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. 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.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Rocío Mariano Jelicich
Project title	Migration patterns and population connectivity of the Black Skimmer (*Rynchops niger intercedens*) in South America: a continental approach
RSG reference	28.12.07
Reporting period	Final report
Amount of grant	£2747
Your email address	rmjelic@mdp.edu.ar
Date of this report	October 2009

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
Estimation of population numbers in the subspecies		X		Censuses were done on breeding and non-breeding sites in Argentina. Even though these supposed almost 8 years of censuses at non-breeding sites, we will need more counts at breeding sites. No counts were possibly done at Brazilian sites. Data from recent literature was used.
Analysis of the migratory chronology of different breeding and non-breeding populations.			X	The information used covered non-breeding sites between 1981 and 2009 with some gaps. Data from breeding sites in Argentina corresponded to years 2001-2003. Data from recent literature was used as well.
Study of the degree of population structure at non-breeding and breeding grounds.		X		The analysis of seven microsatellites previously reported as polymorphic for skimmers (Faria et al. 2007) has been done. A first subset of amplified samples will be sent. Several difficulties delayed this step. Once we get back the analysis of the first subsample we will continue with the analysis of the full set of samples, planning to finish and have the analysis back by April 2010.

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

During the first sampling season there were weather problems (particularly the raising of Uruguay River's level) that made it impossible for us to sample Argentinean breeding colonies. This sampling was finally done on January 2009.

We suffered some delays getting the capture permits due to sudden changes in the applications and information required by the Argentinean government. This was finally solved. Something similar occurred with samples from Venezuela; this large delay and problems regarding the subspecies present at those sites made us disregard the use of samples of this origin, at least for this project.

We also faced some difficulties that delayed the laboratory work. We started with the optimization of PCR protocols on November 2008 but in January 2009 three PCRs collapsed. This left only one piece of equipment being used by the whole Institute and so, the analysis of DNA samples suffered from enormous delay.

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

Banding of birds
We started a banding programme at breeding areas in Argentina. Local people in Entre Rios, Argentina will continue the ringing activities at skimmers colonies. They will also continue with the colony counts in order to have better numbers of birds using these sites.

Results from censuses
Apart from the data on skimmers' abundance obtained through several years of visiting non-breeding sites on the south-eastern coast of Argentina (census between year 2000 and 2009), data on census during previous years, as well as data from breeding grounds in northern Argentina were obtained through an extensive search on literature. Published and unpublished data were provided by F. Raffo and taken from M. Martinez field notes.

There is also available information on breeding colonies and non-breeding populations in Brazil. These registers show that reproductive activities of skimmers in areas at the north (Pará state) and south (Rio Grande do Sul) start by the end of September extending until November (Krannitz 1989, Efe *et al.* 2001). While observations at non-breeding grounds describe the higher abundances (between 400-500 individuals) of skimmers at the southern coast of San Paulo State between December and March (Naves 1999, Barbieri 2007) and also large flocks of birds between May and July (this was observed for the years 1999-2001, Barbieri & Paes 2008).

It seams clear from the departure dates registered at Argentinean breeding sites that these skimmers are probably using the southern coast of Buenos Aires Province as their non-breeding ground. While the information available for departure dates from breeding sites in Brazil suggests a regional movement of these birds to the Brazilian southern coast as non-breeding sites. However, the information available, the higher numbers observed in Mar Chiquita Coastal Lagoon (Argentina; 6000 vs. 500 skimmers observed in non-breeding grounds from Brazil) are still not explained by the abundances at Argentinean breeding sites and the departure dates from Brazilian sites. Movements of birds from northern non-breeding sites to southern ones (following a "leapfrog" pattern, Van de Kam *et al.* 2004)

searching for better "wintering" conditions can also be proposed. We still have to wait for the information from microsatellites and the possible genetic structure of the different populations to give us another tool in the search for an answer.

Genetic analysis
Even though we don't have these results yet, it has been a very important approach to the problem and working through it has faced us with different technical problems that we learnt to solve. These gave us a lot of practical expertise to be applied in future research. Working through this project has largely improved our knowledge on microsatellite analysis and laboratory techniques, helping to impulse in Argentina the field of molecular ecology on seabirds which we see as an important way of answering many ecological questions and also as a key field to face conservation issues.

