Conservation of Termit and Tin Toumma (Niger)

Annual Report for 2007 of the Sahara Conservation Fund

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Antilopes Sahélo-Sahariennes

SAHARA CONSERVATION FUND

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Front cover: Addax in Tin Toumma © Thomas Rabeil/SCF

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SAHARA CONSERVATION FUND

SCF's mission is to conserve the wildlife of the Sahara and bordering Sahelian grasslands.

Our vision is of a Sahara that is well conserved and managed, in which ecological processes function naturally, with plants and animals existing in healthy numbers across their historical range; a Sahara that benefits all its inhabitants and where support for its conservation comes from stakeholders across all sectors of society.

To implement our mission, we forge partnerships between people, governments, the world zoo and scientific communities, international conventions, non-governmental organizations and donor agencies. A powerful network with a common goal – the conservation of deserts and their unique natural and cultural heritage.

If you would like to know more about our work and how to contribute to our projects, please contact us at scf@bluewin.ch We would love to hear from you!

You can read more about SCF's projects and programme by visiting our website at
www.saharaconservation.org

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Acronyms

AFVP:	*Association Française des Volontaires du Progrès*
AVSF:	*Agronomes et Vétérinaires sans Frontières*
CMS:	Convention on Migratory Species (the Bonn Convention)
CNEDD:	*Comité National pour l'environnement et le Développement Durable*
CRACGRN :	*Cellule de Recherche d'Action Concertée sur la Gestion des Ressources Naturelles*
DED:	*Deutscer EntwicklungsDiens* (German Development Service)
FFEM:	*Fonds Français pour l'Environnement Mondial*
GIS:	Geographic Information System
IUCN:	World Conservation Union
ME/LCD:	*Ministère de l'Environnement et de la Lutte Contre la Désertification*
PSSP:	*Projet de Sécurisation des Systèmes Pastoraux*
SCF:	Sahara Conservation Fund
SGBD:	*Systèmes de Gestion des Bases de Données*
SNV:	Netherlands Development Organization
SSA:	Sahelo-Saharan Antelopes
UNDP:	United Nations Development Programme
ZFD:	*Zivil Friedens Dienst* (Service Civil de la Paix)

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- African Parks Foundation
- Conservation International
- Convention on Migratory Species
- *Fonds Français pour l'Environnement Mondial*
- Gilman International Conservation
- Iara Lee & George Gund Foundation
- Philadelphia Zoo
- Philadelphia Zoo Docents Association
- Sahelo-Saharan Interest Group
- Saint Louis Zoo
- Smithsonian's National Zoo

1. Introduction

The Termit/Tin Toumma region of Niger (Fig. 1) harbours the last remaining viable population of addax in the world. Fieldwork carried by the Sahara Conservation Fund (SCF) since 2002, including a recent aerial survey, indicates a population of around 200 animals. Apart from the Niger population there have been only sporadic reports of small numbers of addax in Chad and Mauritania. Elsewhere in the Sahara the species is extinct. Saving the addax in the wild depends on action taken in Niger. Its successful conservation will benefit a whole range of associated desert habitats and species, including the dama gazelle, dorcas gazelle, Barbary sheep, spurred tortoise, cheetah, Nubian and Sudan bustards. It will also bring new opportunities to the people of the region.

Since 2006, SCF has played a key role in the implementation of a conservation programme focused on the Termit region funded by the Government of Niger, the Convention on Migratory Species (CMS), the *Fonds Français pour l'Environnement Mondial* (FFEM), the *Association Française des Volontaires du Progrès* (AFVP) and the Sahara Conservation Fund (SCF). The project is part of Niger's Sahelo-Saharan Antelopes (SSA) initiative under the CMS Concerted Action for Sahelo-Saharan Antelopes initiated in 1998.

During Phase 1 of the project (2006-2008), SCF is specifically mandated to carry out the following activities:

- establishment of a Termit/Tin Toumma protected area and management plan;
- establishment of a programme of wildlife inventory and ecological monitoring;
- communications and outreach, especially at international levels.

SCF employs three people as part of the Termit/Toumma project team: a French Technical Adviser (Dr. Thomas Rabeil), a Nigerien Technical Assistant (Abdoulaye Harouna), and a local driver and mechanic (Ahmed Oumarou). They are based in the provincial capital of Zinder. Technical support, backstopping and support with international relations are provided by SCF's Chief Executive Officer based in Switzerland. Since November 2006, a large part of the Termit/Tin Toumma region has been surveyed by SCF teams and numerous local people have been consulted about the area's natural resources. Data obtained on ecology and human land-use have allowed for a better understanding of the natural and social dynamics of the zone. The approach taken for conserving the area and its species is both scientifically systematic and socially integrated.

Three components are deemed vital for the creation of a viable protected area: the ecological aspects, the local community aspects, and lastly, the legal aspects. For a protected area to succeed, its ecological characteristics should be well understood and a programme of monitoring established. Equally, regarding the activities which are compatible with the protected area's objectives, local communities living in the area should be intimately involved in its planning, establishment and management. Finally, the project must take place within a legal framework which will permit the process to be ratified and the protected area officially gazetted.

2. Ecological characteristics of Termit/Tin Toumma

Given that ecological monitoring comprises the majority of SCF activities to date, this aspect will be discussed in some depth. Data obtained during the course of monitoring will underpin the case for classification of the zone as a Protected Area. The integration of the local community, and various legal aspects will also be discussed.

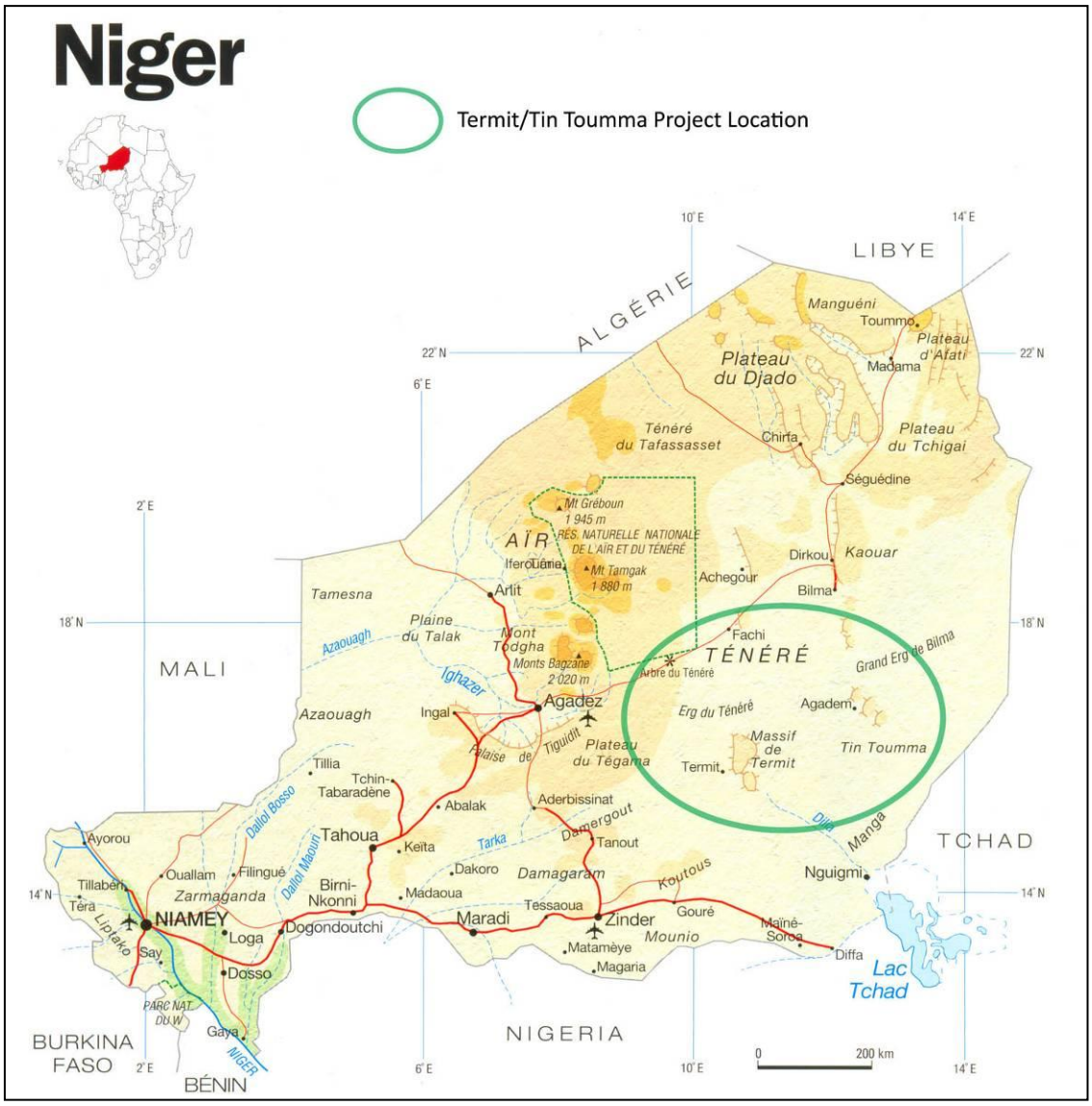

Fig. 1 Termit and Tin Toumma project location

Many fieldtrips took place throughout 2007 with the aim of gathering information on ecological resources and land-use in the zone. This information helps improve understanding of the dynamics of the ecosystem, whether related to fauna, flora or people.

Within this framework, the SCF team developed methodology to characterize the biological resources and analyze their dynamics. This methodology relies on using modern tools and techniques and has resulted in the development of several databases, mostly spatial. The Cybertracker programme used serves mainly to configure the mode of information gathering, while a geographic information system (GIS) is used to integrate the information in time and space. Other

tools, such as statistics and GPS tracking devices, were also deployed towards reaching the same objectives.

