

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	Yarelys Ferrer Sanchez
Project title	Status and Conservation Strategy of Cuban Diurnal Raptors of a Ramsar Site in Cuba
RSG reference	9509-1
Reporting period	September 2011 – September 2012
Amount of grant	£ 5929
Your email address	yferrersanchez@gmail.com yarelys@ffauna.cu
Date of this report	29 October 2012

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
To determine the distribution, status and productivity of diurnal raptors			X	We also analysed the abundance per species and the influence of land use changes on specialised/generalist species.
To training the protected areas staff and the communities			X	We also prepared and distributed a species guide to protected area staff, with information about distribution, natural history and threatened category per species.
To promote the values of raptors in local communities through the development of environmental campaigns			X	

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

Due to the bad weather conditions in February and May, two field trips were shorter than planned

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

➤ **To determine the distribution, status and productivity of diurnal raptors**

During the survey we realized 235 hr of raptor observation at count point and covered a total of 850 km in road transects, registering 11 species of diurnal raptors (Appendix 1). Used methods were effective for the localization of endemic species like *Buteogallus gundlachi* (Cuban black hawk) and *Accipiter gundlachi* (Gundlach's hawk). We sighted 1092 birds in road transect and 2371 in observation points during the period. The biggest proportion was observed in natural zones. The biggest register was obtained for *Cathartes aura* (Turkey vulture) (70.2% y 80.6% - road transect and observation point) followed by *Falco sparverius* (American kestrel) (9.6% y 7.8% - road transect and observation point). Gundlach's hawk had the least number of observations (0.1%). Cuban black hawk and snail kite were observed only in natural zones with the 25.8% (50% in observation points) of the road transect observations in the migratory season and the 74.2% (50% in observation points) during reproductive season (Appendix 1).

The species richness was 11 species of diurnal raptors, 54.5% of which are permanent resident in Cuba, 27.3% are winter residents and 18.2% bimodal residents (Appendix 2). The biggest number of species was observed during migratory season. In natural zones we detected the biggest species richness in relation to modified zones (Appendix 3).

The total abundance of observed birds was 2085 in road transects and 5623 in observation points. The assemblage was dominated by Turkey vulture (1795, 5109), followed by American kestrel

(98,203) and osprey (67, 82). These three species represent between the 94 and 96% of the total abundance of assemblage.

We localised 32 raptor nests 59.4% of this belong to Cuban black hawk and 18.6% to American kestrel (Appendix 4). The 90.6% of nests was localised in natural zones and the 9.4% in modified zones.

The obtained data indicate that raptors like red tailed hawk, caracara, merlin and peregrine falcon were not affected by land use changes. The 36.4% of species observed were affected by human modification of the habitats. American kestrel, turkey vulture and northern harrier benefited through human intervention in ecosystems.

Updated satellite pictures of the study area were used to identify and digitise all vegetation types as well as ways and paths. Geo-referenced information gathered during field work was assessed as part of Geographic Information System. Distribution of raptors nests, species richness and total abundance were represented in maps as part of the report (Appendix 5).

➤ **To train the protected areas staff and the communities**

We trained seven technicians of four protected areas inside the wetland and four farmers of two communities.

➤ **To promote the values of raptors in local communities through the development of environmental campaigns**

With this campaign we developed an environmental education programme for children of the rural communities; those have influence over wetland and raptors. We achieved a massive participation of communities (children, young people) for the protection of raptors and created an adequate environmental perception of the human-nature relationship. We monitored the population size of raptor species with rural people and achieved the integration of many state entities like: Education Ministry, Forest State Service, Universities, Flora and Fauna Enterprise and Environmental Agency. Seven rural communities were involved in the festival activities, with the participation of 100 children, 76 young people and 35 adults, 40 technicians, five protected area managers and two university students.

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

Several local people collaborated with us in the fieldwork and prepared the activities for the community festivals. Each school per local community has didactical pamphlets showing raptors characteristics and its ecological importance. These materials support educative activities in schools. We lectured teachers and environmental specialists in rural schools and local people in communities in relation with wetland, biodiversity, raptors and its role in the ecosystem. We initiated a raptor campaign with the community festival. The relationship among communities and protected areas was strengthened.

We achieved the incorporation of four young persons of the communities in the protected area activities as salaried workers.

5. Are there any plans to continue this work?

Yes, we will continue monitoring diurnal raptors on this wetland together with the environmental activities in the communities involved in the project and new ones. I would like to evaluate the long-term effects of human activities in the productivity and distribution of specialised and endemic raptors, as well as to study and monitor its demographic parameters. Also, I will study other regions of Cuba with a similar protocol in order to have a comparative baseline and to increment the knowledge and protection in the country.

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

Yes. First, the results were presented to the staff of protected areas to contribute to the design of management plans and recovery strategy per threatened species.

