

Final Evaluation Report

Your Details	
Full Name	Esther Viviana Vallejo Santamaria
Project Title	Conserving Migrating Raptors in Colombia by inspiring appreciation through migration monitoring and education programs
Application ID	30644-1
Grant Amount	£6000
Email Address	evallejos@gmail.com
Date of this Report	May 17 th 2021

1. 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
Counting site: Establish a raptor count site in Tolima to obtain data on migrant numbers using the corridor.				We collected data on raptor migration, establishing a baseline for future research and conservation efforts. Now we have a better understanding of migration, including timing, species, number of individuals and environmental variables in the area.
Roosting site monitoring: Collect data on numbers of raptors using the roost sites and assess numbers being shot daily, based on previous records and surveys that will be carried out in the community.				We obtained an estimated number of individuals, species, and areas used by migrating raptors as roosting sites. This information allowed to identify priority target areas for future conservation and education efforts, for migratory raptors in central Colombia. We developed an online network with the local community to obtain information about shooting but generating valuable information about locations and daily numbers was not possible due to difficult access of roosting sites and safety.
Local education: Add new didactic material and methods to the current local education strategies within the area where Swainson's and Broad-winged Hawks continue to be shot.				We developed raptor education programmes, creating new materials and adapting the materials from Hawk Mountain education programmes for local necessities and according to the migrating species observed in the area. We also partnered with local organisations and educators and expanded efforts into new areas.
Empower the community with knowledge: Train locals to encourage them to expand monitoring and education efforts in the future.				We trained 23 locals in raptor identification and counting protocols, among others. Participants of the workshops were able to take part in monitoring activities in the field to practice their new skills, guided by experienced raptor counters. A second workshop

Objective	Not achieved	Partially achieved	Fully achieved	Comments
				was carried out to include birders from across Colombia. People from other Latin American countries even participated.
Identify and enhance ecotourism potential: Spread information and results of the project, and raptor conservation awareness through social media, journals, etc.				Social media postings promoting birding visits, raptor conservation and weekly updates about data collected were developed. Additionally, information was shared widely through several media outlets with talks and interviews on local TV news, on radio and with printed materials.

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

An unexpected difficulty was the Covid crisis. At the time of planning the project and submitting the proposal, it was a difficulty that did not yet exist. We modified the activities of some of the objectives to adapt to the new circumstances:

- For local education we created virtual programmes, which facilitated the dissemination of information in different schools, this led us to an unexpected positive outcome, covering schools not only in the study area, but also in other regions of Colombia.
- The local conservationist training was also virtual, and the field practices carefully scheduled to avoid crowds at the study site, it was usually two people on the counting site per day.
- Special insurance for covid virus was paid to cover raptor counters and trainees in case of being infected.
- Visits to roost sites in remote or restricted areas were replaced by participatory surveys involving the local community and with the creation of an online community network to report hunting or general information they wanted to provide about raptor migration in their lands.

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

First raptor migration data for the study area

The Trans-American flyway is little studied in the south of the continent, compared to North America and Mesoamerica, where several hawk watches currently exist (Bildstein 2006). Information on migration of raptors in Colombia can be found primarily for the northern region (Bechard et al. 1999, Colorado et al. 2006, Bayly et al. 2014).

We established the baseline for future research and conservation efforts in Tolima, central Colombia. We collected data about raptor spring migration between February 20th and April 15th, with a total of 452 hours of observations. We recorded a total of 625,766 individuals of 10 different species of migrating raptors in the hawk watch located in central Colombia, "Tolima Raptor Count". This result positions the study area as the fourth most important hawk watch in the Neotropical region based on published information (Bildstein 2006).

The most abundant species was the broad-winged hawk with 334,038 individuals, followed by Swainson's hawk with 272,503 individuals (Table 1). These two species comprised 97% of migrating raptors. Figure 1 shows the timing for spring migration. On March 19, 216,884 hawks were recorded, corresponding to the third part of birds recorded throughout the season in a single day (Figure 1).

Table 1. Number of individuals per species.

