

## The Rufford Small Grants Foundation

### Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. 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. 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**

Grant Recipient Details	
<b>Your name</b>	Aimee E. Kessler
<b>Project title</b>	Mongolian Great Bustard Conservation Project
<b>RSG reference</b>	8538-2
<b>Reporting period</b>	Final Report
<b>Amount of grant</b>	£5975
<b>Your email address</b>	<a href="mailto:Mimi.Kessler@asu.edu">Mimi.Kessler@asu.edu</a>
<b>Date of this report</b>	13 February 2011

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

	Not achieved	Partially achieved	Fully achieved	
Objective				Comments
1) Research to establish guidelines for species management:				We completed our research goals for this year of our project, with the exception noted below. But there is much research left to do on these poorly understood populations of Great Bustard.
1a) Bustard movement patterns:  Ground-truth movement data  Tag new bustards			X	We retrieved and re-attached one transmitter, and wing-tagged additional birds. We also checked the breeding status of tagged individuals in order to better understand the movement patterns we observed via satellite telemetry.
1b) Mortality investigations  Investigate mortalities  Monitor pre- and post-hatching mortality		X		We investigated the mortality of one bird using funds from a different organisation, as funds from Rufford did not suffice. The mortalities of two additional birds must still be carried out, but winter weather has not yet permitted the travel to the remote sites. Unfortunately, we received funding too late in the summer to carry out study of pre- and post-hatching mortality, but plan to do so in 2011.
1c) Surveys		X		Because of financial issues explained below in question #2, we arrived on the breeding grounds too late to carry out surveys at the optimal time. Pre-migratory surveys were also compromised by the unusually early fall migration of the female birds in fall 2010.
1d) Population genetics			X	We continued to collect genetic samples for population genetic analyses. Collaborative population genetic analyses to determine the degree of genetic variation in remnant Asian Great Bustard populations, and their divergence from the European subspecies, are now underway.
2) Conservation outreach				We continue to build strong relationships with the local community and foster conservation knowledge through the activities listed below. We would like to do even more in the future.

2a) Continue programs with schoolchildren and adults at our field sites			X	We continued our popular series of workshops, lessons and field trips for rural schoolchildren. We also continued to welcome local people to participate in our research, and to train local adults in research methods. We have also enlisted local people in data collection activities.
2b) Broader media outreach		X		We continued our series of nationally broadcast radio interviews. However, we were not able to raise sufficient money for a film. We are still trying to find this money and hope to be able to begin this film in summer 2011.
3) Conservation capacity-building:  Support young professional biologists			X	We have academically, logistically, and financially supported the master's study and research of team member B. Dashnyam, from 2008-2011. He is now writing his thesis and plans to graduate in summer 2011. We have also trained young ornithologist G. Natsag from 2008 to present. We are now fundraising to support his entry into a master's program in fall 2011, and he plans to continue research on the Great Bustard. We have also successfully encouraged rural schoolchildren with whom we have carried out outreach programmes to pursue careers in biology.
4) Communication of findings to conservation actors  Including NGOs, government agencies, scientific groups				<p>We have continued to meet with a variety of conservation actors in Mongolia. In 2010 we continued to meet with conservation organisations with which we have earlier shared data and knowledge about Great Bustards, and this year we introduced ourselves to one additional organisation.</p> <p>We continue to produce reports on our findings and conservation recommendations for the Mongolian Academy of Sciences' Institute of Biology, and for the Mongolian Ministry of Nature. In 2010, we produced our first report for local wildlife rangers.</p> <p>We continue to present our work at scientific conferences as possible. (Conference attendance is not paid for using Rufford funds.) Over the last year, we presented our approach to</p>

			<p>community involvement in conservation research at the 2010 Society for Conservation Biology meeting. We presented our findings on long-range bustard movements at the 2010 American Ornithologists' Union conference. Both the project manager and Mongolian master's student presented important findings on Asian Great Bustards at the First International Seminar on Great Bustard Conservation in China. We will continue to present our work to groups and at conferences as possible, including two international meetings in 2011.</p> <p>Please see question 6 for additional details.</p>
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

This year our field work schedule was challenged by financial insecurity and delay. We had planned to work in early spring, and had applied for two larger grants to support this work. However, neither of these organisations announced their decisions by their stated deadline, probably because of financial insecurity at that time - the height of the global economic crisis. We then applied to Rufford Grants and were appreciative of the quick turnaround and project support we received. However, ultimately, these delays meant that we were not able to travel into the field in time to carry out work during the breeding season, so activities such as observations of nesting females to determine pre- and post-hatching mortality and breeding site surveys could not be carried out.