For the Cybertracker programme, 4 sequences were developed:

i. General ecological monitoring of the principal animal species, their habitats, and human use. This sequence was developed for use by project scientists undertaking the ecological monitoring;
ii. Monitoring of the avifauna, for use by the scientists and especially the project ornithologists;
iii. Storage of aerial census data in the zone. This sequence was targeted at scientists experienced in undertaking this type of exercise;
iv. A sequence for the use of local community members. This sequence is similar to the first but simpler, including more symbols so that participants who have no French language skills can collect and access the data.

Thanks to these Cybertracker sequences more than 5000 data entries were collected, providing the following information:

- The major large scale landscape units of the study zone are known and are being described (Fig.2 and Fig. 3). This will be the object of an experts meeting in 2008 to validate the information, establishing a basis for the management of the future reserve;
- All large mammal species encountered [Appendix 1] were recorded directly (direct observations, photo traps) or indirectly (spoor, scats, bones, etc.);
- Over 80 resident and migratory bird species were recorded (Appendix 2);
- A herbarium was established comprising 90 species of plants (Appendix 3);
- The plant communities of the zone are better known following a study undertaken by the University of Niamey;
- A specific study on the African spurred tortoise has increased understanding of its distribution and ecology.

Regarding cartography and GIS technology, more than 50 maps are now available to illustrate various technical aspects of the project. See Fig. 4 for land and aerial surveys that took place during 2007.

Fig. 2 Tin Toumma

Fig. 3 Termit

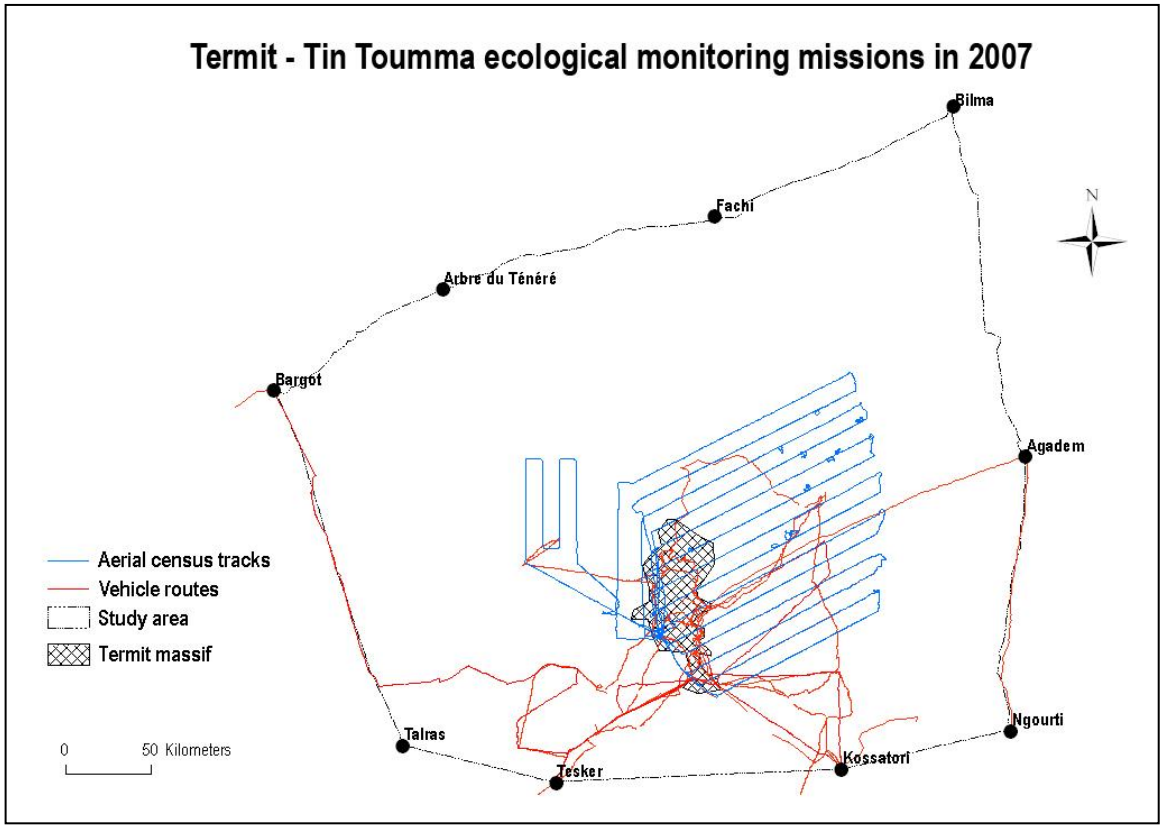

Fig. 4 Termit/Tin Toumma monitoring fieldwork 2006-2007

During 2006-2007 five large scale landscape units were surveyed:

- the *dillias* or fossil wadi valleys (Kandil Bouzou, Achetinamou, Kossatori, etc…)
- the Termit Massif
- the Tin Toumma desert
- the fixed dunes of the southern Sahelo-Saharan zone
- the barchans to the north of Egaro

The Gadafawa zone, as well as the foothills of the Bagzane mountains to the north-west of the region were also traversed.

Figures 5 and 6 illustrate that certain zones appear especially suitable for dorcas gazelles (*Gazella dorcas*) or Nubian and Sudan bustards (*Neotis nuba, Otis arabs*) (Fig. 9). These zones correspond to particular habitats where specific management units will be established together with an adequate action plan for their conservation and management. These management units will allow for study and analysis of yearly and multi-year population fluctuations, and for implementing action necessary to maintain wildlife populations and facilitate their expansion. From the available initial information and given the current low densities of dorcas gazelles and bustards, which are nonetheless the most abundant wild species in the zone, it is currently not possible to predict which factors may be influencing their numbers. As a result, no off-take of these species, illegal of otherwise, should be allowed for the moment. The focus should therefore be establishing protection with the participation of the local population and the relevant wildlife services.

