



## *Niassa Carnivore Project*

### *Niassa National Reserve, Mozambique*

#### *Year Start Plan 2010*



Niassa Lion project's youngest supporter at the 2009 Mbamba Lion Fun Day  
**Colleen and Keith Begg**

#### **Mission Statement:**

*The Niassa Carnivore Project serves to secure and conserve large carnivores in Niassa National Reserve, northern Mozambique by promoting coexistence between carnivores and people. We acknowledge the costs to Niassa communities who live with carnivores while recognizing the potential of lions to provide substantial ecological, cultural and economic benefits to the Niassa Reserve and Mozambique. This mission is being achieved through direct mitigation of human induced threats particularly human-lion conflict, targeted pragmatic research, development of locally based monitoring systems, mentorship and training of local conservationists and community outreach (education and awareness).*

## ***Executive Summary***

Niassa National Reserve (NNR) is located in northern Mozambique on the border with Tanzania. It is one of the largest protected areas in Africa (42 000 km<sup>2</sup>) and is considered to be one of the “Last of the Wild” and most undeveloped places in Africa. The protected area supports the largest concentrations of wildlife remaining in Mozambique including viable populations of the African lion (800-1000 individuals) and endangered African wild dog (more than 350), as well as important populations of leopard and spotted hyaena. NNR is both a national and global conservation treasure.

The African lion is listed as vulnerable with an estimated 23 000 to 40 000 lions remaining in Africa. As a result of the work of the Niassa Lion Project, NNR has been identified as an international priority for lion conservation (IUCN, 2006) in eastern and southern Africa and this population is believed to be one of only five lion populations left in Africa that is currently increasing. NNR support more than a third of the National lion population estimated at 2800 individuals (Chardonnet *et al* 2009). NNR also support more than 350 of the Endangered African wild dog. The importance of these populations for global conservation efforts is increased by its transfrontier links to populations in Tanzania through the Selous – Niassa Wildlife Corridor. In addition, this population provides the core and source of a largely unprotected lion population extending from the east coast of Mozambique at Pemba to the western boundary with Malawi at Lake Niassa and extending 100 km southwards.

The Niassa Carnivore Project serves to secure and conserve lions and other large carnivores in Niassa National Reserve, northern Mozambique by promoting coexistence between carnivores and people and mitigating all human induced threats. We acknowledge the costs to Niassa communities who live with carnivores while recognizing the potential of carnivores, particularly lions, to provide substantial ecological, cultural and economic benefits to the Niassa Reserve and Mozambique. We believe that conservation must be evidence based (based on good research) and multidisciplinary to be successful and sustainable. This mission of NCP is being achieved through direct mitigation of human induced threats particularly snaring, retaliatory killing, and the sport hunting of underage lion and leopards, targeted pragmatic research, development of locally based monitoring systems, mentorship and training of local conservationists and community outreach (education and awareness). In 2010 our objectives are to:

- Collect data on lion mortality and movement patterns around villages and in the intensive study area.
- Share information on behaviours that make people vulnerable to lion attacks with all Niassa communities.
- Test effectiveness of techniques to reduce contact between people and lions in villages, such as bamboo and “living” fences, and implement successful techniques in collaboration with community leaders in five villages with the highest rates of lion attacks.
- Produce and distribute Niassa-specific conservation education materials to schools, accompanied by teacher training.
- Expand the Community-Scout Monitoring Program to reach 80% of NNR villages by 2012.
- Continue to monitor the sport hunting of lions and leopards in NNR to ensure it is sustainable.
- Organize a human-lion conflict workshop with regional fieldworkers to share information on ways to reduce conflict.

Success will be measured against baseline data collected in 2005-2009 on lion population density, frequency of lion attacks, and local perceptions of lions. In NNR there exists a narrow window of opportunity (less than 10 years) for a conservation success story.

### ***Program Objectives (2007-2010)***

1. Use targeted research to specifically determine the status, density of and threats to lions in NNR and develop indicators and survey protocols that can be used for ongoing monitoring by Mozambican conservationists and SRN.
2. Examine the local context of lion attacks (humans, livestock) and identify, test and finally implement locally-derived, practical solutions with the active participation of local communities.
3. Develop and refine the Community-scout monitoring program to provide ongoing assessment of threats to carnivores, levels of human-carnivore conflict, and status of special species as well as provide incentives for community based natural resource management.
4. Assess and minimize the levels of disease risk (canine distemper, rabies, canine parvovirus) to lions and other carnivores.
5. Collaborate with SRN and professional hunters to develop and implement locally developed sport hunting guidelines and trophy monitoring systems.
6. Provide independent monitoring of trophy quality for lion to ensure sustainable hunting while maximising economic returns to communities and SRN.
7. Initiate and manage community outreach initiatives (environmental education and extension work) in Niassa communities to promote the cultural, economic and conservation value of lions and the use of effective conflict mitigation methods.
8. Ensure monitoring and conservation of carnivores in NNR is sustainable (not researcher driven) by providing appropriate training and mentorship, detailed surveying protocols and essential equipment to NNR staff and local conservationists.
9. Disseminate the findings, mitigation strategies and protocols to inform broader national and regional lion conservation strategies and collaborate with local organisations wherever possible.
10. Assist and advise on Mozambican National Lion Conservation Strategy.