These results were presented in the V North American Ornithological Conference celebrated in Vancouver, August 14-18, 2012 (www.ubconferences.com).

Two papers are in preparation: 1. Temporal and spatial variation of raptors in Ciego de Avila, Cuba. An analysis of the effects of human activities; 2. Nest-site selection and productivity of Cuban Black-Hawks in the central region of Cuba. I am preparing an informative article about the long term monitoring program of diurnal raptors in order to publish in *Flora y Fauna* magazine. This is a magazine of the National Enterprise for the Flora and Fauna Protection.

Three students of the biology career were capacitated in identification of raptors and the counts methods and finally we will share get available these results in the Flora and Fauna national database.

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 over 12 months from October 2011 to October 2012.

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
Laptop computer	500.00	600.00	-100	Market price varied
Printer	100.00	100.00	0	
Printer toners	84.00	84.00	0	
Professional digital camera	350.00	300.00	50	Market price varied
Len for professional digital camera	500.00	500.00	0	
Batteries and charger for GPS receivers	25.00	25.00	0	
Office material	100.00	100.00	0	
Printing services	150.00	170.00	-20	Price incremented
Transport to the field areas	120.00	0.00	120	
Car rent for the road counts	1200.00	1320.00	-120	Price incremented

Fuel	280.00	350.00	-70	Price incremented
Food for 4 workers (in field camps)	2520.00	2450.00	70	Prices of goods varied
Total	5929.00	5999.00	-70	

I received the budget in Mexican pesos, with local exchange rate of 15.0

The exchange rate between Mexican pesos (MXN) and Convertible Cuban pesos (CUC) is 14.5

(1 CUC ~14.5 MXN)

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

- To conduct an on-going training programme of protected area workers in other regions of Cuba, in order to initiate some studies of raptors and monitoring selected demographic parameters.
- To looking for support to continue with our investigations in the Gran Humedal del Norte de Ciego de Avila and other regions of Cuba.
- To develop a national programme for the study and conservation of diurnal raptors in Cuba.

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?

RSGF logo was used in identification guides, reports to protected areas, lectures, conferences and poster in V North American Ornithological Conference (Appendix 6).

Appendix 1 Number of observations of diurnal raptors detected in the northern region of Ciego de Avila province, Cuba, through road transect and observation points (parenthesis), during migratory (EM) and reproductive (ER) season, 2012.

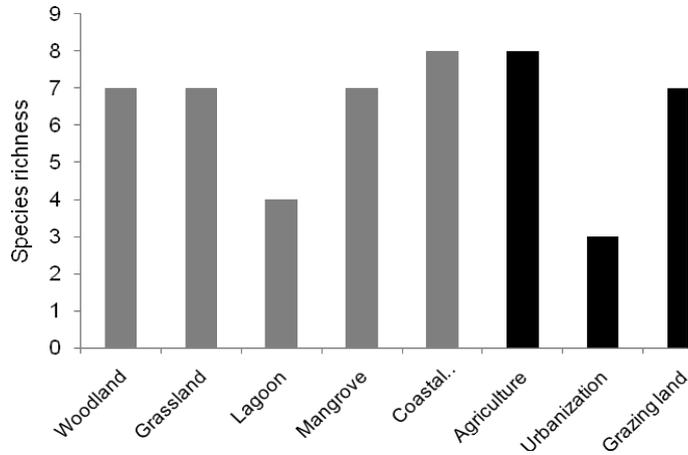
Species	Natural zone		Modified zone		Total
	EM	ER	EM	ER	
<i>Cuban black hawk</i> *	16 (9)	46 (9)	0 (0)	0 (0)	62 (18)
<i>Gundlach' hawk</i> *	0 (3)	0 (0)	1 (1)	0 (0)	1 (4)
<i>Osprey</i>	38 (48)	30 (20)	0 (1)	0 (1)	68 (70)
<i>American kestrel</i>	21 (43)	29 (42)	19 (68)	36 (33)	105 (186)
<i>Snail kite</i>	0 (13)	0 (5)	0 (0)	0 (0)	0 (18)
<i>Red tailed hawk</i>	9 (31)	16 (12)	4 (9)	0 (1)	29 (53)
<i>Caracara</i>	10 (19)	17 (22)	9 (13)	14 (13)	50 (67)
<i>Turkey vulture</i>	201 (584)	318 (380)	107 (586)	141 (361)	767 (1911)
<i>Merlin</i>	1 (2)	0 (1)	1 (4)	0 (1)	2 (8)
<i>Peregrine falcon</i>	5 (5)	1 (2)	0 (4)	0 (0)	6 (11)
<i>Northern harrier</i>	0 (9)	1 (0)	1 (15)	0 (1)	2 (25)
Total	301 (766)	458 (493)	142 (701)	191 (411)	1092 (2371)
	759 (1259)		333 (1112)		