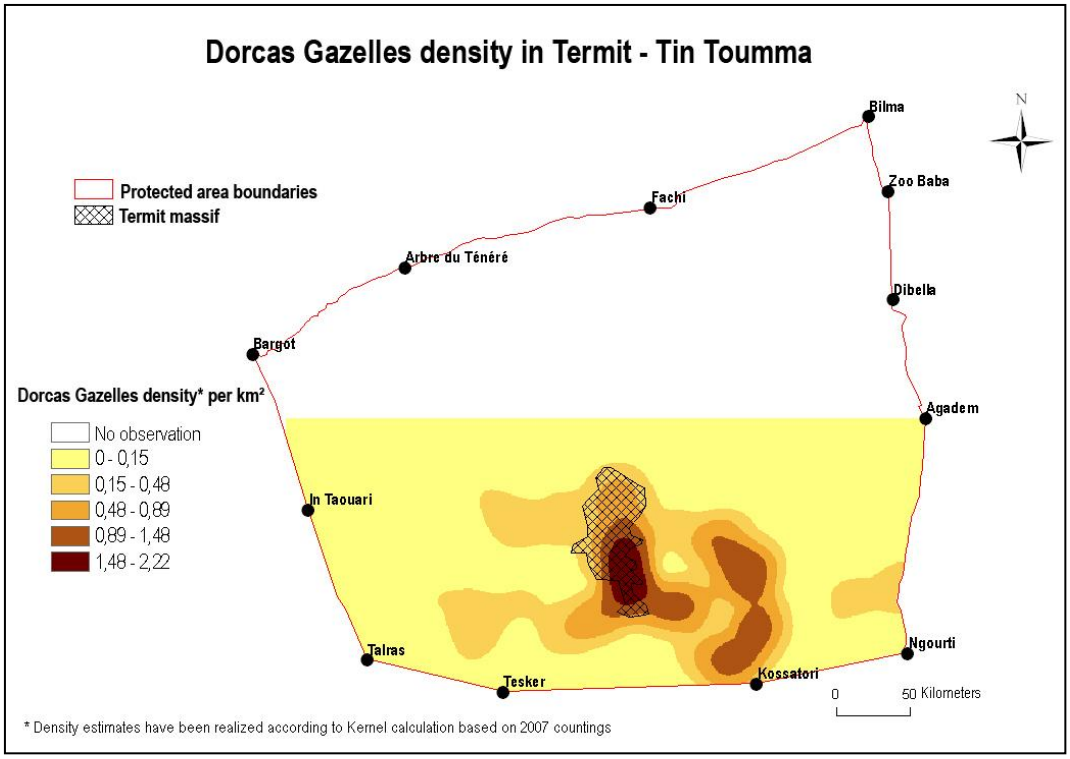

Fig. 5 Relative density of dorcas gazelles in Termit/Tin Toumma

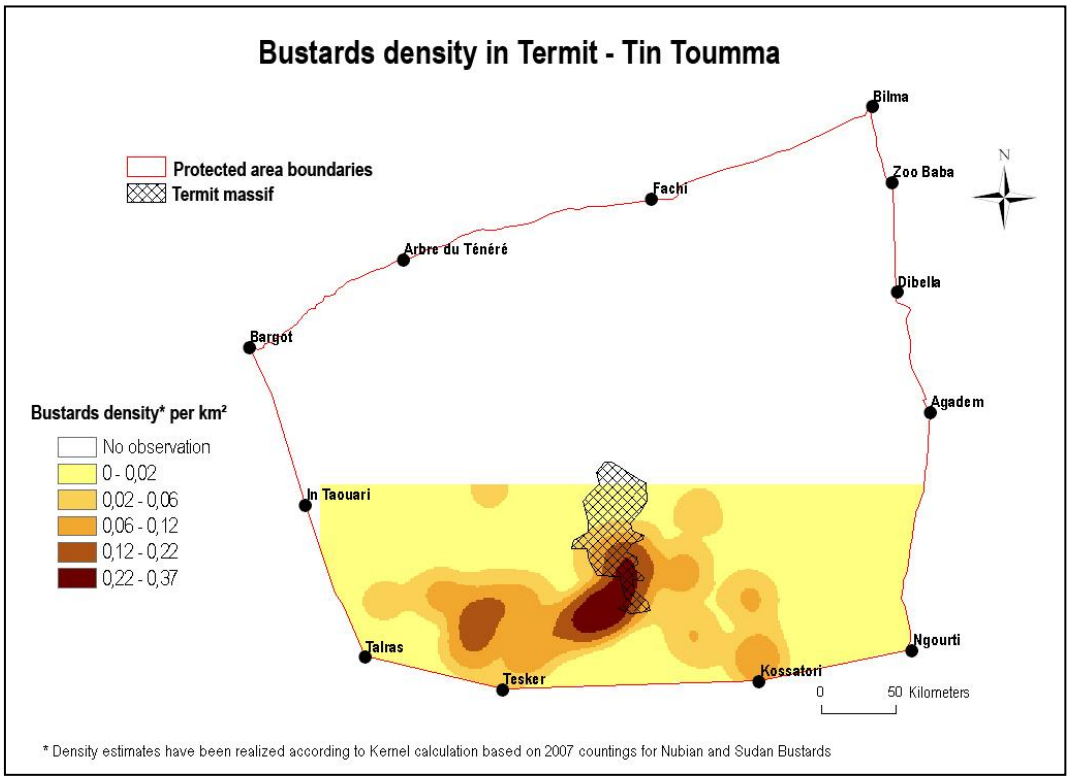

Fig. 6 Relative density of bustards in Termit/Tin Toumma

Figure 7 shows the density of addax (Fig. 8) in a well-defined zone which can be considered as a preferred spatial unit for this endangered species. The density was calculated from a polygon which represents the core of distribution observed for addax over ten years. Observations since 2001 have allowed the construction of a convex polygon (convex hull) and calculation of the density within this.

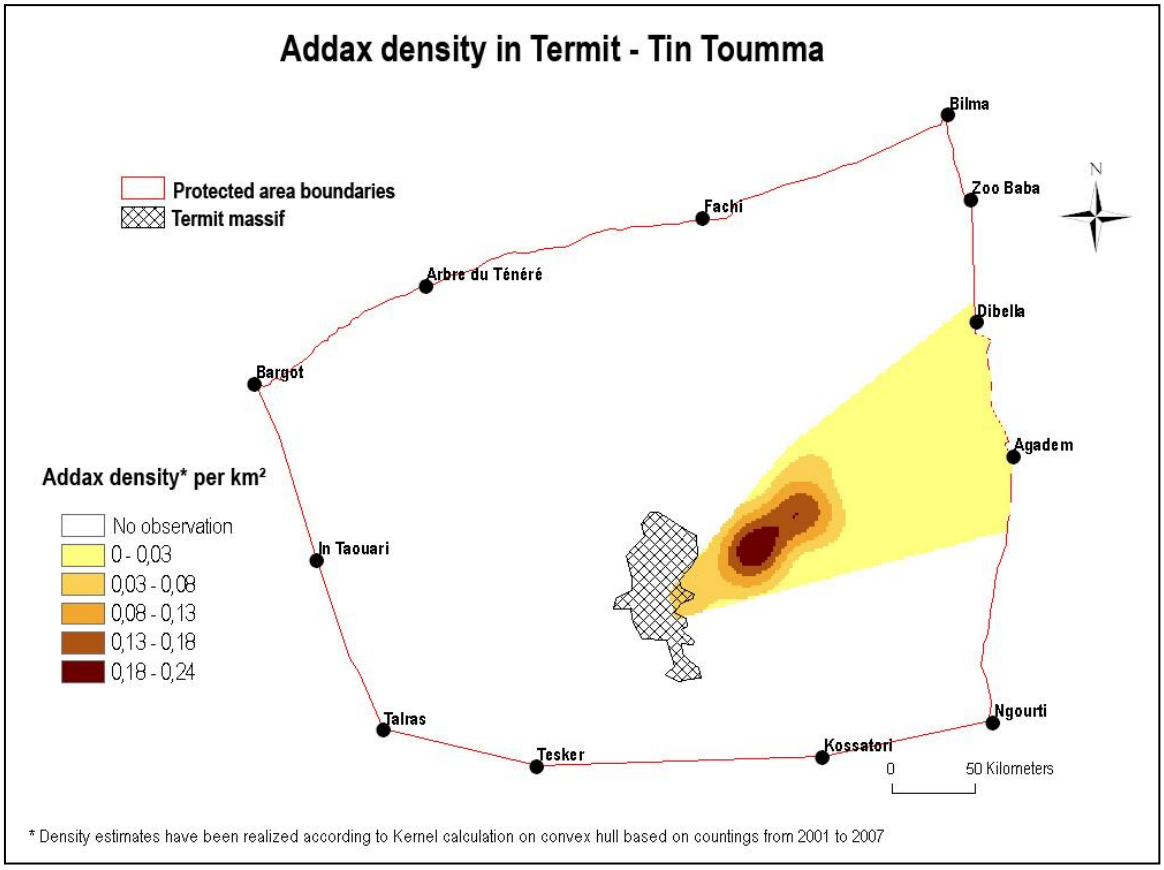

Fig. 7 Relative density of addax in Termit/Tin Toumma

To the south, addax distribution appears to be influenced by the presence of humans and their camel herds (see Fig. 15), and to the north by a line of traditional wells stretching from the north of the Termit Massif to Ounissoui and Dibella in the east, corresponding to a caravan trade route to Bilma. To the east of the observed addax range, there does not appear to be any major obstacle, establishing in theory at least a corridor between Niger's addax and those of neighbouring Chad.

Fig. 8 Addax Termit/Tin Toumma

Fig. 9 Sudan bustard Termit/Tin Toumma

During 2007, SCF also censused the carnivores of Termit/Tin Toumma but the data are not yet sufficient to calculate relative densities. Camera trapping is being carried out but as yet data are insufficient to analyze the distribution of the species photographed. However, thanks to this technique we have demonstrated the presence of several sympatric canids, including the common jackal (*Canis aureus)*, fennec (*Vulpes zerda*), pale fox (*Vulpes pallida)* (Fig. 12) and Ruppell's fox (*Vulpes rueppellii*) (Fig. 11), which is not represented in Fig. 10 as it was not observed other than through camera trapping. In cooperation with the Zoological Society of London, Oxford University and the IUCN Canid Specialist Group, SCF is developing a special research programme on carnivores, with an emphasis on jackal predation on livestock.

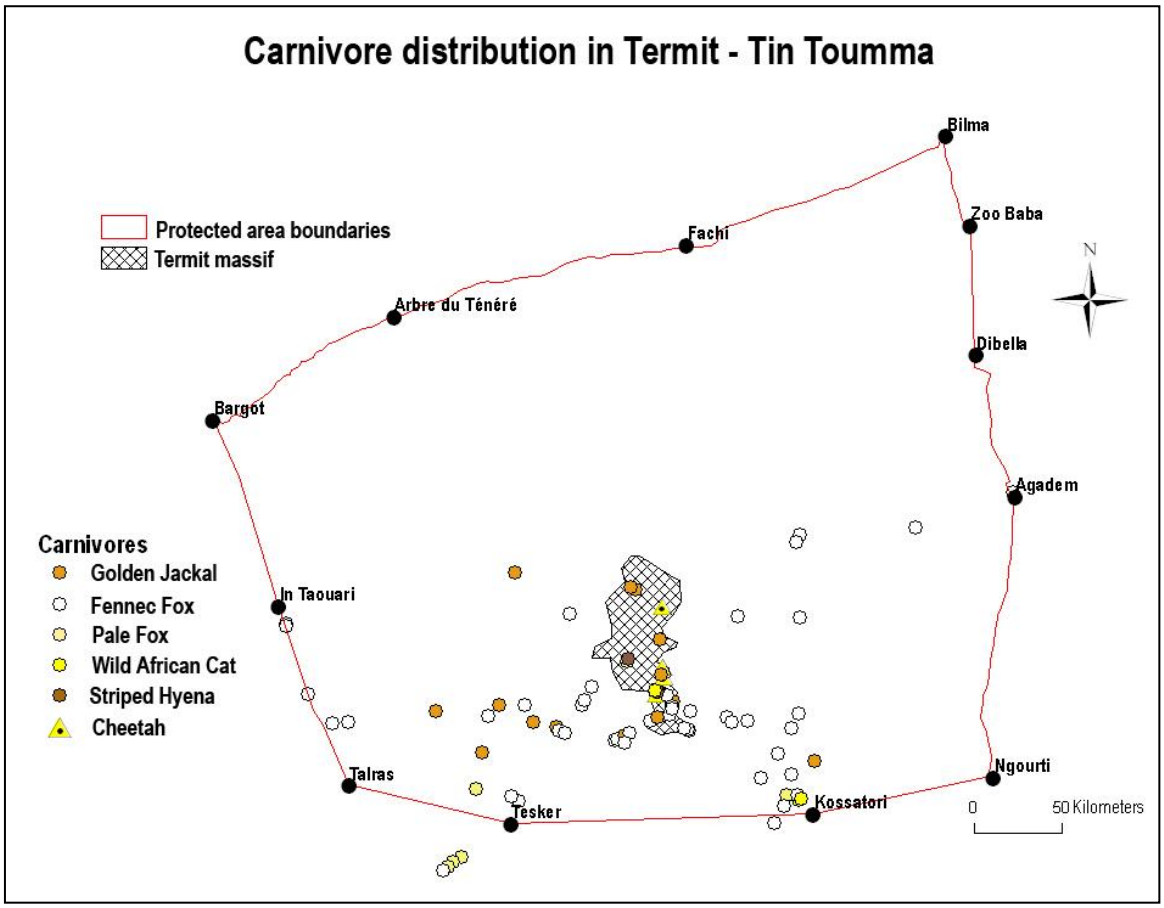

Fig. 10 Distribution of carnivores recorded in Termit/Tin Toumma

Fig. 11 Rüppell's fox Termit/Tin Toumma

Fig. 12 Pale fox Termit/Tin Toumma

Other wildlife species were also censused during 2007. A report on the distribution and habitat requirements of the African spurred tortoise (*Centrochelys sulcata*) is nearing completion by the Faculty of Sciences of the University of Niamey. In addition, Barbary sheep or aoudad (*Ammotragus lervia*) were observed on several occasions and some photos obtained (Fig. 14). Nevertheless, they remain very vulnerable to off-take from local hunters (Fig. 13) in spite of requests from the tribal leaders to protect these animals.

