

## The Rufford Foundation

### Final Report

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Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to [jane@rufford.org](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Derek Lee
<b>Project title</b>	Hoofed Mammals in a Fragmented Landscape: Science, Education and Advocacy for Community Conservation of Tropical Ungulates
<b>RSG reference</b>	13141-1
<b>Reporting period</b>	July 2013-July 2014
<b>Amount of grant</b>	£5727
<b>Your email address</b>	derek@wildnatureinstitute.org
<b>Date of this report</b>	10 July 2014

**1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

Objective	Not achieved	Partially achieved	Fully achieved	Comments
<b>Research:</b> estimate seasonal spatial distribution and abundance for 19 ungulate species using distance sampling.			√	We conducted three surveys for all ungulates during the grant period (Sept-Oct 2013, Jan-Feb, May-Jun 2014). Data have been entered into a spreadsheet, and we are in the process of calculating abundances using Program DISTANCE 6.0 and producing distribution maps.
<b>Research:</b> estimate site-specific population size, survival, reproduction, and movement rates of Masai giraffe with photo mark-recapture.			√	We conducted three photographic mark-recapture surveys for giraffe (Sept-Oct 2013, Jan-Feb, May-Jun 2014). Data on location, sex, and age class have been entered into a spreadsheet, and photographs for the last survey are being processed. We have statistically analysed data from the previous 2 years of giraffe surveys and presented results at the Tanzanian Wildlife Research Institute conference in December 2013.
<b>Education:</b> Sensitisation meetings with local village and governmental leaders from five villages.			√	On 17 December 2013 we organised the first sensitisation meeting in Mtowambu with 35 leaders from seven villages (expanded from the proposed five villages) to begin the process of creating and implementing land-use plans within the Northern Plains migratory corridor.
<b>Education:</b> Distribute 50 copies of two children's books about wildlife; hold guided readings at 10 schools.			√	We raised additional funds, and were able to print and distribute 1,946 books to schoolchildren in 10 rural schools in the wildlife migration route. In addition, 37 were presented to important Masai village and district leaders, and two to federal wildlife authorities. However, only one book (wildebeest migration) was produced; the second book about giraffe is written and translated, and is currently being illustrated.
<b>Advocacy:</b> Advance the formation of a Wildlife Management Area (WMA).		√		With the first sensitisation meeting, we began the process of forming a WMA (or comparable designation) to protect the Northern Plains migration corridor and pastoralist rangelands. We have discussed various land-use planning options with villagers, with WMA being just one

			<p>option. In response to our meeting, seven villages have begun to establish Environmental Forums. In July 2014, we received additional funding from a Belgian NGO to conduct wildlife surveys in the northern part of the migration corridor, and we formed partnerships with several conservation organisations to assist with land-use planning in two Engaruka villages via the Environmental Forums.</p>
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

In our 2013 proposal to Rufford, we had stated that during the first 12-month phase we will advance the process of creating a WMA as quickly as possible by enabling the communities to self-organize around the principles we present. Sensitisation and formation of the CBO is the first big step in WMA creation and we stated we would push communities towards this in the first 6 months, with resource planning to follow. We are truly excited about the work we have accomplished thus far, and about the prospects for future land-use planning and conservation in this region.

However, we have revised our original goal from establishing a WMA, to securing land-use rights and instigating planning in these villages by one of several possible means: a WMA, Certificates of Village Land (CVL) and Certificates of Customary Right of Occupancy (CCRO; as described in Section 19 of the Village Land Act), or whichever process the villages choose to pursue. We revised our goals after the sensitisation meeting in December 2013, and decided to assist villages with establishing community-led ‘Environmental Forums.’ Forums will meet regularly (bi-monthly or every 3 months) and will allow villagers to air grievances and unite during the process of land-use planning to ensure a seamless set of plans that conserve migration of both pastoralists and wildlife. We contracted with Inyuat e MAA (local Masai) to conduct follow-up visits in seven villages and organise the Environmental Forums.

**3. Briefly describe the three most important outcomes of your project.**

In this first 12-month phase we collected critical information about wildlife and livestock resources, and have begun the process of educating local Masai about the ecological, economic, and cultural importance of protecting migratory habitat for both traditional pastoralists and wildlife via the distribution of the tri-lingual children’s book, a first sensitisation meeting, and the establishment of Environmental Forums. The villagers are becoming aware of multiple possibilities for protecting this habitat, including creation of a Wildlife Management Area or developing and implementing village-by-village land use plans.

The most important outcomes of the first 12-month phase of our project are:

- (1) We collected important baseline data about seasonal wildlife and livestock abundance and distribution in the region from Tarangire National Park to Selela village.