* Endemic species

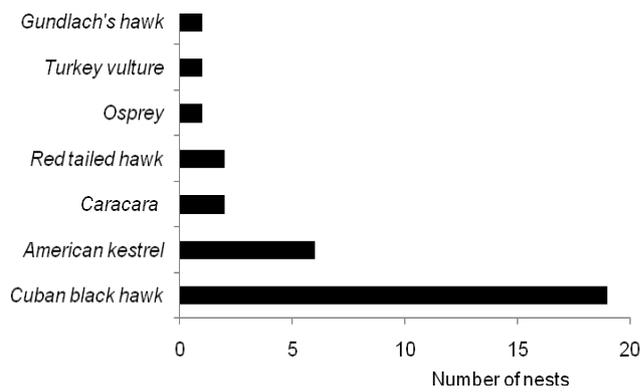
Appendix 2. Species of diurnal raptors detected during the migratory and reproductive season.

Species	Migratory season	Reproductive season	
		Resident species	Migratory species
<i>Cuban black hawk</i>	X	X	
<i>Gundlach' hawk</i>	X		
<i>Osprey</i>	X	X	
<i>American kestrel</i>	X	X	
<i>Snail kite</i>	X	X	
<i>Red tailed hawk</i>	X	X	
<i>Caracara</i>	X	X	
<i>Turkey vulture</i>	X	X	
<i>Merlin</i>	X		X
<i>Peregrine falcon</i>	X		X
<i>Northern harrier</i>	X		X
Species richness	11	7	3

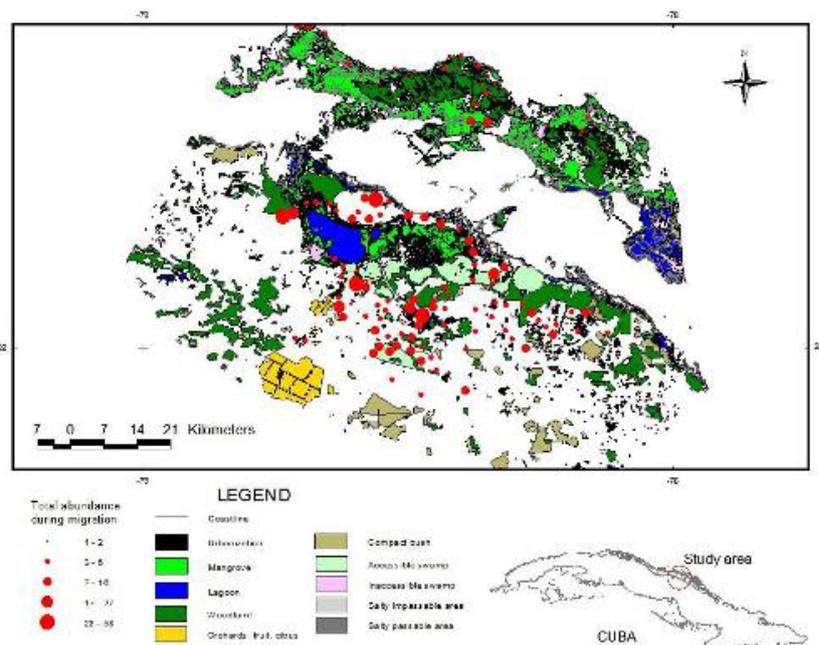
Appendix 3. Species richness per habitat types in the northern region of Ciego de Avila province.



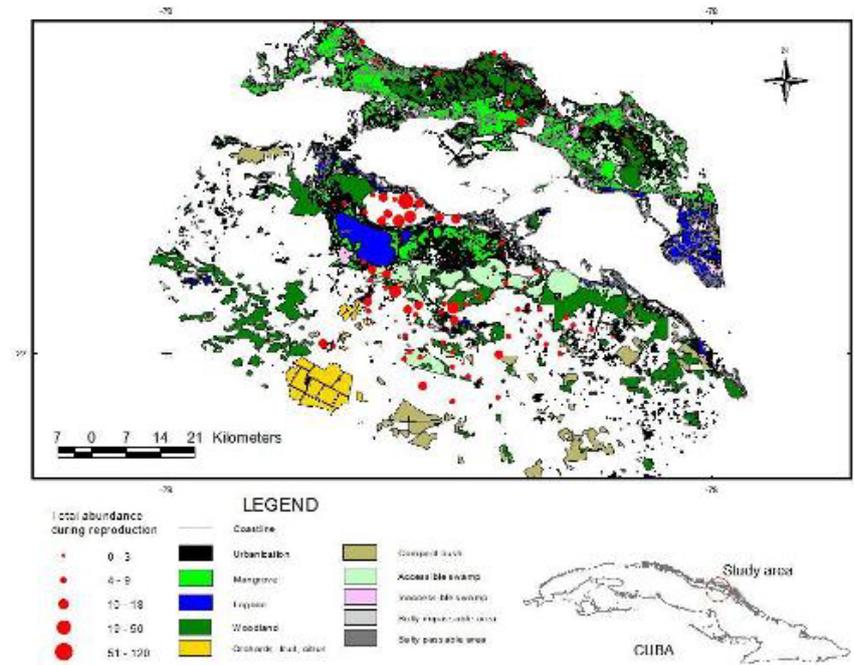
Appendix 4. Number of active nests recorded during the breeding season 2012