Fig. 14 Barbary sheep trophy Termit

Fig. 13 Barbary sheep in Termit

Dama gazelle (*Gazella dama*) were observed on three occasions and spoor were seen several times. However, the status of this ungulate in Termit/Tin Toumma is particularly worrying. This species is probably very near extinction in this part of Niger. Sightings and evidence of its presence indicate a population of probably less than 10 individuals. The dama gazelle is particularly vulnerable to human pressure and is often subject to poaching. It is much less suited to the rocks of Termit than the Barbary sheep or the dorcas gazelle, and more dependent on water than the latter. Preferring Sahelian habitats it is particularly vulnerable to human presence and pressure.

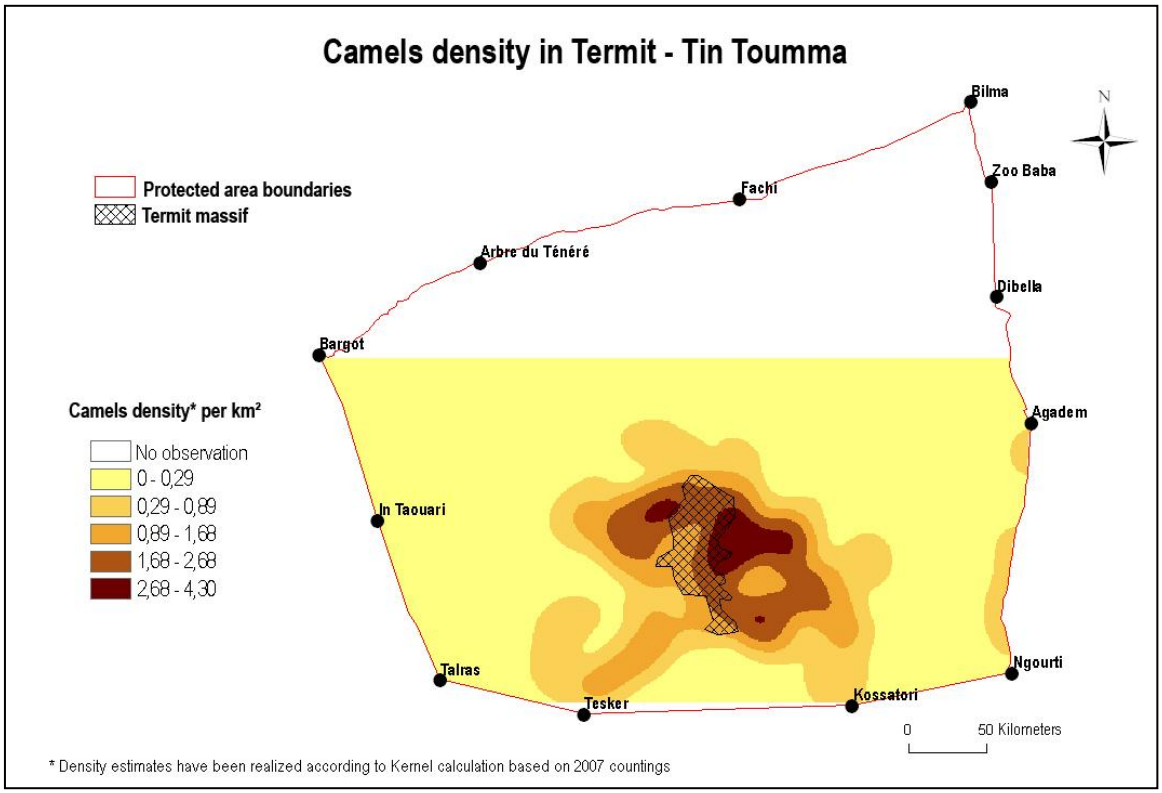

Fig. 15 Relative density of camels in Termit/Tin Toumma

To assess the distribution, abundance and interrelationship between wildlife and domestic livestock in the area, it is also censused on a regular basis (Fig. 15). It important to note that the camel counts which resulted in Fig. 15 do not include the herds present around the various wells visited. It shows that the distribution of camel herds is often comparable to that of dorcas gazelle and may demonstrate that pastoralist activity at the levels observed is not *per se* incompatible with the presence of this wild ungulate. On the other hand, the abundance of livestock, synonymous with a strong human presence, appears to inhibit the occurrence of addax. The project, having adopted an integrated approach, should try to find an acceptable balance between helping the nomadic population in the development of pastoralism, while conserving species vulnerable to human pressure. To do this, engagement with the local people is fundamental.

3. Establishing the Protected Area

3.1.Determining the boundaries

Concerning the establishment of a viable and effective Termit/Tin Toumma protected area, an important task is to define its boundaries, based on solid criteria such as the distribution of the wildlife and habitats which make this zone unique. Boundaries must also take into consideration human land-use, infrastructure development, etc.

At the ecological level, the best conserved parts of the zone have been investigated, nevertheless, the northern parts still require further work, especially in the context of creating an effective conservation corridor between a future Termit/Tin Toumma protected area and that already established in the Aïr and Ténére (*Réserve Naturelle Nationale de l'Aïr et du Ténéré*). Since the beginning, the project approach has been based on consultations and integration of compatible human activities.

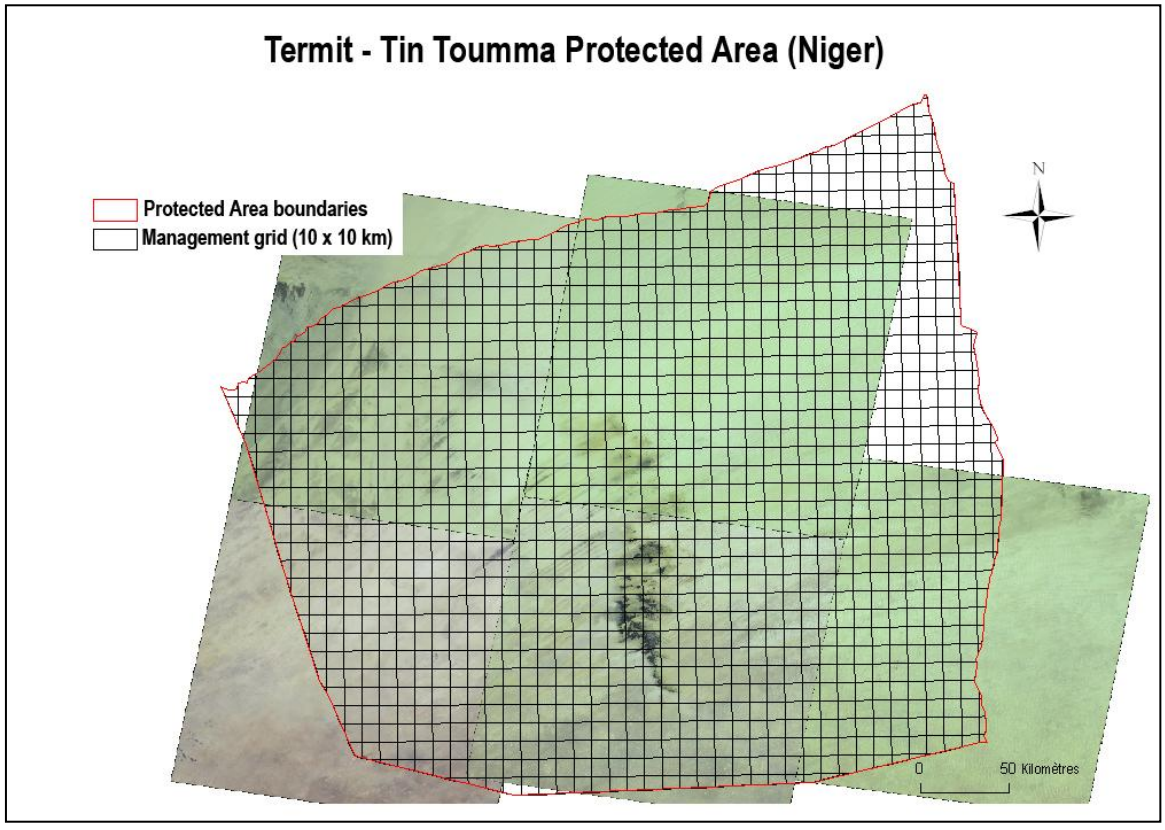

Fig. 16 Proposed protected area boundaries with 10 km² grid overlay

Figure 16 illustrates the proposed protected area boundaries based on ecological and human land-use characteristics. Regarding the conservation and management of the zone, the SCF team is in the process of establishing management units and defining the activities and their frequency necessary for effective monitoring. To assist in planning, a 10 x 10 km grid to help define management units has been established. These management units are generalized and refer to all conservation and development activities which could be implemented in the future reserve. However, much smaller management units are being developed for ecological monitoring, which take into account the habitat requirements of each species. In order to be as precise and exhaustive as possible, this conservation and management tool requires data over several vegetative cycles, i.e. several wet seasons.

