainable use of natural resources. Monitoring of effectiveness of education program.
- e) Training and implementation of a law enforcement program to improve local access to wildlife and to reduce the illegal commercial bushmeat trade: over 70 AK-47 rifles, 700 rounds of military ammunition and two grenades seized.
- f) Increase of logistics capacity through training and improvements to infrastructure and equipment.
- g) Increase of technical capacity of socio-economic, biological and education teams through training and mentoring.
- h) Implementation of alternative livelihoods to provide alternatives to unsustainable practices for local communities.
- i) Implementation of large mammal and human activity monitoring program indicating gorilla, chimpanzee and elephant populations are probably stable (or increasing in some cases).
- j) Implementation of bushmeat and fisheries monitoring program.
- k) Monitoring of waterbird populations for adaptive management and avian influenza.

## **2. Major Accomplishments and Results**

The Strategic Objective of CARPE is to reduce the rate of forest degradation and loss of biodiversity through increased local, national, and regional natural resource management capacity in nine central African countries.

IR 1. Indicator 1. Number of landscapes and other focal areas covered by integrated land use plans. In PMP: process convened and advancing, none ready to be implemented in LTLT by end FY06.

IR 1. Indicator 2. Number of different use zones (e.g., parks & PAs; CBNRM areas; forestry concessions; plantations) within landscapes with sustainable management plans.

In PMP: one CBNRM in which LUP process is convened.

### *Major accomplishments*

- a) *Participative community management.* Development of participative management of traditional community territories in Lac Télé Community Reserve (LTCR) and periphery (described in more detail below as a success story). This has been the greatest achievement in the CBNRM zone of LTCR and the wider landscape of LTLT and will play a key part of the sustainable management plan for this reserve (IR1.2) as well as contributing to our

knowledge of the landscape to aid macro-zoning (IR1.1). This land use planning has covered adjacent un-zoned parts of the landscape.

- b) *Education program.* Development and implementation of an effective education program. This program has been very active in LTCR and periphery and has been effective in educating communities about sustainable use of natural resources and encouraging development without increasing forest degradation and loss of biodiversity (IR1.2). This program has also acted as the eyes and ears of the project. Amongst other activities, education missions to over 40 villages (with a population of over 17,000 people) in LTCR and surrounding landscape, present an opportunity for communities to discuss natural resources management problems with the WCS LTLT project. They can indicate to us informally (formal discussions take place with the socio-economic team as indicated below) how they view the development of participative mapping and management. These missions are based around a theme which the education team discusses with communities (e.g. setting of bushfires, rights over natural resources, etc.). We made regular (twice weekly) broadcasts on radio from Epéna which reaches approximately 5,000 people in and around LTCR where issues ranging from topics on natural resources management (e.g. reducing bush fires in dry season) to biodiversity (e.g. the first hippopotamus to be seen in Epéna in 40 years) are discussed. We organised meetings with regional authorities in Impfondo, including security forces, to encourage better management of military weapons and improve understanding of the value of national wildlife laws. We assess people's understanding of the issues we discuss with them to monitor the effectiveness of the education program. We hope that over time we will observe an improvement in people's understanding of sustainable use of natural resources. Overall, these activities have resulted in most people, for example, knowing their rights over natural resources and being able to identify protected species. Most importantly, it has created open and constructive dialogue between communities and the project.
- c) *Training and capacity building.* Throughout the program we have continually assessed our staff and identified skills and capabilities that needed to be reinforced to ensure that the USAID-CARPE strategic objective is attained. (i) A workshop on socio-economic methods was held at the project base at Epéna in November 2005. All WCS-Congo socio-economists and three members of CFC, a local NGO, participated. The three WCS LTLT socio-economists also received intensive training for bushmeat and fisheries monitoring as well as alternative livelihoods training. (ii) Our three biologists have received annual training and support in large mammal monitoring protocol including survey planning and also training in water and forest bird identification. (iii) The newly developed education team took part in a WCS-Congo education workshop in Epéna along with all WCS national educators and two members of CFC. Nazaire Massamba, the WCS LTLT assistant manager and senior educator, received three months of training in film-making and editing (with INCEF) to prepare education films for use in the community. (iv) Logistics in the LTLT landscape are a major constraint on effective management as there are virtually no roads and almost all transport for missions and cargo is by boat. Training of our logistics team in outboard motor and generator maintenance has saved huge sums of money in repairs, delays in waiting for parts and delayed missions. This, along with an improvement to our fuel storage capacity and repairs infrastructure, has provided an important improvement in basic functioning of this conservation program.
- d) *Law enforcement program.* Development and implementation of a law enforcement program to reinforce the capacity of government staff to manage the wildlife of the landscape and to encourage sustainable use of natural resources by local communities whilst reducing unsustainable external demand (IR1.2). This program has been a model of integration of natural resources law enforcement into a community zone. As the law enforcement team is small (3 MEFE staff and 7 ecoguards) and works across a huge area (c. 10,000 km<sup>2</sup>) in which the logistics and access are complicated, it is vital that the