## ***Specific Objectives and Planned activities 2010***

1. **Obtain accurate data on the number of lions being killed by snaring and retaliatory killing in Mbamba community by monitoring mortality and movement patterns of all lions utilizing the area around the village**
  - a. Capture 10-20 lions frequenting area around Mbamba village using a combination of soft foothold snares and baited call-up and radio collared (VHF and GPS collars) to quantify mortality through snaring and poison and information on movement patterns (June –November).
  - b. Continue to radio-mark additional lions and leopards in intensive study area with VHF collars to monitor density, recruitment, movement patterns and age structure of this known population.
  - c. All radio collared animals will be monitored from the ground using inselbergs as high points as often as possible, with all animals monitored from the air at least once a month (if possible) using the SRN aeroplane.
  - d. These data will be analysed to provide information on movement patterns, when animals are entering village surrounds (season, time of day) and proportion of time spent in close contact with humans. When a mortality signal is received, the lion carcass will be investigated and collar recovered.
  - e. Ongoing community outreach will continue to ensure that collars found by community member on snared lions are returned anonymously to NCP.
  - f. Sightings of lions during capture operations and monitoring will be used to continue to assess age and sex structure of lion population in intensive study areas
  - g. Morphometric measurements and blood samples will be taken during immobilization to continue to validate aging cues for lions and assess disease disk.
  
2. **Continue to mitigate human-lion conflict through extension work and experimentation with locally derived solutions.**
  - a. Monitor the test “living fence” planted in Mbamba village in November and report back to Mbamba community on development of the fence at two meetings (May/June – October/ November 2010) on coppicing, planting and maintenance.
  - b. If fence coppices successfully, arrange for further cuttings to be transported to Mbamba from Pemba to increase fence production in community (October –November 2010) and plant test fences around three machambas.
  - c. Develop and print “safe behaviour” poster highlighting behaviours and shelters that minimize the chance of attack from large carnivores (500 copies; Jan – April 2010).
  - d. Organise and fund Human-Lion conflict workshop in Dar es Salaam, Tanzania with regional fieldworkers to share information and ideas on how to reduce conflict between people and lions, particularly man-eating. Produce summary report on meeting (May 2010).
  - e. Provide funding for two NNR/ SRN staff members to attend the above meeting to obtain additional insight and experience in mitigating human-lion conflict (May 2010)
  
3. **Support the implementation of the three year SMOG/ MOMS strategy to ensure the community agent program reaches its full potential.**
  - a. Discuss the MOMS strategy prepared by NCP with SRN, and modify as needed(before June 2010)
  - b. Assist SRN with securing funding to support the development of the SMOG community monitor program based on the three year SMOG/ MOMS strategy and budget, developed by NCP in 2009 (Jan – Feb).
  - c. Assist with the implementation of the SMOG strategy to ensure targets are being reached and provide guidance and support to the new SMOG manager and community agents where needed. (Ongoing. Measured through achievement of SMOG strategy targets)
  - d. Assist SMOG manager with the development of databases, reporting templates and training to monitor human-wildlife conflict effectively and provide regular reports to all stakeholders. All databases to be in place, up to date and working by Dec 2010.

**4. Continue to engage with sport hunters to minimize unsustainable sport hunting (hunting of underage individuals).**

- a. Complete analysis and report on 2009 lion and leopard sport hunting and distribute to SRN and sport hunting operators (end Feb 2010).
- b. Report back on 2009 results and way forward at public SRN Tourism Operators meeting (May 2010) and Niassa Professional Hunters Meeting (June 2010).
- c. Monitor 2010 lion and leopard trophies and compliance with SRN lion regulations.
- d. Continue to maintain regular contact with sport hunters and SRN to discuss problems, aging cues and sightings (Ongoing).
- e. Develop leopard sport hunting regulations provide these to sport hunting operators for comments (Jan 2010).