In 2007, the project organized a major stakeholder workshop at the well-site of Termit Dolé (The Dolé Workshop), which resulted in the Declaration of Dolé (Appendix 4). The workshop was part of the process to build cooperation for the reserve's establishment and management with the local communities. The community was directly consulted on the best type of protected area to establish and best boundaries to propose. Even though responses were sometimes rather vague, their interpretation seems clear: the boundaries should include the zones where wildlife is present and only activities tied to pastoralism should be encouraged.

To best involve local people in the establishment of the protected area, and with the aim of allowing them to take greater responsibility for the conservation of the zone's ecological resources, we have opted to delegate the task of spreading the message to the traditional authorities themselves. The Dolé Workshop was the opportunity to engage all the local people and numerous visits during the course of our ecological monitoring work have allowed us to consolidate the ties with the local leaders. SCF is also helping the project set up a system of community game guards, by helping with their training and the organization of patrols. Zones have been defined with reference to the tribal groupings, as well as the density and distribution of the principal wildlife species (Fig. 17).

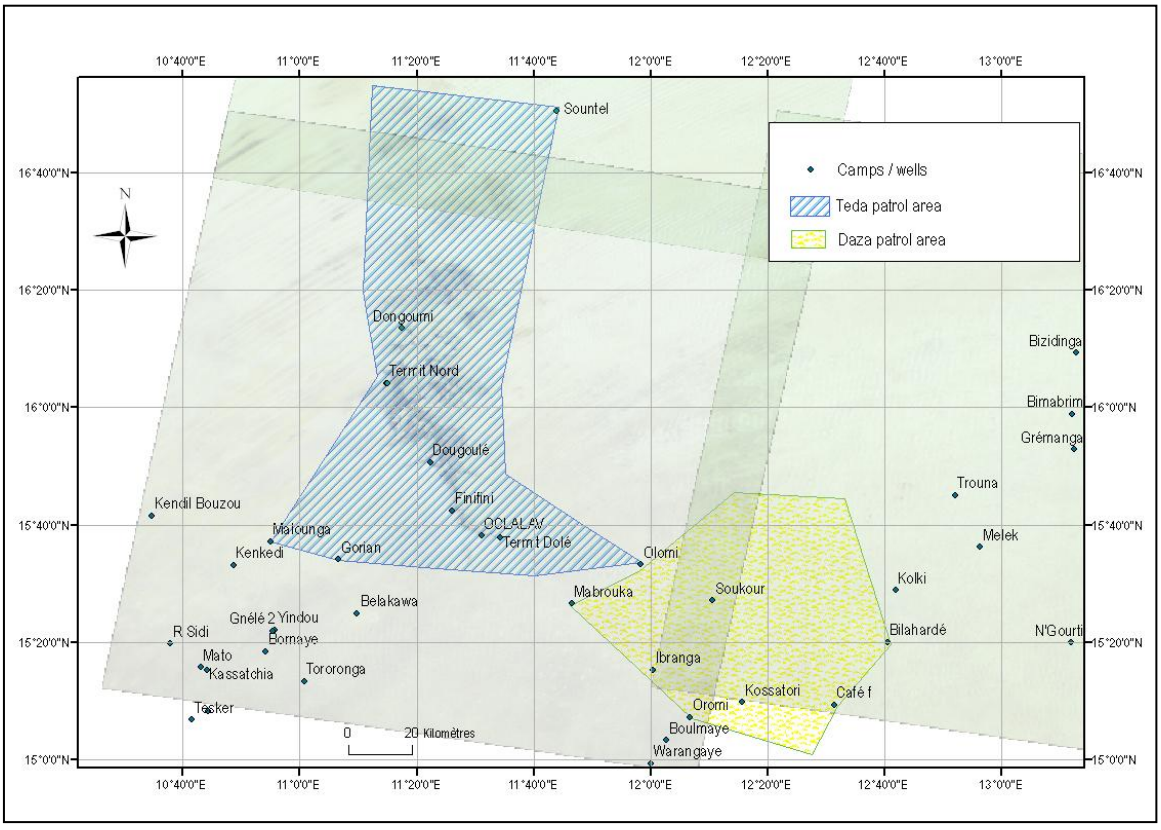

Fig. 17 Patrol zones for community game guards in Termit/Tin Toumma

As well as raising awareness in the local communities during fieldwork, SCF is also in contact with the armed forces based in the communes of Tesker, N'Guigmi and N'Gourti. The security forces are known to undertake a lot of poaching and efforts are underway to stop this and raise awareness of the importance and rarity of the species most threatened. Cooperation so far has been promising, with military leaders signing up the Dolé Declaration on wildlife conservation.

Finally, SCF is collaborating closely with development organizations active in the zone, such as AVSF, SNV, DED, ZFD, GOAL and the PSSP, CRACGRN and COGERAT projects. This is linked to the establishment of responsible tourism, the creation and remit of a communal landowners' commission in the commune of Tesker, gaining a better understanding of the impact of building and maintaining traditional wells tree cover, and finally on the rehabilitation of the cement wells of Tesker, Keltouma and Falassa following catastrophic floods during the 2007 rainy season (Figs. 18, 19). SCF feels that a better understanding of the ecology of the zone, together with the plight of the region's endangered wildlife, will help build a better integrated and mutually beneficial programme of conservation and development.

Fig. 18 Measuring depth of traditional well

Fig. 19 Toubou herder in Termit

3.2.Legal aspects

Concerning the legal aspects of protected area establishment, SCF has made contact with the Nigerien authorities (CNEDD, PADELIA, UNDP) responsible for harmonizing national legislation in the environment sector. Between 2005 and 2006, consultants drafted a decree for setting up a Termit/Tin Toumma protected area. This was recognized as being incomplete, lacking input on the ecology of the zone and a proposed set of boundaries. Nevertheless, the consultants brought together all the texts of environmental laws likely to be relevant to protected area establishment Appendix 5).

For the time being SCF is working to bring together the available documents with the aid of the wildlife authorities of the Ministry of Environment. The establishment of the Termit/Tin Toumma protected area has become a high priority under the impetus of SCF and the SSA project. In the coming months SCF will submit a proposal outlining the best possible case for the establishment of a protected area.

4. Communications

Communication is the third major aspect of SCF's work on the SSA project. A project website has been created (www.ass-niger.org), and SSA project staff have had expert training for updating and managing the site. It is important to note that all the SSA project staff have contributed towards the site's contents, although its design was undertaken by an external expert with input from SCF staff. It is worth underlining that work on the website has been hampered by lack of a reliable Internet connection, something the project hopes to remedy in the near future.

A quarterly newsletter, *Damagram*, has also been launched to communicate project activities locally. A thousand copies of the first two issues were produced and widely distributed with great success. Copies of the bulletin are distributed to ministry staff, project partners and potential supporters, various embassies in Niamey, elected government officials, conservation and development organizations, the local administration and traditional leaders in the Zinder and Diffa regions.

A short, 20" documentary was made of the Dolé Workshop and a longer, 52" film for TV is under preparation. A Nigerien filmmaker, Mr. Malam Saguirou, and his sound technician accompanied the SCF team during an exceptional 10-day mission at the end of the rainy season in September 2007.

The SCF team also communicates during workshops organized by development institutions and projects at the local and regional level, as well as at the international level. Internationally, the project has been focused several times in SCF's international newsletter, *Sandscript*, as well as on the main SCF website (www.saharaconservation.org).

Fig. 20 Project newsletter *Damagram*

Fig. 21 SCF newsletter *Sandscript*

5. Conclusions

SCF has initiated the work of gazetting the Termit/Tin Toumma protected area and has started an ambitious programme of ecological monitoring. It is also actively promoting the amazing characteristics of this zone, which rates so highly for its Sahelo-Saharan biodiversity. This work will continue during Phase II of the project (2008-2010). It is hoped that the reserve will be legally established during 2008 and that its first management plan will be in place. Ecological monitoring, through terrestrial and aerial surveys, will also continue in order to complete the existing databases. Information collected by community agents will be added to the surveys conducted by SCF. This will enable the work of database management and analysis to contribute to science-based management of the Termit/Tin Toumma area.

To establish specific management units and plans for the area's flagship species, such as the addax, dama gazelle and Barbary sheep, targeted missions will be carried out and partnerships with local and international scientific institutions established. For ecological monitoring, work during 2008 will be a significant stepping stone for reaching the programme's global objectives. The acquisition of such vast amounts of data cannot be achieved in just one year, so planned activities will therefore run over the 3 years of Phase II. As the workload grows and the project expands to embrace all areas of its implementation, SCF will expand its team on the ground through the recruitment of project coordinator to assist the national staff seconded to the project. More work is needed on currently understudied groups, for example rodents and bats, as entomological, herpetological and botanical studies.

For communications, SCF objectives are to continue to disseminate the project's progress and findings at both national and international levels through newsletters and the project's website. Lastly, with adequate data in hand, SCF will be in better position to publish its findings in specialized journals and revues.

Progress to date has been more than satisfactory but a great deal more needs to be accomplished for this initiative to achieve its long term goals and provide an effective framework for conserving some of Africa's most charismatic and endangered species.