protection staff are accepted and respected by local communities to function adequately. To this end, they have concentrated on managing vehicles and cargo boats on main access routes (Impfondo – Epéna road and Likouala-aux-Herbes River). This has ensured that the unsustainable commercial bushmeat trade has been greatly reduced, but that direct confrontation is avoided with communities who consume bushmeat locally (i.e. not commercially). As most of our efforts have been targeted against non-local hunters and traffickers, the population does not harbour resentment against the team. Thus the ground has been laid for constructive implementation of local participative sustainable management of natural resources by the population in collaboration with the authorities. This has increased the capacity of the government and communities to work together to manage natural resources from a point before this USAID-CARPE funded phase at which there was no cooperation.

- e) *Large mammal monitoring.* We have implemented an effective large mammal (gorillas, chimpanzees and elephants) and human activity monitoring program for LTCR and a large part of its periphery in the Bailly swamps. The LTLT swamps in Republic of Congo hold one of the highest densities and most secure gorilla populations in the world. As the swamp forests are so inaccessible, not only is logging unlikely to take place here and access for hunting is difficult, but Ebola has also not yet been found east of the Sangha River (west of the LTLT landscape). To ensure that the effectiveness of our conservation activities can be assessed and this very important population successfully managed (IR1.2), we have calculated baseline estimates of wildlife densities (3 adult gorillas km<sup>-2</sup>, from the monitoring program (see MOVs in AR). The most important zones for gorillas are in swamp forest adjacent to *terra firma* mixed forest in LTCR and in the Bailly swamps. This has also shown that the intensity of human activity in the forests is related to the density of the human population. Participative micro-zoning with local communities and subsequent conservation activities in the landscape will be linked to our knowledge of wildlife distributions and the intensity of threats to them (IR1.2).
- f) *Fisheries and bushmeat monitoring.* Communities rely for over 90% of their protein from natural sources: fish (>90%) and bushmeat (5%) in much of the swamp forest of the landscape. As these resources have been unmanaged until recently, we have implemented a fisheries and bushmeat offtake monitoring program. This will enable us to see if these resources vary in abundance seasonally and/or annually and monitor whether the land use planning and conservation activities have been effective or if there is still unsustainable exploitation of these resources (IR1.2). Already we have been able to calculate the minimum quantity of protein available in the study villages (see MOV in AR). The initial estimates vary between 35 and 100 g of protein available in a village per person per day. This is a potentially very useful estimate which will prove a useful tool for adaptive management including assessing changes in food availability for communities.
- g) *Alternative livelihoods.* Throughout this program we have been working to develop suitable alternative livelihoods for communities in the landscape. This has been marked by some success in training people in constructing traditional hives (to provide alternative sources of revenue and reduce cutting of trees for honey); development of a pilot *metayage* (small scale livestock loans) program; and we carried out trials of a fast-growing strain of manioc which could be grown in the short low-water season. The traditional hives have been successful as they are easy to construct and require little maintenance. However, the individuals who took part in the training have constructed few further hives independently and the relatively large quantity of honey that has been produced has been consumed locally rather than being sold for profit. It is possible that increased monitoring by WCS would have increased the expansion of this program. *Metayage* has been successful and popular but remains at pilot levels. The appearance of avian influenza in Africa created problems as we were not able to import domestic fowl locally because of the perceived risk of spreading the disease. The fast-growing strain of manioc proved successful and

certainly produced manioc earlier than local strains. However, it was clear from inspection of some of the fields used by local farmers in this study that forest had been cleared for this study. So this particular activity has not been continued.