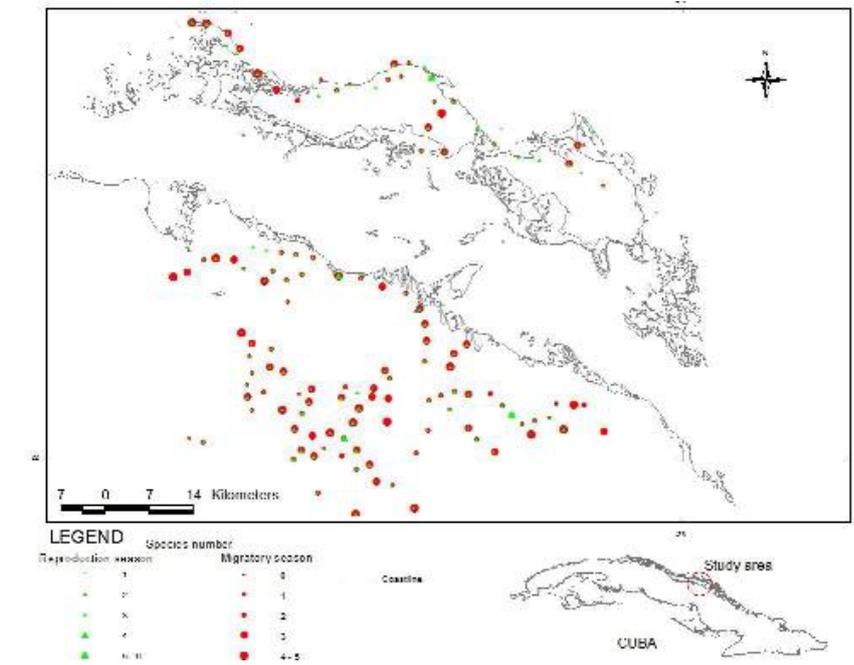
Appendix 5. Map of total abundance during migratory season.



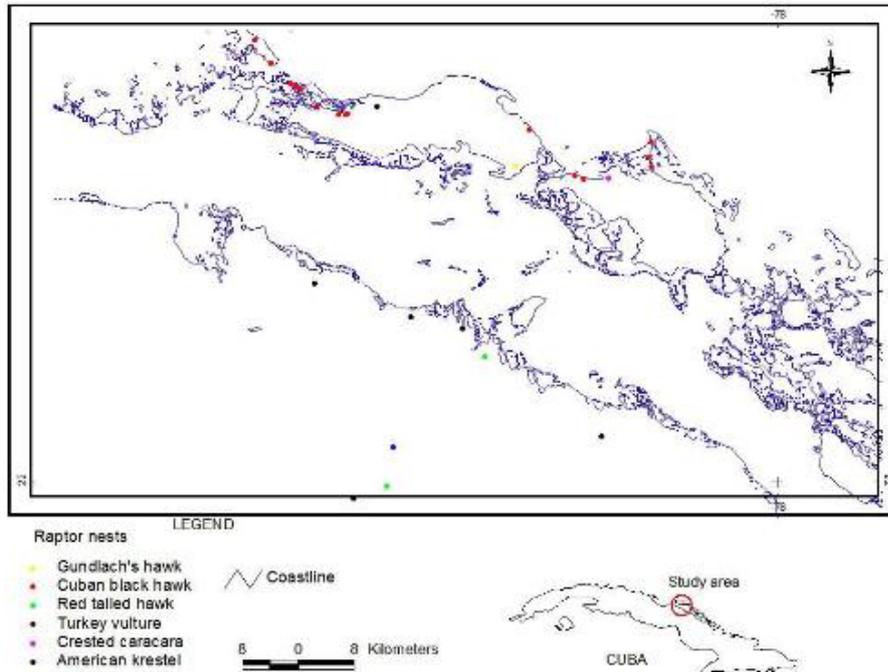
Map of total abundance during reproductive season.



Map of species richness



Map of diurnal raptors nests



Appendix 7. Use of the RSM logo in a poster presented during the V North American Ornithological Conference.