Appendix 1

List of mammals recorded in the Termit/Tin Toumma region (Niger)

English Name	French Name	Scientific Name	Status in the zone
Scimitar-horned Oryx	Oryx algazelle	*Oryx dammah*	Extinct
Addax	Addax	*Addax nasomaculatus*	Critically Endangered
Dama Gazelle	Gazelle dama	*Gazella dama*	Critically Endangered
Dorcas Gazelle	Gazelle dorcas	*Gazella dorcas*	Threatened
Barbary Sheep	Mouflons à manchettes	*Ammotragus lervia*	Endangered
Cheetah	Guépard	*Acynonix jubatus*	Endangered
Striped Hyena	Hyène rayée	*Hyaena hyaena*	Critically Endangered
Golden Jackal	Chacal doré	*Canis aureus*	Threatened
Fennec	Fennec	*Vulpes zerda*	Common
Pale Fox	Renard pâle	*Vulpes pallida*	Endangered
Rüppell's Fox	Renard famélique / de Ruppell	*Vulpes rueppelli*	Threatened
African Wild Cat	Chat sauvage	*Felis sylvestris*	Threatened
Sand Cat	Chat des sables	*Felis margarita*	Vulnerable
Honey Badger	Ratel	*Mellivora capensis*	Endangered
Common Genet	Genette d'Europe	*Genetta genetta*	Endangered
Zorilla	Zorille de Libye	*Ictonyx libyca*	Vulnerable
Cape Hare	Le lièvre du Cap	*Lepus capensis*	Vulnerable
Four-toed Hedgehog	Hérisson à ventre blanc	*Atelerix albiventris*	Vulnerable

Appendix 2

List of birds recorded in the Termit/Tin Toumma region

Type: R = resident; M = migratory

English Name	French Name	Scientific Name	Type	Abundance (very preliminary)
Sudan Bustard	Grande outarde arabe	*Ardeotis arabs*	R	Fairly common
Nubian Bustard	Outarde de Nubie	*Neotis nuba*	R	Fairly common
Lappet-faced Vulture	Oricou	*Torgos tracheliotus*	R	Occasional
Rüppell's Griffon Vulture	Vautour de Rüppell	*Gyps rueppellii*	M	Rare
Eurasian Griffon Vulture	Vautour fauve	*Gyps fulvus*	M	Rare
African White-backed Vulture	Gyps Africain	*Gyps africanus*	M	Rare
Egyptian Vulture	Percnoptère d'Egypte	*Neophron percnopterus*	R	Occasional
Tawny Eagle	Agle ravisseur	*Aquila rapax*	M	Rare
Booted Eagle	Aigle botté	*Hieraaetus pennatus*	M	Rare
Dark Chanting Goshawk	Autour chanteur	*Meleriax metabates*	M	Rare
Gabar Goshawk	Autour gabar	*Micronisus gabar*	M	Rare
Lesser Kestrel	Faucon renard	*Falco naumanni*	M	Rare
Pallid Harrier	Busard pâle	*Circus macrourus*	M	Occasional
Montague's Harrier	Busard cendré	*Circus pygargus*	M	Rare
Eurasian Marsh Harrier	Busard de roseaux	*Circus ranivorus*	M	Rare
Lanner Falcon	Faucon lannier	*Falco biamicus*	M	Fairly Common
Common Kestrel	Faucon crécerelle	*Falco tinnunculus*	M	Rare
Lesser Kestrel	Crécerellette	*Falco naumanni*	R	Occasional

Grasshopper Buzzard	Busard des sautereaux	*Butastur rufipennis*	M	Rare
Short-toed Snake Eagle	Circaète jean le blanc	*Circaetus gallicus*	R	Occasional
Black Kite	Milan à bec jaune	*Milvus migrans*	M	Rare
African Swallow-tailed Kite	Elanion blanc	*Chelictinia riocourii*	M	Rare
Desert Eagle Owl	Grand duc ascalaphe	*Bubo b. ascalaphus*	R	Fairly common
Spotted Sandgrouse	Ganga tacheté	*Pterocles senegallus*	M	Occasional
Chesnut-bellied Sandgrouse	Ganga sénégalais	*Pterocles exustus*	M	Rare
Cream-coloured Courser	Courvite Isabelle	*Cursorius cursor*	M	Common
Rock Dove	Pigeon biset	*Columba livia*	M	Rare
Blue-naped Mousebird	Coliou huppé	*Colius macrourus*	R	Occasional
Grey Woodpecker	Pic gris	*Mesopicos goertae*	M	Occasional
Fulvus Babbler	Cratérope fauve	*Turdoides fulvus*	R	Common
Great Grey Shrike	Pie-grièche grise	*Lanius excubitor*	R	Common
White-crowned Black Wheatear	Traquet à tête blanche	*Oenanthe leucopyga*	R	Common
Black Scrub-robin	Merle podobé	*Cercotrichas podobe*	M	Rare
White-Fronted Finch-Lark	Alouette moineau à front blanc	*Eremopterix nigriceps*	R	Common
Rock Martin	Hirondelle isabelline	*Hirundo Fuligula*	M	Rare
Pied Crow	Corbeau pie	*Corvus albus*	R	Rare
Brown-necked Raven	Corbeau brun	*Corvus ruficollis*	R	Common
Golden Sparrow	Moineau doré	*Passer luteus*	M	Occasional
Desert Sparrow	Moineau du désert	*Passer simplex*	R	Common
Trumpeter Finch	Roselin Githagine	*Bucanetes githagineus*	M	Rare
Bar-tailed Desert Lark	Ammomane élégante	*Ammomanes cinctura*	R	Rare
Desert Lark	Ammomane Isabelline	*Ammomanes deserti*	R	Common
Chestnut-bellied Starling	Etourneau à ventre roux	*Lamprotomis pulcher*	R	Occasional

Hoopoe	Huppe fasciée	*Upupa epops*	R	Fairly common
Hoopoe Lark	Sirli du désert	*Alaemon alaudipes*	R	Common
Mourning Dove	Tourterelle pleureuse	*Streptopelia decipiens*	R	Common
Laughing Dove	Tourterelle maillée	*Streptopelia senegalensis*	R	Common
European Turtle Dove	Tourterelle des bois	*Streptopelia turtur*	M	Occasional
Namaqua (Long-tailed) Dove	Tourterelle du cap	*Oena capensis*	R	Occasional
Spotted Thick-knee	Oedicnème du Cap	*Burhinus capensis*	M	Rare
Helmeted Guineafowl	Pintade commune	*Numida meleagris*	R	Rare
Red-billed Hornbill	Petit calao à bec rouge	*Tockus erythrorhynchus*	M	Occasional
African Grey Hornbill	Petit calao à bec noir	*Tockus nasutus*	M	Rare
Abyssinian Roller	Rollier d'Abyssinie	*Coracias abyssinica*	M	Fairly Common
Yellow-billed Oxpecker	Pique boeuf à bec jaune	*Buphagus africanus*	M	Rare
Plain Nightjar	Engoulevent terne	*Caprimulgus inornatus*	M	Rare
Golden Nightjar	Engoulevent doré	*Caprimulgus eximius*	M	Rare
Crested Lark	Cochevis huppé	*Galerida cristata*	M	Occasional
Jacobin Cuckoo	Coucou Jacobin	*Oxylophus jacobinus*	M	Rare
Rufous Scrub-robin	Agrobate rubigineux	*Cercotrichas galactotes*	M	Rare
Little Green Bee-eater	Petit guêpier vert	*Meiops orientalis*	R	Common
White Throated bee-eater	Guêpier à gorge blanche	*Merops albicollis*	M	Common
Spotted Flycatcher	Gobe mouche gris	*Muscicapa striata*	M	Rare
Common Sand Martin	Hirondelle de rivage	*Riparia riparia*	M	Rare
European House Martin	Hirondelle de fenêtre	*Delichon urbicum*	M	Rare
Yellow Wagtail	Bergeronnette printanière	*Motacilla flava*	M	Common
Eurasian Golden Oriole	Loriot d'Europe	*Oriolus oriolus*	M	Rare
European Wheatear	Traquet motteux	*Oenanthe oenanthe*	R	Rare

Isabelline Wheatear	Traquet isabelle	*Oenanthe isabellina*	R	Common
Desert Wheatear	Traquet du désert	*Oenanthe deserti*	R	Common
Willow Warbler	Pouillot fitis	*Phylloscopus trochilus*	M	Rare
Garden Warbler	Fauvette des jardins	*Sylvia borin*	M	Rare
Orphean Warbler	Fauvette Orphée	*Sylvia hortensis*	M	Rare
Rüppell's Warbler	Fauvette de Rüppell	*Sylvia rueppelli*	M	Common
Sardinian Warbler	Fauvette mélanocéphale	*Sylvia menalocephala*	M	Rare
Subalpine Warbler	Fauvette passerinette	*Sylvia cantillans*	M	Common
Chiffchaff	Pouillot véloce	*Phylloscopus collybita*	M	Common
Common Stilt	Echasse blanche	*Himantopus himantopus*	M	Rare
Common Sandpiper	Chevalier gignette	*Actitis hypolleucos*	M	Rare
Squacco Heron	Crabier chevelu	*Ardeola ralloides*	M	Rare
Kentish Plover	Gravelot à collier interrompu	*Charadrius alexandrinus*	M	Rare
White Stork	Cigogne blanche	*Ciconia ciconia*	M	Occasional