Species	Total
Turkey vulture	53
Broad-winged hawk	334 038
Swainson's hawk	272 503
Osprey	59
Swallow-tailed kite	294
Mississippi kite	13
Hook-billed kite	2
Plumbeous kite	20
Merlin	3
Peregrine falcon	17
<i>Buteo</i> sp.	4 372
Diurnal raptor sp.	14 392

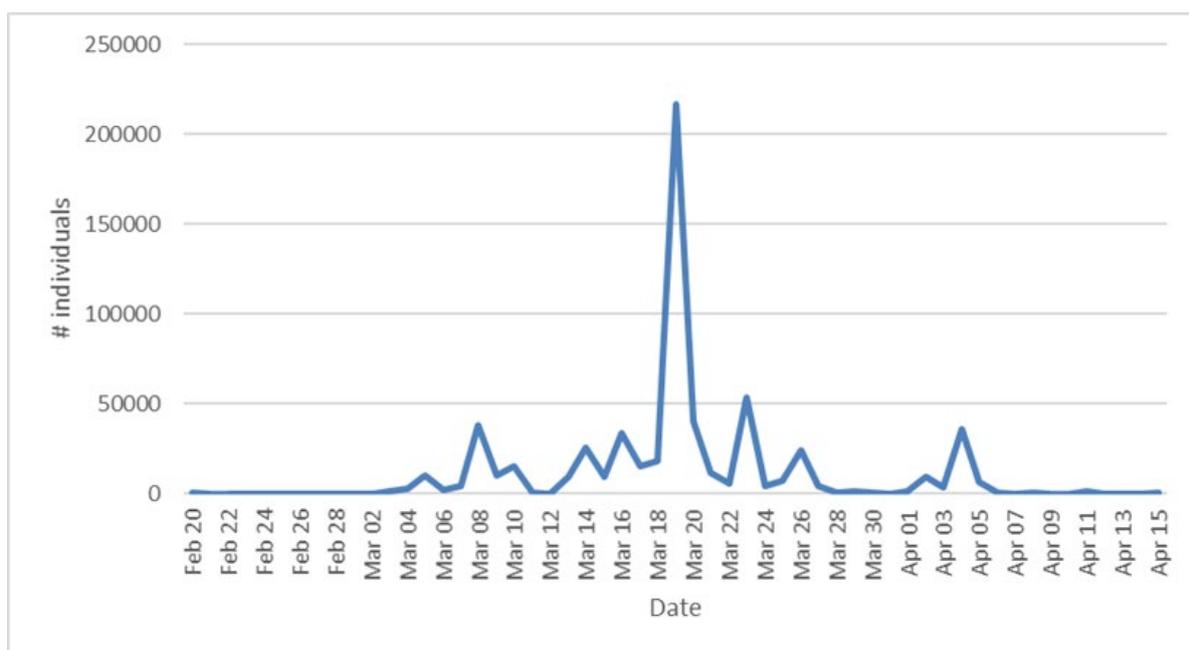


Figure 1. Daily totals of migrating raptors during Autumn 2020.

Identification of priority areas for future conservation and education efforts

We identified 13 areas used by Swainson's and broad-winged hawks as roosting sites in Tolima (Figure 4). Five of these areas were reported as having poaching activity. This is valuable information to focus our education efforts in those areas. The number of individuals at the roosting sites ranged from a few dozen to more than 5,000 in a single day.

Five of the 13 sites identified were in the lowlands. None of them had reports of hunting. The rest of the roosts correspond to areas located on the slopes of the Central Andes Mountains. Visits to some of the reported areas were made, such as Hacienda El Escobal and the Opia River Basin, where the individuals were observed perched on trees at different heights (Figure 2 and 3). The two locations correspond to tropical dry forest fragments, one of the most threatened habitats worldwide (Salazar et al. 2002).



Figure 2 and 3. Swainson's and broad-winged hawks roosting in Hacienda El Escobal.

Trained local conservationists

Due to the lack of research and a continuous hawk migration count site, many people are not familiar with hawk counts in Colombia. There are very few people who are trained to carry out a raptor count in the country, so the training of counters in Colombia is an important outcome of the project, to achieve long-term goals.

23 people were trained in the identification, counting of migratory raptors, among others. Most of the people were from Tolima, our population target. We also had a second virtual workshop, to include birders from across Colombia. We had around 56 participants from different regions of the country.

Some of the participants of the workshops were able to take part in the monitoring in the field to practice their new skills guided by experienced raptor counters.