Implementation of new capture system
One of the difficulties faced during all these years of work has been the success of capturing birds for sample, this has been very variable, and it needs the allocation of huge field effort (people and time). We started the implementation of new capture systems in order to reduce time effort at the field, and also involving better capture conditions not just for us but for the birds too (e.g. working through daylight hours). The application of this capture system also provides better capture rates not only for the birds involved in this project but for other seabirds that are being studied by our research group.

References cited:
Faria, PJ, E Baus, JS Morgante & MW Bruford. 2007. Gen. Mol. Biol. 30: 681-689.

Van de Kam, J, B Ens, T Priesma & L Zwartz. 2004. Shorebirds. An Illustrated behavioural ecology. Knnv Publishers Royal Dutch Society for Natural History, Nl. Pp 368.

Naves, L. 1999. Ecologia alimentaria do talha-mar R. nigra na desembocadura da Lagoa dos Patos. Fundacao Univesidade do Rio Grande, 158 pp. Dissertacao do Maestrado.

Krannitz, PG .1989. J. Field Ornithol 60: 216-223.
Barbieri, E. 2007. Biota Neotrop. 7:21-26.

Efe, MA; L Bugoni; LV Mohr, A Scherer, SB Scherer, OP Bairro. 2001. Internat. J. Ornithol. 4: 103-107.

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

Local people at breeding sites in Argentina committed to continue with the banding and the colony counts. Moreover, they have told as about re-sighting of rings. Skimmers constitute an emblematic species both at non-breeding and breeding sites from Argentina, being of touristic interest and always of interest to wildlife lovers and birdwatchers. So, improving

the knowledge of this species provides new tools to be explored and apply by people at these communities (mostly considering that these sites have touristic potential) and as a result improves the conservation of these environments and the harmonic interaction with the communities inhabiting them.

5. Are there any plans to continue this work?

This project is part of a postdoctoral research that will finish on May 2010. All the microsatellite analysis is expected to be finished by that date.

The expertise obtained through this project will be apply in future works not only with this particular species but also with other seabirds species that winter in wetlands from the south-eastern coast of Argentina and are also of particular interest because of their status of vulnerability, endemic condition and/or being abundant species using these important environments.

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

At a local scale, results will be shared with people at the Mar Chiquita Reserve, where the main non-breeding area of skimmers occurs, and where the skimmers constitute an emblematic species for the coastal lagoon and community. In the same way the information obtained through this work will be shared with people at Argentinean breeding sites and included in an extant wildlife programme involving bird species using the Uruguay River. Partial outcomes will be shown at next scientific meetings, and once the data analysis is finished, we will published the results at scientific journals.

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

The RSG was used from March 2008 – September 2009. The project is still on course till May 2010. Thanks to the RSG most of the project has been done.

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
Field work consumables	829	749	80	
Stable isotopes	60	188	-128	
Field work equipment	668	670	-2	
Genetic analysis	530	370	160	We are still performing the amplifications.

Field work logistics	260	56	204	No insurances were needed, and the boats were rented for less days than expected
Travel cost	200	180	20	
Other costs	200	200		
Total	2747	2413	334	Local exchange rate used: 1 £ Sterling = 6.46 $ Argentine Peso

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

In this next future we need to compare the isotopic information together with the microsatellite analysis. We consider as important future steps keeping a banding programme, diversify the origin of the samples, and building specific microsatellite libraries that might yield higher polymorphism.

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?

Not yet, but two meetings will take place during 2010 where we plan to publish these data and so, the RSGF logo used. Moreover, the information obtained will be shown to communities at the sampling sites, and so the RSGF logo will be use in this material as well.

11. Any other comments?

I'm immensely grateful with RSGF for bringing to us the opportunity to start this study, which allowed us to continue with the study of skimmers, one of the main species wintering at important wetlands from the south-eastern coast of Argentina, helping as well to obtain tools to guard over their conservation. The RSG really made a difference for us allowing to impulse particular lines of study that were not previously considered and enabling us to apply this new knowledge in conservation issues. The RSGF helped us facing this work, being for us an opportunity to make a tremendous contribution to effective wildlife and neotropical conservation, as well as an important chance for the implementation of new techniques on seabirds that have been scarcely used in Argentina