- h) *Waterbird monitoring.* The year 2006 marked ten years of waterbird monitoring in LTCR and periphery. Appropriately therefore, this year the value of long term monitoring programs has been demonstrated by the appearance of avian influenza (AI) in Africa and international interest in monitoring the spread of this disease. We are now in a position to assess rapidly any report of this disease in the landscape which indeed we have been able to do to this year. This has helped us prepare for managing any impact of AI on local communities and their livelihoods. Additionally, because of our successful management of this monitoring program, additional donors are asking us to expand it to increase surveillance for this disease.

### **Success story – participative management of traditional community territories in Lac Télé Community Reserve**

A primary goal of WCS in the ROC segment of the LTLT landscape is the development of participative community management. In and around the periphery of LTCR, the sole existing zone in the segment, there are approximately 17,000 people. 90% of the population are Bomitaba, the indigenous people of the area. In each village there are traditional but degraded structures based on family lines to manage natural resources. These families in the communities not only already have an interest in managing these natural resources, they also have the authority to motivate and encourage community members to exploit natural resources sustainably. This is why we preferred to build organically on pre-existing traditional systems for development of participative management of natural resources than to introduce a non-indigenous program.

Each family group or lineage has ancestral rights over traditional community territories in the reserve and landscape for use of natural resources such as fishing, hunting and agriculture, these rights have become eroded over recent years but are still recognized. Our program identified the family lineages and mapped the traditional territories. We visited each family group in the reserve and noted down details of traditional territories, including the borders and also the territory's history. It was important to note the history to facilitate dispute resolution between neighbouring communities and to increase the legal backing for the inclusion of each territory into the management plan. Some territories could be mapped adequately by hand on large scale maps, but where necessary we also ground-truthed the limits of these territories with families. We noted the different zones within each territory and their use for different activities; most notably fishing, hunting and agriculture.

Each family group has nominated an individual to be a member of their village's natural resource management committee. These committees will make recommendations for local internal regulations in community natural resource management plans and will communicate problems and information to LTCR management. Alongside these, each village will have a women's natural resource management committee, functioning along similar lines, which will provide input on the different requirements of women. Each community natural resource management plan incorporating customary law will be integrated into the reserve and peripheral zones management plans, with the agreement of each community. Direct participation of all communities in development of community management plans will provide a foundation and legitimacy to the land use management plans. The rights and natural resources of each community will thus be protected and promoted for their use, and non-locals and people using the resources unsustainably will be better discouraged and sound management fostered.

We have received many comments from local communities on this program. Many have been very positive: people feel that their ancestral lands, rights and natural resources are being returned to them after a period when their authority had been eroded (due to various governments:

colonialism, post-colonial one party socialism, civil war). Importantly it has also brought communities and the WCS - LTLT project closer; as we listened to each family during this study, not only are people more confident in asking questions of the project, but they are also aware that the project is there to work with them. Development of dialogue between the project and communities has been essential for attaining the goals and objectives of the USAID-CARPE funded program.

This program has been very intensive and has occupied our socio-economic team (Faustin Otto, Gerard Bondeko and Roger Mobongo) for almost two years. As habitat on the periphery of the reserve is similar to that within, human activities such as fishing, hunting and agriculture take place irrespective of reserve boundaries. The mapping program has therefore covered traditional territories which lie both within and outside the reserve. This has enabled us to establish participative management of both the reserve and landscape. This program has also been an important experience for the project and its socio-economic team: they are now experts in this field and we will expand a revised version of the participative community mapping program into the wider landscape.

### **3. Conclusions**

The view of USAID-CARPE to develop conservation beyond the traditional boundaries of protected areas is to be lauded. People and wildlife do not exist in splendid isolation and this has been demonstrated in numerous studies worldwide. If conservation is not enacted in the wider environment, degradation of the forests, the natural resources upon which people rely and the wildlife will be inevitable. This process has included increasing national and local capacities to manage forests, an essential part of effecting conservation in the landscape as a whole. Although when assessed at face value, the improvements of the capacity of CARPE range states to manage their natural resources may seem moderate, when viewed as part of a long term program it is impressive. Training of many individuals will be necessary to produce a small number of good natural resource managers. With time, from this cadre, a few leaders will emerge to drive conservation in a region where talent is sorely needed.