Over the years, we have worked hard to train our team well and to maintain team morale even in difficult work conditions. Because of these efforts, we have been able to retain all core field team crew members over multiple years. Our experienced team worked hard and efficiently during our fall field season to get as much work done as possible before the Great Bustards began their long southward migration.

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

Conservation Research Outcomes: We are still collecting data from tagged birds. After we finish this data collection in spring 2012, we will carry out final analyses. However, our work has already resulted in findings with important implications for conservation planning. First, our ground surveys have brought attention to critically small and extremely isolated populations of Great Bustard in Central Asia, and helped to produce population estimates for the poorly understood Asian Great Bustard (a recent publication using these data: Alonso and Palacín 2010 *Chinese Bird journal*). Second, we have identified agricultural fields as important resources for these populations, which presents an opportunity to promote conservation through agricultural policy. Third, we have found migratory routes much longer than expected. These bustards spend a significant portion of the year in China, thus, bi-national cooperation will be needed to ensure their conservation. Fourth, we have identified poaching on varied migratory stopovers to be a significant threat, indicating that

conservation measures must be geographically broad. We have worked to communicate these findings to conservation actors: government agencies, NGOs, and conservation scientists.

Outreach and Capacity-Building Outcomes: We are very proud that team member B. Dashnyam is in the process of completing his master's degree in biology with our project. Upon graduation this summer, he will become one of very few (6) professional ornithologists in Mongolia, and the first bustard specialist. We hope to support a second master's student - a young man who has trained with our team for three years - beginning in summer 2011.

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

With the exception of the PI, the team is composed entirely of local people, with all local to the project site or to nearby areas which also host populations of Great Bustards. We provide employment to field assistants, a driver and a cook. We purchase many supplies from local people, and represent a relatively large influx of money to a remote area of Mongolia with a weak economy. We have enabled a local student to achieve a master's degree.

Our conservation and ecology programmes for local schoolchildren have been very popular. Students and teachers appreciate the new experiences we can provide to the children and diversity we can add to their curricula. Several rural students participating in the programs have gone on to pursue university degrees in biology. Our support staff (driver, cook) and their children have become increasingly engaged and knowledgeable about our research and the Great Bustard. Indeed, our driver and his daughter are now skilled in many research techniques. Thus, conservation skills and knowledge will remain in this remote town long after our project ends.

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

We earlier envisioned that this project would last 4-5 years. Indeed, the first phase of the research work must end by 2012 so that A. Kessler can complete her PhD thesis.

Over the course of our work we have uncovered many details about the status of Central Asian Great Bustards which have increased our concern for the future of this species. As our efforts on the Great Bustard are the largest yet in this region, our group is in the best position to continue to advocate for conservation action and carry out outreach programs. We have received positive feedback from the local community, including invitations to continue and expand our activities.

Very little was known about Great Bustards in Central Asia when we began this work. Our team has made great inroads, but there is much more to be understood in this vast region. In particular, we are interested in evaluating pre- and post-hatching mortality (this will require funding for early spring work) and in investigating bustard movement patterns in Kazakhstan and eastern Mongolia. Our Mongolian field team members and scientific partners are extremely interested in continuing this work.

We are collaborating on population genetic work which investigates the degree of genetic diversity in Asian Great Bustard populations and their divergence from the European subspecies. This current work will lay the groundwork for future investigations using microsatellites and mtDNA haplotypes to characterize gene flow among breeding populations to examine effects on habitat fragmentation.

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

The PI regularly shares information with conservation actors, by reporting to Mongolian government agencies, meeting with conservation organisations, contributing to conservation workshops, and sharing findings at regional and international conferences. Recommendations based on our preliminary results have already been incorporated into conservation plans of NGOs. We have also listed bustard habitat as Important Bird Areas. The PI is now developing the first scientific manuscript resulting from our research.

We share information with local people through our outreach programmes (lectures and field trips for schoolchildren, research activities engaging local adults). In an earlier year, we developed a series of curricula on the Great Bustard and bird conservation and ecology with an NGO collaborator, which were distributed to schools in three northern provinces of Mongolia. We carry out a series of nationally broadcast radio interviews to reach an audience beyond our field site, and are fundraising to produce a documentary in collaboration with Mongolian filmmaker D. Sümkhüü. The goal of this film is to raise awareness of the plight of the Great Bustard, while encouraging national pride in this charismatic species. We believe that this will play a role in reducing the level of illegal hunting of Great Bustard, which our research thus far indicates is a major cause of mortality.