Appendix 3

List of plants collected

SPECIES & AUTHORITY	FAMILY
Acacia ehrenbergiana Hayne.	Mimosaceae
Acacia laeta	Mimosaceae
Acacia raddiana Savi.	Mimosaceae
Acacia senegal (L.) Willd.	Mimosaceae
Aerva javanica (Burm.) Juss.	Amarantaceae
Alternanthera nodiflora R.BR.	Amarantaceae
Alternanthera sessilis (L.) R.Br.	Amarantaceae
Alysicarpus ovalifolus (S.et Th.) Léon	Papilionaceae
Amaranthus graecizan L.	Amarantaceae
Anticharis glandulosa Aschers.	Scrophulariaceae
Aristida adscensionis L.	Poaceae
Aristida funiculata Tin.et Rupr.	Poaceae
Aristida mutabilis Trin.	Poaceae
Aristida pallida Steud.	Poaceae
Aristida sp	Poaceae
Balanites aegyptiaca(L.) Del.	Balanitaceae
Bergia suffruticosa (Del.) Fenzl.	Elatinaceae
Boscia senegalensis (Pers.)Lam.	Capparaceae
Calotropis procera Ait.	Asclepiadaceae
Capparis sepiara Lam.	Capparidaceae
Cardiospermum halicacabum L.	Papilionaceae
Cassia italica (Mill.) Lam.	Cesalpiniaceae
Cenchrus biflotrus Roxb	Poaceae
Cenchrus ciliaris L.	Poaceae
Cenchrus prieurii Maire.	Poaceae
Cenchrus sp	Poaceae
Chloris pilosa Sch. Et Thom.	Poaceae
Chrozophora brocchiana Vis.	Euphorbiaceae
Colocynthis citrullus (L.) O. Kze	Cucurbitaceae
Commifera africana (A.Rich.) Engl.	Burseraceae
Corchoris olitoris L.	Tiliaceae

Corchorus tridens L.	Zygophyllaceae
Cordia sinensis Lam.	Boraginaceae
Crotalaria podocarpa CD.	Papilionaceae
Cucumis melo L.var.agrestis Naud.	Cucurbitaceae
Cucumis prophetarum L.	Cucurbitaceae
Cymbopogon schoenantus (L.) Spreng.	Poaceae
Cyperus conglomeratus Rottb.	Cyperaceae
Cyperus fucus L.	Cyperaceae
Cyperus laevigatus L.	Cyperaceae
Cyperus rotundus L.	Cyperaceae
Dactyloctenium aegyptiacum Willd.	Poaceae
Dantonia forskhlii (Vhl.) R.Br.	Poaceae
Daucus sahariensis Murb.	Ombellifères
Echinochloa colona (L.)	Poaceae
Eragrostis sp	Poaceae
Erarostis barrelieri Host.	Poaceae
Euphorbia granulata Forsk.	Euphorbiaceae
Fagonia arabica, var. viscidissima L.	Zygophyllaceae
Gisekia pharnacioïdes L.	Molluginaceae
Grewia barteri Bur.	Tiliaceae
Grewia tenax (Forsk.) Fiori.	Tiliaceae
Heliotropium strigosum Willd.	Boraginaceae
Indigofera hochstetteri Baker	Mimosaceae
Indigofera senegalensis Lam.	Papilionaceae
Indigofera viscosa Lam.	Mimosaceae
Ipomea eriocarpa R.BR.	Convolvulaceae
Ipomea sp	Convolvulaceae
Leptadenia pyrotechnica (Forsk.) Decne.	Asclepiadaceae
Limeum pterocarpum (Gay) Heimerl.	Molluginaceae
Maerua crassifolia Forsk.	Capparaceae
Monsonia heliotropioïdes var.hassibii Dc.	Alzoaceae
Mukia maderaspatana (L.) Roem.	Cucurbitaceae
Neurada procumbens L.	Rosaceae
Oplia celtidifolia (G.et Perr.) Endl.	Opiliaceae
Panicum laetum Kunt.	Poaceae
Panicum turgidum Forsk.	Poaceae

Pavonia hirsuta G.etPerr.	Malvaceae
Pennisetum americanum Rich.	Poaceae
Pergularia tomentosa L.	Asclepiadaceae
Peristophe bicalyculata (Retz.) Nees.	Gentianaceae
Podaxis sp	Gasteromycetes (Fungi)
Polycarpaea prostrata Dec.	Caryophyllaceae
Portulaca oleracea L.	Portulacaceae
Rogeria adenophylla J.Gay.	Pedaliaceae
Ruta tuberculata Forsk.	Rutaceae
Salvadora persica L.	Salicaceae
Sesamum alatum Thon.	Taccaceae
Sesbania sericea	Papilionaceae
Stipagrostis vulnerans L.	Poaceae
Tamarindus indica L.	Caesalpiniaceae
Tamarix senegalensis Dc.	Tamaricaceae
Tephrosia pedicellata Bak.	Mimosaceae
Tephrosia purpurea Pers.	Mimosaceae
Tephrosia subtriflora Hochst.	Mimosaceae
Tribulus terrestris L.	Zygophyllaceae
Ziziphus mauritiana Lam.	Rhamnaceae

Appendix 4

The Dolé Declaration

Déclaration des autorités administratives communales, coutumières, des services techniques, des forces de défense et de sécurité et des populations de Tesker et N'Gourti

- Considérant l'importance et la diversité de la faune dans la zone de Termit / Tin Toumma ;
- Considérant que cette future réserve est en voie de création ;
- Considérant la spécificité de cette faune sur le plan mondial ;
- Considérant que cette faune est un patrimoine commun ;
- Considérant que seule une collaboration et une implication pleine des différents acteurs sont les seuls gages d'une protection cohérente de la faune ;
- Considérant la forte pression exercée sur cette faune ;

Nous autorités administratives, communales et coutumières de Tesker et de N'Gourti associés aux services techniques de l'Etat, des forces de défense et de sécurité et l'ensemble de la population, nous nous engageons solennellement à protéger et à surveiller la faune et la flore des deux communes, à participer à la conservation de cette faune, à dénoncer tour braconnier de quelque nature qu'il soit, à respecter tous les engagements pris en ce qui nous concerne afin d'atteindre les objectifs du projet Antilopes Sahélo-Sahariennes.

Conscient que l'avenir de l'élevage et du pastoralisme est lié à la préservation de notre patrimoine, nous sommes disposés à ne ménager aucun effort à œuvrer aux côtés du projet Antilopes Sahélo-Sahariennes (ASS) et de l'ensemble des partenaires au développement à l'atteinte des objectifs nouveaux que nous nous sommes fixés.

Fait à Termit Dolé le 13 Mai 2007.

Les participant

Appendix 5

REUBLIQUE DU NIGER

Décret N°…./PRN/MH/E/LCDMINISTERE DE L'HYDRAULIQUE, DE L'ENVIRONNEMENT ET DE LA LUTTE CONTRE LA DESERFICATION

Portant classement de LA RESERVE NATURELLE NATIONALE DU TERMIT ET DU DJADO

LE PRESIDENT DE LA REPUBLIQUE :

Vu la Constitution du 09 août 1999 ;

Vu la l'ordonnance n°93-015 du 02 mars 1993 fixant les principes d'orientation du code rural;

Vu la Loi N° 98-056 du 29 Décembre 1998, portant Loi-cadre relative à la Gestion de l'Environnement ;

Vu la Loi N°98-07 du 29 Avril 1998, fixant le Régime de la chasse et de la protection de la faune ;

Vu la loi n°2004-040 portant régime forestier au Niger ;

Vu le Décret n° 98-295/PRN/ME/LCD du 29 octobre 1998, déterminant les modalités d'application de la Loi 98-07 du 29 Avril 1998 fixant le régime de la chasse et de la protection de la faune ;

Vu le Décret N°2004-403/PRN du 24 Décembre 2004, portant nomination du Premier Ministre ;

Vu le Décret N°2004-404/PRN du 30 Décembre 2004, portant nomination des membres du Gouvernement;

Vu Le Décret N° 2001-202/PRN/MHE/LCD du 02 novembre 2001, portant attributions du Ministre de l'Hydraulique, de l'Environnement et de la Lutte contre la Désertification;

Vu Le Décret N°2001-203/PRN/MHE/LCD du 02 novembre 2001, portant organisation du Ministère de l'Hydraulique, de l'Environnement et de la Lutte contre la Désertification;

Sur rapport du Ministre d'Etat, Ministre de l'Hydraulique, de l'Environnement et de la Lutte

Contre la Désertification ;

Le Conseil des Ministres entendu

DECRETE :

CHAPITRE PREMIER : Des Dispositions Générales et des Définitions

Article 1: Au sens du présent Décret il faut entendre par :

Réserve Naturelle Nationale : Aire délimitée où certains restrictions partielles ou totales, temporaires ou définitives quant à la chasse, l'exploitation des végétaux, des produits du sol et du sous-sol, l'installation des infrastructures, peuvent être nécessaires à des fins de protection et de réhabilitation des milieux naturels pour le bien être des populations ;

Réserve intégrale ou sanctuaire : Aire réservée pour la protection totale des communautés animales, végétales ou des sites caractéristiques particulièrement menacées. Cette aire doit être englobée dans une zone tampon qui a le statut d'une réserve naturelle ;

Diversité biologique : Variabilité des organismes vivants de toutes origines y compris, entre autres, les écosystèmes terrestres, aquatiques et les complexes écologiques dont ils font partie, cela comprend la diversité au sein des espèces et entre les espèces ainsi que celle des écosystèmes ;

Réserve de la biosphère : Réserve nationale déclarée comme bien du Patrimoine Mondial en raison de ces spécificités biologiques, écologiques, culturelles ou historiques et dont la conservation est l'un des objectifs principaux.

Article 2 : Est classée en Réserve Naturelle Nationale, la zone de Termit et du Djado délimitée comme suit :

Au Sud : ……

A l'Ouest : …..

Au nord : .....

A l'Est : .....