The partnership across the LTLT landscape has been divided by international and biogeographic boundaries. WCS and WWF in the landscape have good relations, but there have been great practical difficulties up until now for close collaboration in such a huge landscape with virtually no transport infrastructure. This has limited joint management of cross-border problems, exchange of information and standardisation of survey and monitoring techniques. The ROC segment of the LTLT landscape is also contiguous with the TNS landscape, with which it has many common threats and management, cultural and biogeographical relationships. Although the landscapes were created and established at the beginning of this phase, this is an aspect that the USAID-CARPE should review in terms of ensuring inter-landscape synergies.

The planning and reporting required by USAID-CARPE are logical, systematic and useful and require efficient allocation of time once established. The monitoring and work planning matrix has evolved substantially during this CARPE phase and is a useful, practical planning tool with which both partner and donor can assess requirements for and monitor progress towards objectives. The use of the MOVs as part of the monitoring is excellent and increases time spent on productive management. Comparison of USAID-CARPE reporting requirements compared to those of similar potential donors shows how efficient this system is. A possible improvement, as suggested in the AR, would be to provide a relationship between MOVs and targets listed in the benchmark.

A possible review of efficiency of the different programs across Central Africa could assess investment per hectare alongside progress towards the different benchmarks. This could review whether the cost of conservation varies between habitat types and countries as well as investigating the effectiveness of the various implementing partners and their programs.

#### **4. Lessons Learned**

An important lesson has been learned about the cost of conservation when working with communities. The communities in a large part of the ROC segment of LTLT are indigenous and few immigrants live in the interior of the landscape. These people hold usage rights over traditional territories and these must be understood to manage the natural resources therein. The program to establish participative community management here has required substantial investment of personnel and time. This type of management is necessary in most populated landscapes and reducing investment in the process to establish this will result in ineffective and unpopular management systems. Community conservation in such an area is therefore time-consuming and relatively expensive to implement. However, it may in the long term be more cost-effective as community participation may result in some of the management workload being borne by local management structures. The initial outlay and relatively long development period for a community conservation program must therefore be taken into account when planning conservation for inhabited zones.

The success in developing participative community conservation in the ROC segment of LTLT can be partly attributed to three main factors. Firstly, the proportion of indigenous people within the overall population is high, over 90%. They also have traditional family rights over community territories. Thus, communities here have a strong incentive to manage their natural resources sustainably for the future. Secondly, the proportion of protein derived from fish compared to bushmeat or other sources is high, over 90%. Although fisheries are not well studied in Congo, it is possible that they can sustain a higher offtake rate than large mammal populations. This permits more people to live off a smaller food resource base. People in the landscape also tend to have a preference for fish over bushmeat. Thirdly, the swamp forests of the landscape are extremely difficult to penetrate. Hunters do not go far into the forest for this reason. The timber quality is low and logistics are difficult so timber companies are not yet interested in exploiting these forests, thus it is not particularly fragmented. There are few access routes to and from the heart of the landscape (two roads and one river) which reduce the volume of the unsustainable commercial bushmeat trade. These three factors together provide a strong foundation for the implementation of a successful conservation program in the landscape. However, if this program is used as a model for community conservation elsewhere, the potential for success may be tempered by the presence or absence of factors similar to those mentioned above.

We have had some important success in development of alternative livelihoods, but greater progress would have been desirable. The activities which we implemented had good initial success. However, our monitoring of the continued success of these activities was not as intensive as we would have wished. Thus, the individuals, whom we had supplied with livestock and training, did not feel sufficiently motivated to develop and expand these activities to make a significant difference to their lives. For alternative livelihoods to succeed, monitoring of each activity is necessary to understand the reasons for success or failure and most importantly to encourage success.

#### **5. Recommendations**

A major constraint to conservation in ROC is the lack of motivation of the ROC government to invest in conservation and natural resource management. High level political engagement by donor governments and other bodies has already aided resolution of some political problems related to conservation management and implementation of this and other USAID-CARPE funded programs. This effort must be continued to maintain the ROC government's focus on increasing investment in conservation. This will become more important as the ROC government builds relationships with other countries who are more interested in energy than the environment.

## **6. Annexes**

- a) Please refer to the [LacTele - ROC, WCS, FY06, Equipmt-DisposalLetter](#) for the list of equipment

*Annex II – disposal plan for items in Annex I above*

- b) Please refer to the [LacTele - ROC, WCS, FY06, Equipmt-DisposalLetter](#) for the disposal plan

*Annex III – GIS files of landscape zones and limits*

These shape files will be sent directly to Jackie Doremus as requested.