- (2) We distributed nearly 2,000 multi-lingual children's books about wildlife migration to 10 rural schools within the wildlife corridor, and conducted teacher trainings to ensure ecological concepts in the book are being taught and understood by the children.
- (3) We assisted villages in establishing community-led Environmental Forums which will meet regularly to discuss environmental issues and develop solutions from the ground-up. Each village forum will be coordinated and guided by a Steering Committee composed of 17 village members from the following groups: three traditional leaders, three faith-based organisations, four youth leaders, four women leaders, one minority group leader and two village government leaders.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).**

**(1) The Amazing Migration of Lucky the Wildebeest**

Our tri-lingual children's book, *The Amazing Migration of Lucky the Wildebeest*, tells the story of Tarangire's wildlife migration from the perspective of a young wildebeest. In a fun and visually striking way, the book explains to both children and adults why animals migrate and the challenges they face. Written and produced by Monica Bond and Derek Lee of the Wild Nature Institute, the story is in three languages: Maa (the language of the Masai tribe), Swahili (the national language of Tanzania), and English. Rufford Foundation gave us £310 to print and distribute 50 books. However, the book proved so popular that our partners at African Wildlife Foundation provided us with funding from USAID to print 3,000 of the books. The distribution of the book to Tanzanian schools has been an unequivocal success. All the teachers commended and welcomed the initiative, viewing it as important for both pupils and teachers given the extreme shortage of children's books in rural areas of Tanzania.

From 30th January to 10th February 2014, our partners from Inyuat e MAA (Masai Advancement Association) disseminated the children's books to nine primary schools in villages throughout the Northern Plains migration route. MAA demonstrated initiative and creativity by not merely handing out books, but by implementing a set of procedures for measuring progress and success of the book. During the distribution of the books to each school, MAA gathered baseline information about the number and average age of children who would be exposed to the book. A total of 998 books were given to children in Forms 3 and 4 from the nine primary schools (average ages 9, 10, and 11 years). One unexpected positive outcome was that teachers decided to share the books with older children in secondary school classrooms as well.

MAA also held dissemination sessions for 66 teachers in the nine primary schools in the project area. The aim of the sessions was to orient the teachers to the children's book with regard to its rationale, context, structure, usage, and targeted pupils. After distributing the books to the schools, MAA conducted a 1-day seminar for 18 teachers from the nine schools (two teachers per school) to develop teaching methods to use the book as an aid for many environmental subjects, and to create a monitoring and evaluation tool for the use of the children's book. Therein, participants developed a simple evaluation and monitoring form. Responsible teachers will fill in the monitoring form each week for three consecutive months. At the end of the three months, MAA will collect all the filled-out forms from each school and analyse the data for the purpose of understanding the usage, performance, and impact of the children's book in the target schools. These data are currently being processed.

In addition to the nine primary schools visited by MAA, on 26th March 2014 our partners at the African Wildlife Foundation distributed 950 books to students at the Manyara Ranch School, which is also located along the wildlife migration corridor. Every single child attending the school received a book.

The books also enabled us to outreach to key leaders. African Wildlife Foundation presented books to the Tanzanian Minister of Natural Resources and the head of the Tanzanian Wildlife Division—two very important federal decision-makers. Books were presented to Masai village leaders and district council members from the Northern Plains project area during various meetings since the launch of the book. We have sold several hundred books in the town of Arusha to raise funds to distribute additional books to children in the wildlife corridor: all the funds raised from the book sales were given to MAA to distribute the remaining 450 books to schools in Engaruka (which were not visited during the first round of distribution).

## (2) **Environmental Forums and Community-led Land-use Planning**

In December 2013, the Wild Nature Institute and MAA held a sensitisation meeting in MtowaMbu with 35 village leaders and district council members from the Northern Plains project area. The ultimate goal was to begin the process of creating and implementing land-use plans within the wildlife migratory corridor. The meeting agenda was designed to elicit the local villagers' concerns about natural resources and to brainstorm their own ideas for addressing those concerns. We made presentations about the benefits of resource conservation and connectivity for both traditional pastoralists and wildlife, and the need for developing ecologically and culturally appropriate land-use plans. The creation of a Wildlife Management Area was just one of several options put forth to achieve conservation of pastoral livelihoods and wildlife migration routes as well as to derive economic benefit from wildlife conservation via the tourism industry. The need for regular forums to discuss environmental issues and share information among villages and the government was prioritised.

In response to this need, in January and February 2014 we initiated a series of consultative sessions with village leadership in eight villages within the project area. The participants discussed the idea of establishing 'Environmental Forums' that would meet on a regular basis (every 2 or 3 months). The village-level, community-led forums will be a platform where all village residents can discuss their concerns. These forums are a mechanism to develop and implement ideas to improve livelihoods, promote environmental health, protect wildlife habitat and pastoralist rangelands, and improve land-use systems. Each village forum will be coordinated and guided by a Steering Committee composed of 17 village members from the following groups: three traditional leaders, three faith-based organisations, four youth leaders, four women leaders, one minority group leader and two village government leaders.

On 7th March 2014, MAA conducted a 1-day seminar for 11 village representatives from seven out of eight project villages to develop a monitoring and evaluation tool for the community-led forums. At the request of the villagers, MAA also designed a comprehensive set of guidelines for the Environmental Forums. The idea of community-led forums has been received positively in most project villages (with one exception—Engaruka Chini). In fact, some of the general village assemblies (the highest authority at village level) have already approved the names of the Steering Committee members and their functions. In addition, the comprehensive set of guidelines has been developed and adopted to be used in all target villages. This is important in order to have a unified framework

within which the functions of the forums are carried out across the landscape. Several villages have already held their first forums.