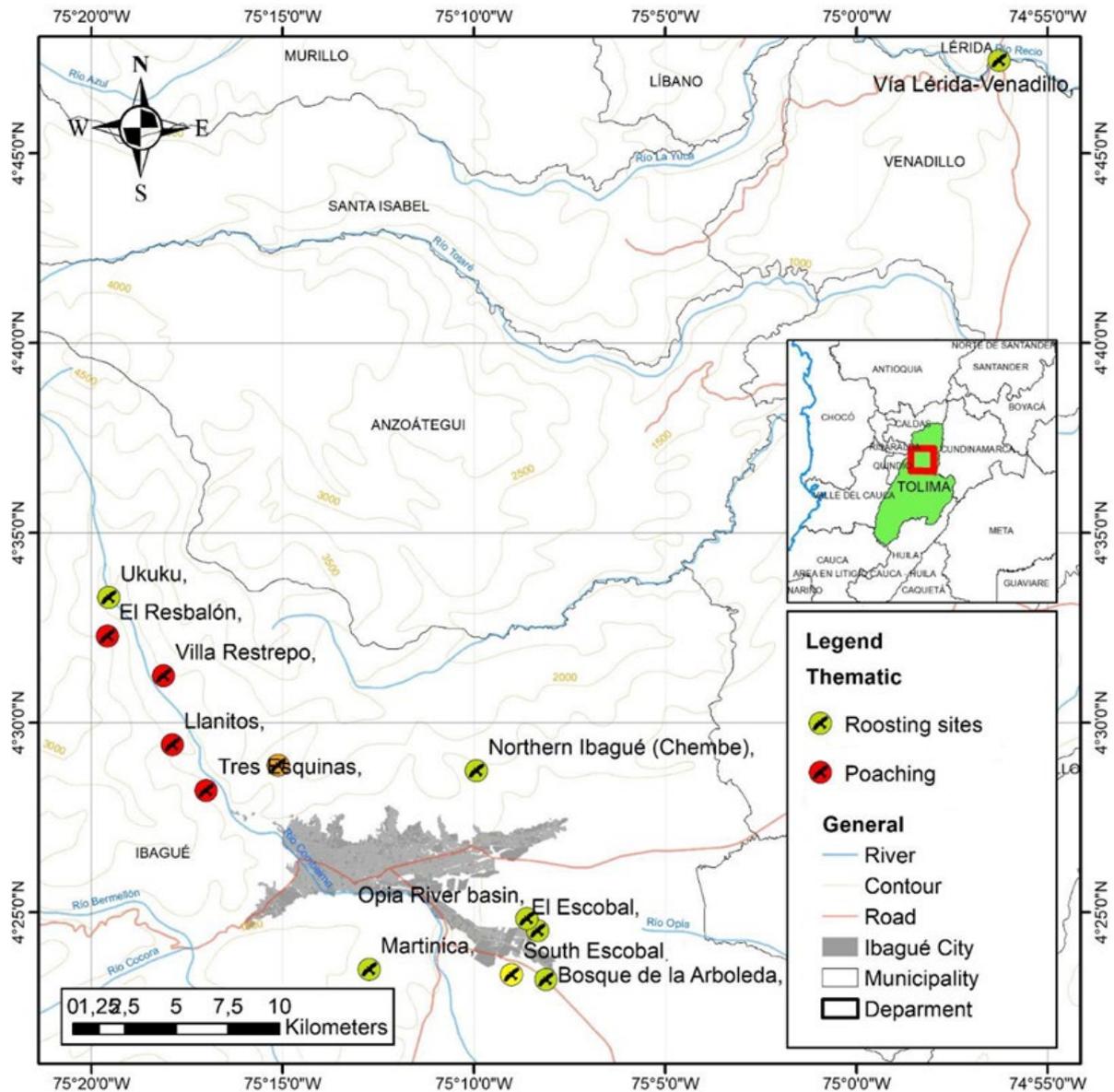


Figure 4. Identified roosting sites of Swainson's and broad-winged hawks.

4. What do you consider to be the most significant achievement of this work?

The most important achievement is having established a baseline with quantitative description of raptor migration for Tolima, spreading the knowledge and interest in raptor conservation to local organisations and community in general. This could foster the appropriation of their territories and pride in the fauna in the area, especially the birds, being part of their identity, which could lead to the commitment of the community and its involvement in future conservation processes. These results were achieved through the establishment of an official count site for the region, the only one currently working in South America, Tolima Raptor Count.