**5. Continue to develop environmental education and awareness program in NNR**

- a. Coordinate and guide the development, translation and printing of the Niassa Conservation Story Book, activity book and conservation, ABC capulana wall chart in collaboration with Afra Kingdon and SRN (1000 copies of activity book and story by June 2010).
- b. Organise 2-3 teacher training workshops to distribute the books and materials in NNR (one in the west, east and central regions respectively) (July-November 2010).
- c. Support and mentor the development of the Mecula Wildlife Club (28 members), the first wildlife club in NNR initiated by the English teacher with NLP as patrons. This will involve producing the leopard calendar with drawings done by the club members to raise funds, development of leopard logo, and providing ideas for the Club activities.
- d. Develop a concept proposal for SRN on future NCP environmental education program
- e. Assist SRN with the development of their "Teachers for Conservation" initiative to be developed in collaboration with SRN. This will include three components: rehabilitation of the schools, teacher packs and development of lessons for local curriculum (20% of national curriculum can be locally relevant).

**6. Continue to support and guide program to reduce disease risk to carnivores in NNR**

- a. Secure funding to establish annual rabies vaccination and registration of domestic dogs in NNR bases of R. Branco strategy prepared in 2009.
- b. Integrate annual monitoring of the domestic dog population into the SMOG community agent monitoring system (September 2010 at Annual SMOG training workshop).
- c. Ensure lion blood and parasite samples are analyzed by National Veterinary Department to assess current disease risk.

**7. Continue with mentoring and training of local Mozambican conservationists**

- a. Support hiring of a SMOG (MOMS- Community monitoring program) manager and train him to enter data into computer and develop simple financial and progress reports (Jan – Nov 2010).
- b. Drivers license for P. Sandali- field assistant (Dec – Jan 2009).
- c. Continue to mentor and assist A. Jorge with completing and finding funding for Masters Degree with fieldwork completed on the NLP project (2010-2011).
- d. Continue to provide opportunities for A. Jorge to be involved in NCP particular with the development of educational material, teacher training and monitoring of the "living fences", which he assisted with in 2009.

**8. Secure Long-term future of NCP in Niassa**

- a. Develop and sign MOU with SRN for next phase of NLP (2011 onwards). Investigate options and costs of installing satellite email system in field camp to improve contact with donors and supporters.
- b. Investigate option and costs of setting up Mozambican Niassa Carnivore Conservation Foundation to secure long term future of the program (Jan-April 2010).
- c. Host WCN donor visit to NNR to secure funding for programs (June-November).

- d. Secure endorsement of NLP from Ministry of Tourism (National Directorate of Conservation Areas; Jan-April 2010).

**9. Increase awareness of NCP work and importance of Niassa National Reserve to a broader audience both nationally and internationally and collaborate with regional conservation strategies.**

- a. Monitor, encourage and assist with the implementation of the National Lion Conservation Strategy and Action Plan.
- b. Continue to collaborate with Selous Niassa Wildlife Corridor Working Group through regular meetings and sharing of information.
- c. Complete the analysis and report on the large carnivore survey completed in the Selous Niassa Wildlife Corridor in collaboration with Krissie Clark and SNWC.
- d. Write and submit paper on lion trophy monitoring system and results over past 5 years in NNR in a peer reviewed journal (by June 2010).
- e. Write and submit a paper on human-carnivore conflict based on questionnaire surveys, coauthoring with A. Jorge in a peer reviewed journal (by Dec 2010)
- f. Presentation at WCN Expo 2010 (October), San Francisco USA

## Measurable Outcomes

- a. NCP and possibly one SRN fieldworker trained in foot snaring technique by G. Balme of Panthera
- b. 1000 Conservation storybooks distributed to Niassa teachers.
- c. 500 Human carnivore conflict posters produced and distribution initiated to all Niassa villages.
- d. Three teacher training meetings conducted
- e. Two communities checked and employing effective goat corrals by December 2010, with five villages by 2012
- f. Three test fences around machambas in December 2010
- g. Human-lion conflict workshop held in Dar es Salaam with two SRN staff members attending
- h. MOU signed with SRN for 2011 onwards
- i. Annual report on project to SRN, Ministry of Tourism and Sport hunting operators
- j. Annual Sport Hunting report to SRN, Ministry of Tourism and Sport Hunting operators
- k. Report on large carnivore survey in Selous Niassa Wildlife Corridor, in collaboration with Krissie Clark and SNWC.
- l. Presentation at Annual SRN Tourism meeting, WCN EXPO, Professional Hunters Meeting.
- m. At least two e-newsletters
- n. Scientific paper on lion trophy monitoring system and results over past 5 years in NNR in a peer reviewed journal (by June 2011).
- o. Scientific paper on human-carnivore conflict based on questionnaire surveys, coauthored with A. Jorge in a peer reviewed journal (by Dec 2010)