Article 3 : La Réserve Naturelle Nationale de Termit et du Djado est érigée en aire relevant du domaine public de l'Etat » ;

Chapitre II :

De la Gestion de la réserve naturelle du Djado et du Termit.

Article 4 : Il est créé un comité de gestion de la réserve naturelle du Djado et du Termit, présidé par le Gouverneur ou son représentant.

Article 5 : Le comité de gestion donne son avis sur le fonctionnement de la réserve, sur sa gestion et sur les conditions d'application des mesures prévues au présent décret.

Il se prononce sur le plan de gestion de la réserve.

Il peut faire procéder à des études scientifiques et recueillir tout avis en vue d'assurer la conservation, la protection ou l'amélioration du milieu naturel de la réserve. En outre, le comité de gestion est chargé de:

la surveillance et l'application de la réglementation relative à la réserve naturelle nationale ;

le suivi scientifique et l'évaluation du patrimoine naturel ;

la conception et la mise en oeuvre du plan de gestion en réalisant les actions de gestion écologique nécessaires au maintien ou à la restauration de la réserve (directement ou par contrat avec des propriétaires, des agriculteurs...) ;

dans la mesure où la conservation de la réserve le permet, l'information et l'accueil du public (les réserves naturelles accueillent des visiteurs) ;

des activités plus administratives, telles que les demandes d'autorisations de travaux, la gestion financière ;

Article 6 : La composition de ce comité est fixée par arrêté du Gouverneur. Il comprend :

Des représentants de collectivités territoriales concernées, de propriétaires et d'usagers;

Des représentants d'administrations et d'établissements publics concernés ;

Des représentants d'associations de protection de la nature et des personnalités scientifiques qualifiées.

Les membres du comité sont nommés pour une durée de trois ans. Leur mandat peut être renouvelé.

Le comité consultatif se réunit au moins une fois par an sur convocation de son président. Il peut déléguer l'examen d'une question particulière à une formation restreinte.

Article 7 : Le comité consultatif se réunit au moins une fois par an sur convocation de son président. Il peut déléguer l'examen d'une question particulière à une formation restreinte.

L'essentiel des moyens financiers provient de l'autorité administrative à l'origine du classement mais le comité peut aussi mobiliser des moyens financiers complémentaires auprès d'autres partenaires publics ou privés.

CHAPITRE III : De la réglementation relative aux droits d'usages coutumiers

Article 8 : La réserve est soustraite à l'exercice de droits coutumiers d'usage autre que la résidence, le parcours et la libre circulation, le ramassage du bois mort, de la récolte de fruits et produits d'exsudation, des plantes fourragères médicinales et alimentaires.

Les résidents et non-résidents de la réserve ont le droit d'utiliser les points et les cours d'eau naturels ou artificiels de la réserve, mais cette exploitation se limite strictement aux besoins domestiques, sans compromettre la pérennité et la qualité des points et cours d'eau.

Article 9: En cas de nécessité dûment justifiée, l'Autorité compétente quelle est cette autorité (le gouverneur) peut, sur proposition des services chargés de la Faune, prendre les dispositions qui s'imposent afin de modifier le parcours, la circulation et la résidence des populations concernées, ainsi que pour apporter des restrictions dans l'utilisation de certains points et cours d'eau.

Les populations seront avisées au moins 3 mois avant la mise en application desdites décisions.

CHAPITRE IV : De la réglementation relative à l'utilisation et à la protection des ressources naturelles

Article 10 : Sont formellement interdits dans la Réserve Naturelle Nationale du Termit et du Djado:

La destruction ou l'enlèvement des oeufs ou des nids, la mutilation, la destruction, la capture ou l'enlèvement, la naturalisation d'animaux de ces espèces ou, qu'ils soient vivants ou morts, leur transport, leur colportage, leur utilisation, leur mise en vente, leur vente ou leur achat;

La destruction, la coupe, la mutilation, l'arrachage, la cueillette ou l'enlèvement de végétaux de ces espèces ou de leurs fructifications, leur transport, leur colportage, leur utilisation, leur mise en vente, leur vente ou leur achat;

La destruction, l'altération ou la dégradation du milieu particulier à ces espèces animales ou végétales;

Article 11 : Tout acte de chasse ou tentative de chasse est formellement interdit à l'intérieur du territoire de la réserve.

Article 12 : L'achat, la vente d'un animal sauvage, d'un trophée ou d'un œuf d'animal sauvage est formellement interdit à l'intérieur de la réserve.

Article 13 : Il est interdit d'abattre, de couper, d'écorcer, de déraciner ou d'élaguer abusivement, les arbres ou arbustes de la réserve ou provoquer des feux de brousse.

Article 14: Toute exploitation de bois qui dépasse les besoins personnels des populations résidentes est subordonnée à l'obtention préalable d'une autorisation écrite des services chargés des Forêts.

Article 15 : Les territoires classés en réserve naturelle ne peuvent être ni détruits, ni modifiés dans leur état ou dans leur aspect, sauf autorisation spéciale du ministre chargé des Forêts et de la Faune, délivrée selon des modalités fixées par décret pris en Conseil des Ministres prévoyant notamment la consultation préalable des organismes compétents.

Article 16 : Les activités agricoles, forestières ou pastorales continuent à s'exercer, comme antérieurement, sous le contrôle du comité de gestion.

Article 17 : Toute demande de délivrance de permis de recherche et/ou d'exploitation minière dans la réserve doit faire d'un arrêté conjoint entre les Ministres chargés des Forêts, de la Faune et le Ministre chargé des Mines.

CHAPITRE V : De la réglementation relative à la circulation à l'intérieur de la réserve

Article 18 : Le port d'armes à feu est interdit à l'intérieur de la réserve, sauf pour les agents de l'Administration de la réserve et les agents chargés de la sécurité et de la surveillance du Territoire.

Article 19 : La pratique d'activités sportives de nature motorisée (rallye automobile, moto-cross, par exemple) est formellement interdite à l'intérieur de la réserve.

CHAPITRE VI : De la réglementation relative au tourisme

Article 20 : Les touristes désirant pénétrer à l'intérieur de la réserve naturelle nationale, doivent être munis d'un permis de visite délivré par l'Autorité compétente, selon les conditions définies par les textes fixant le Régime de la chasse et de la protection de la faune.

Article 21 : A l'intérieur de la réserve, tout touriste ou visiteur doit être accompagné d'un guide qui réponde aux conditions définies par les textes fixant le Régime de la chasse et de la protection de la faune AGREE.

Article 22 : Il est formellement interdit de déplacer, d'enlever, de s'approprier de quelque manière que ce soit ou de détruire les objets situés sur les sites archéologiques, culturels ou d'intérêt géologique.

CHAPITRE VII : De la réglementation relative à l'aménagement du milieu

Article 23 : Toute activité d'aménagement ou de développement visant à modifier les lieux doit être agréée au préalable par l'autorité compétente, après étude d'impact environnemental.

Article 24 : - Nul ne construira une nouvelle habitation ou campement, ne défrichera de nouvelles terres pour l'élevage ou la culture, ne coupera d'arbres, ne creusera, ne retournera ou ne cultivera le sol pour établir une exploitation agricole ou une plantation dans la réserve.

CHAPITRE VIII : De la réglementation relative à la protection des personnes et de leurs biens

Article 25: le Ministre chargé des Forêts et de la Faune peut autoriser la capture, la répulsion ou l'abattage de tout animal sauvage qui présente un danger pour les habitants de la réserve ainsi que pour leurs biens.

Article 26 : L'autorisation prévue à l'article 25 du présent Décret doit préciser :

L'espèce et le nombre d'animaux pouvant être capturés ou abattus ;

La zone précise dans laquelle l'animal peut être capturé ou abattus ;

La durée de validité de l'autorisation (n'excédant pas 30 jours consécutifs) ;

Les méthodes d'abattage ou de capture ;

La destination de la viande, des dépouilles et des trophées recueils.

CHAPITRE IX : Dispositions pénales.

Article 27 : Les contrevenants aux dispositions du présent décret sont passibles des peines prévues pour chaque cas d'espèce par Loi N°98-07 du 29 Avril 1998, fixant le Régime de la chasse et de la protection de la faune.

Article 28 : Toutefois aucune infraction ne peut être relevée contre quiconque a fait acte isolé de chasse dans la nécessité immédiate de sa défense, celle d'autrui, celle de son propre cheptel domestique ou celle de sa propre récolte.

La preuve de légitime défense doit être fournie dans un délai de 6 jours à un agent des Eaux et forets chasse et pêche.

CHAPITRE X : Des Dispositions Diverses et Finales

Article 29 : Le déclassement de la réserve ou la modification de ses limites ou de la réglementation y afférente s'effectue par Décret pris en Conseil des Ministres.

Article 30 : Si un droit n'est exercé à l'intérieur de la réserve pendant une période de 10 ans, il sera annulé.

Article 31 : Nul ne devra s'arroger le droit affectant une terre comprise dans la réserve par vente, hypothèque ou transfert.

Article 32: Des arrêtés du Ministre chargé de la faune préciseront entant que de besoin, les modalités d'application du Présent décret.

Article 33 : Le Ministre chargé de la faune est chargé de l'application du présent Décret qui sera publié au Journal Officiel de la République du Niger.

Fait à Niamey le , ……

Signé : LE PRESIDENT DE LA REPUBLIQUE

MAMADOU TANDJA

Le Premier Ministre

HAMA AMADOU

Le Ministre d'Etat, Ministre de l'Hydraulique, de l'Environnement et de la Lutte contre la Désertification

ABDOU LABO

Pour ampliation :

Le Secrétaire Général du Gouvernement

Laouel Kader Mahamadou