5. Briefly describe the involvement of local communities and how they have benefited from the project.

We had a good response from the community, achieving the interest of different local actors: rural and urban community, organisations and private sector.

The community in general was involved through the online network created to report roosting sites and shooting in their localities. Also, they participated through the workshops and visits to the count site, acquiring new skills to participate as count assistants and preparing to be the future counters at the count site. With the educational programmes, students learn about migration and the importance of the area they live for these species.

Local organisations concerned about conservation, got involved in the project participating in different activities and with the aim of continue this involvement in the future.

6. Are there any plans to continue this work?

Yes, this project was created with the aim of continuing over time to have enough information to observe population trends over the years for the different species and to have a continuous education programme to change the perception about raptors in the future generations. We hope to continue the project in every migration season.

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

Before and during the field phase we began to share information and the results of each week through social networks. We have held talks at different national and international events in order to publicise the project. When travel is possible and safe, these results are expected to be shared at one of Rufford's meetings. The results will continue to be published online and it is expected to develop a publication in a scientific journal to make these results known to the scientific community.

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

Grant was used from the last week of February to May 2021. The anticipated length of the project was from March to May, so the difference was just a week. We decided to start a week earlier to make sure to record early migrants in the spring season. I would like to highlight that outreach is continuing through social media, as this project is planned to be a long-term effort.

9. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Subsistence payments	2280	2280		Funds that were not spent as travel to remote roost sites and others, due to the COVID pandemic, were used to adapt the project to virtual media, including workshops, educational programs, and outreach in different media.
Food	912	430	-482	
Local travel	380	104	-276	
Transportation (rental and fuel)	760	588	-172	
Books and other materials	81	26	-55	
Printed Materials	152	142	-10	
Designer, advertising	76	452	+376	
Lodging	760	613	-147	
Workshop costs	371	491	+120	
Outreach		645	+645	
SELVA banking & admin costs	228	228		
	6000	5999	1	

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

I think it is important to continue the process including the different objectives already worked.

- ✓ Migration monitoring to collect the information that will be compared in the future.
- ✓ Facilitate the learning and practice in the field for local birders and conservationist.
- ✓ Train local environmental leaders in the educational programmes created specifically for the conservation of migratory raptors, and encourage them to continue with educational efforts, mainly in the regions where hunting was recorded.
- ✓ Continue creating links with other organisations and key actors to develop ecotourism initiatives that may allow the project to achieve sustainability in the future and at the same time, with this development, directly and indirectly benefit the community.

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

Yes, through the outreach we developed in talks, social media and interviews (radio and video) the logo was shared and Foundation received publicity.

12. Please provide a full list of all the members of your team and briefly what was their role in the project.

Alfredo Beltrán Santos: Experienced raptor counter, creator and developer of workshops and trainer of local conservationists.

Esther Vallejo: Project coordinator and raptor counter.

Irving Chavez: Experienced raptor counter, trainer of local conservationists.

Laurie Goodrich: Project advisor.

Luisa María Agredo: Development of virtual education programs.

Natalia Muriel Triana: Design and management of advertisement, logistics for outreach.

Nick Bayly: Project advisor.

13. Any other comments?

I really appreciate the support that Rufford Foundation has given to this effort. Your commitment with conservation made our project possible, thank you very much.

Bibliography.

Bayly, N. J., Cárdenas, L. O., Rubio, M. & C. Gómez. 2014. Migration of raptors, swallows and other diurnal migratory birds through the Darien of Colombia. *Ornitol. Neotrop.* 25: 63–71.

Bechard, C., S. Kaltenecher, C. Márquez, G. Colorado, & A. Castaño. 1999. Migración de rapaces en el Alto de Minas, Colombia 1997-1998. *Boletín SAO X* (18-19): 29-41.

Bildstein, Keith L. 2006. *Migrating raptors of the world: their ecology and conservation.* Cornell University Press. Ithaca, New York. 320 p.

Colorado, G. J., M. J. Bechard, C. Márquez, & A. Castaño. 2006. Raptor migration in the Cauca River valley of northern Colombia. *Ornitol. Neotrop.* 17: 161–172.

Salazar, R. I., Gomez, N., Vargas, W., Reyes, G. M., Castillo, C. and Bolívar, W. 2002. *Bosques Secos y Muy Secos.* Corporación Autónoma Regional del Valle del Cauca, CVC. Cali. 9-19.