Overall, the establishment of community-led Environmental Forums will provide greater opportunity for rural people to exchange information and discuss solutions to environmental challenges, and empower them to engage in governance of their natural resources. These forums are an important step towards developing ecologically and culturally appropriate land-use planning with the ultimate goal of permanently safeguarding landscapes for pastoralists and wildlife. Further, the forums provide a means for us as scientists to share the results of our field research, dialogue with local villagers about environmental concerns and possible solutions, and determine avenues for future wildlife research that would be useful to local villagers.

#### **5. Are there any plans to continue this work?**

Yes, this is part of a multi-year process with the ultimate goal of preserving one of the last great wildlife migrations, protecting and sustaining critical traditional Masai rangelands, and enabling local communities to benefit economically from wildlife and habitat preservation in the Greater Tarangire Ecosystem.

This year, thanks to our work supported by The Rufford Foundation, we attracted the attention of TRIAS (a well-established Belgian NGO), The Nature Conservancy, Wildlife Conservation Society, Maliasili Initiatives, Dorobo Fund, MVIWATA (a Tanzanian farmer and pastoralist members organization), UCRT (land-use planning experts), and Honeyguide Foundation (anti-poaching, human wildlife conflict resolution, and resource protection). The Belgian Government has provided a 200,000 Euro grant to this consortium of partners to assist with land-use planning in two villages in Engaruka. We have received a commitment of \$15,000 per year for 2 years to extend our wildlife surveys north of our current survey area, as well as to collect and record traditional ecological knowledge from Masai elders. The wildlife and traditional knowledge can be used in the land-use planning process, to ensure protection of key resources such as watering holes and movement pathways for livestock and wildlife. We plan to fundraise to collect similar traditional ecological knowledge from Masai elders in the southern villages of the Northern Plains corridor to combine with the data collected in Engaruka. Ultimately, we will use all of the Masai ecological knowledge combined with data from our wildlife surveys to create a comprehensive map for seamless land-use planning for all villages along the migration corridor, from Tarangire to the Gelai Plains.

We are excited to report that the TRIAS project also includes funding for anti-trespass patrols, which will discourage bushmeat and ivory poaching in the region. This work will be spearheaded by Honeyguide Foundation, a Tanzanian NGO which specialises in anti-poaching.

#### **6. How do you plan to share the results of your work with others?**

Our results to date have been published on our website and social media sites. The results of our most recent wildlife surveys are being written into a scientific manuscript. Our year-end results will also be part of our annual report.

**7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?**

The Rufford Foundation grant was used from July 2013 through June 2014. This was according to plan, and we hope to secure future funding from The Rufford Foundation to continue this work.

**8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Fuel for surveys and education trips	£620	£620	0	
Vehicle and expenses of Sensitization Meetings with village leaders	£767	£767	0	
Per diem for Sensitization Meetings with village leaders	£1,550	£1,550	0	
District government official per diems	£2,480	£2,480	0	
Book printing and shipping	£310	£310	0	
<b>Total</b>	<b>£5727</b>	<b>£5727</b>	<b>0</b>	

**9. Looking ahead, what do you feel are the important next steps?**

We have several ideas for the next steps. First, we would like to ensure the continuation of the Environmental Forums so that they become well-established and can act as a foundation for developing and codifying village-level land-use plans and hiring resource protection (anti-trespass) rangers respected by the local communities. We have already involved MAA in the Engaruka project due to their work on the Environmental Forums in that village. Second, we would like to build upon the success of the first children's book with our second book about giraffe; distribution will enable us to maintain our relationships with the teachers and schools and increase environmental awareness and stewardship, as well as encourage pride in protecting their national animal (giraffe are in decline).

Second, we are also proposing a new analysis that will provide much-needed data to the land-use planning process we are instigating for the Northern Plains region. The farthest-ranging migratory ungulates in this ecosystem are wildebeests and zebras. In partnership with scientists from Wake Forest University and the School for Field Studies, we would like to use the spatially explicit wildebeest and zebra data that we amassed over the past 2 years of road surveys to derive a habitat model for each species. We will develop a habitat model that explains the seasonal spatial distribution of these two species. We will then create several possible spatial models of a migratory linkage. We will utilize GPS collar data from two wildebeests to validate the models. These data will inform in land-use plans to ensure conservation of the migratory linkage.

Finally, we also would like to document traditional ecological knowledge of historical and current wildlife movements, seasonal livestock movements, traditional rangeland management practices, and drought-coping strategies for use in forthcoming land-use planning. In remote areas of the world, traditional ecological knowledge of indigenous people is often more extensive than scientific knowledge. For example, coping strategies during times of extreme drought or historical numbers and locations for wildlife are held in memories of respected elders. We received funding to conduct



interviews with Masai elders in the Engaruka area, but we do not yet have funds to collect these data in the southern villages in the migration corridor. We believe this is an important next step.

**10. Did you use The Rufford Foundation logo in any materials produced in relation to this project?  
Did the RSGF receive any publicity during the course of your work?**

Yes, we used the Rufford Foundation logo in our children's book and on our website.