## **7. Timescale: Over what period was the RSG used? How does this compare to the anticipated or actual length of the project?**

Rufford funds were used to support a 37-day field season in 2010. We had anticipated that our field season would last 45 days. Our field season was cut off by an early blizzard and the outbound migration of the bustards. But we had also experienced increased costs due to inflation and some unforeseen expenses, such that the project broke even.

## **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.**

Exchange rates have changed over the course of the study. When this budget was created in August 2010, the exchange rate for US Dollars to £ sterling was 0.70. When we received the funds transfer, the conversion rate was 0.65. The rate at time of drafting this report is now 0.62. Since we only exchanged British pounds to dollars at the time we received the money via direct deposit, we use the exchange rate of 0.65 pounds to the US dollar here.

The value of the US dollar has been falling in Mongolia. At the time of budget creation, US dollars were worth 1388 Mongolian tögrög; at the beginning of the field season the rate was 1316, by the end of the field season it had become 1307, and it is now 1252. For the purposes of this budget, we chose to use the Mongolian exchange rate of 1316 as it was the exchange rate when we exchanged most of our money at the start of the field season, before we headed to remote areas without foreign exchange facilities.

The difference between the planning exchange rate and the actual time-of-conversion exchange rates are responsible for some of the discrepancies between budgeted and actual amounts.

Item (2010 Field Work)	Budgeted Amount	Actual Amount	Difference	Comments
International Travel to Mongolia for Primary Investigator	£1,620	£1,246	£374	We found a great deal on a plane ticket for the PI!
Domestic Travel to Remote Field Site for Team	£1,050	£483	£567	Our countryside-based driver was conveniently in the capital at the right time to pick us and our equipment up, saving us having to pay a significantly more expensive city-based driver a round-trip salary and petrol to drop us at the remote field site. We also were able to arrange field team members' schedules such that we could avoid using domestic airlights to travel from the capital to the provincial centre to our field site.
Daily Research Costs £62/day for 1.5 Months, including petrol for daily research, modest salaries for local staff, and food for team	£2,800	£2,890	-£90	Inflation has continued in Mongolia. But because our field season was cut slightly short, we remained close to our original budget.
Permitting	£280	£480	-£200	We encountered a problem with the import of feathers to the US for genetic analysis which required the payment of extra fees and the services of a customs broker.
Supplies/Communications	£225	£876	-£651	We had to replace some more expensive items due to wear, which we had not expected. We also used funds in this category to package and ship samples to a collaborating lab for genetic analyses.
Satellite Transmission Fees	OTHER FUNDING			Disney's Rapid Response Fund contributed \$3000 to our satellite transmission funding account with Argos, for 12 months beginning in September 2010.
Investigation of Bustard Mortalities on Migration	OTHER FUNDING			This activity is being funded by the Zayed Species Conservation Fund and is still ongoing.
<b>TOTAL</b>	<b>£5,975</b>	<b>5975</b>		

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

For the next steps in our team's research and outreach programme, please see the answer to question #5.

In the light of our preliminary research results, we see the most important step towards the conservation of the Great Bustard in Central Asia to be reduction in the level of illegal hunting. Through countless discussions with local people, our team has come to understand that law enforcement in the remote regions of Central Asia where these birds are still found is weak, due to many issues including the difficulty of the terrain, the low population density, and lack of funding. Given this setting, we find that the most effective method of protecting these birds is to change the attitude of hunters. As we have detected poaching across the migratory range, our outreach programs must be broad in scope. This is why we have proposed and are fundraising for a larger media outreach program (see question #6).

We have not completed our habitat analyses, but it seems highly likely that the Great Bustard is dependent on human-modified landscapes (agricultural fields) and that the intensification of agriculture could impact this species negatively. Once our data analysis is complete, we plan to share recommendations for conservation of this bird via agricultural policy to pertinent groups.

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

We have acknowledged the critical support of the Rufford Small Grants Foundation in all presentations stemming from this research, and will continue to do so in the years to come. We are now working on our first scientific publication on this research and will acknowledge the support of RSGF in this and all pertinent subsequent publications.

## **11. Any other comments?**

Rufford Small Grants Foundation fills an important niche in the conservation funding environment, by supporting projects led by non-PhD level individuals and involving rural communities. We also appreciate the quick decision-making time and the year-round funding cycle. Rufford truly facilitates on-the-ground action, outreach, and research, by those with a passion for conservation around the world!