

Final Evaluation Report

Your Details	
Full Name	Nathalia Montserrat Castillo Huitrón
Project Title	Knowledge exchange on wild animals in the cloud forest: the case of Reserva de la Biosfera El Triunfo, México and Parque Nacional Sangay, Ecuador
Application ID	31543-1
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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
To apply 75 workshops in the Reserva de la Biosfera El Triunfo (REBITRI), Mexico and 35 in the Parque Nacional Sangay (PNS), Ecuador.				The beginning of the project was planned for June 2020. However, due to the COVID-19 pandemic, the project was stopped until 2021. The goal of the number of workshops applied was partially achieved (45 in the REBITRI and 26 in PNS). In PNS the methodology was changed and 31 interviews with key actors were used to analyse the human-wildlife interactions in the reserve.
To promote the dialogue spaces to talk and reflect on wild species and their ecological importance in the cloud forest				520 of REBITRI's inhabitants and 160 of PNS attended the project activities (workshops, interviews with key actors, and forest walks).
To record information about traditional knowledge, emotions, perceptions, and attitudes about wild animal species.				Information about human-wildlife interactions considering traditional knowledge, emotions, perceptions, and attitudes were collected. Information was analysed and the scientific papers will be submitted to international journals in the next weeks.

2. Describe the three most important outcomes of your project.

a). Promoting dialogue spaces was one of the most important outcomes of this project. During the activities, the main factors of the negative interactions of people with wild animals could be identified and analysed, especially with the jaguar (*Panthera onca*) and Andean bear (*Tremarctus ornatus*), the felid in the REBITRI and PNS, and the ursid in PNS. Negative emotions such as danger, perceptions of threat, preconceived beliefs, and experiences of livestock predation were the main factors that promote negative interactions and attitudes toward these carnivores. Besides, in these dialogue spaces, biological and ecological information concerning species was shared with the participants. Especially, old people could reflect on the land changes and the decrease of animal populations along the time.

b). Key actors were identified during the activities of the project, they participated in wildlife team. We had some walks in the reserves, where some tracks and signs of

different animal species (*Pharomachrus moccino*, *Oreophasis derbianus*, *Odocoileus virginianus*, *Puma concolor*, *Potus flavus*, *Tapirus bairdii*, *Tapirus pinchaque*, among others) were identified. These activities were positive experiences that have helped promote interest and empowerment among people for the animals and the reserves in general.

c). The information collected and analysed has been presented to the institutional authorities and research groups in both reserves. They will consider the data to design and direct the next conservation strategies.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

The greatest difficulty during the project was the COVID-19 pandemic. The communities in the REBITRI closed the roads and access to external visitors was forbidden, the same case happened in PNS. During 2021 and 2022, I employed more days than I had planned in fieldwork activities. Also, the number of participants during the workshops and walks in the forest was reduced, in some cases, the activities were only with a family (around 6 people).

4. Describe the involvement of local communities and how they have benefitted from the project.

During the workshops, some participants mentioned some necessities of wildlife management. This information was mentioned to the managers of the reserves for consideration in their plan actions.

Some key actors were including in the "wildlife teams". We made walks inside of the reserves where we had the experience of knowledge exchange. We could identify some species that have not been reported inside of the communities (e.g., *Potos flavus*).

One of the most significant aspects of the project was the support of inhabitants of the communities to develop the activities. Through their involvement, they gained biological and technical knowledge that could help them to replicate and continue these environmental activities.

5. Are there any plans to continue this work?

Yes, there are. I have realised that there are many factors influencing human-wildlife interactions. Although people live near the protected areas, the knowledge about species and the reserves, in general, is minor, especially among the new generations. Besides, it is important to design some strategies in the long term (almost 5 years) to change negative emotions and perceptions about animals and increase attitudes and behaviours of tolerance and respect toward all living beings.

Besides, it is necessary to promote social involvement in wildlife conservation. For this reason, I would like to continue working on the project of wildlife conservation through social empowerment in both reserves.

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

I have had some meetings with the managers of the reserves, key actors of the communities, researchers, and non-governmental organisations that work in both reserves to expose the main results. The methodology used in the project has been applied by educational institutions in Ecuador.

For the case of the REBITRTI, the outreach material was designed and shared with communities (Fig. 1). The content of this material is about ecological information of focus project species as well as the traditional knowledge recorded during the workshops. It is a strategy to share information with communities that participated in the project. Also, it will be used with people that did not attend the activities. This material has been given to the managers of the reserve to use in their next environmental education activities.

The project has been presented in the 8° Congreso Internacional de Sustentabilidad y 3er Congreso Binacional Mexico-Peru de Sustentabilidad, in the Universidad Autonoma del Estado de Mexico (November 2021), in the Rufford, Association Eli-s Nicaragua (February 2022), and the Rufford Congress Cancún (April 2022). Besides, it will be presented in the Mastozoology Congress and in the Ethnobiology Congress in October 2022 both carried out in Mexico.

Scientific information has been submitted to conservation journals in the next weeks.

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

This project has a scientific and applied focus. The scientific information has helped to understand the origin of the negative and positive emotions and perceptions about focus species. Besides, the methodology implemented could be used and applied in other reserves, especially toward conflict-related species (e.g., *Panthera onca*, *Canis latrans*, *Ursus americanus*).

One of the main elements of this project was social involvement in wildlife conservation. During the activities, people could reflect on the decrease in focus species populations as well as their importance in the cloud forest. Emotions, perceptions, attitudes, and even behaviours were improved in favour of the species during the project. However, continued effort is necessary in these kinds of projects to guarantee a real change in the long term.

8. 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, I did. The logo Rufford Foundation has been used in all outreach material and people of communities were informed about the foundation. Also, it has been used in congress presentations and formal meetings with the reserve's managers.

9. Provide a full list of all the members of your team and their role in the project.

Nathalia Castillo was the main coordinator of the project. She designed the workshops activities and the methodological tools to record and analyse the information. She moderated the workshops and applied the interviews. Besides, she is the main author of the manuscripts.

Eduardo J. Naranjo helped with the direction of the study and the coordination of financial resources in the El Colegio de la Frontera Sur (ECOSUR).

Dídac Santos, Paula Enríquez, and Erin Estrada helped to design some activities to collect information and they have been participated in the scientific manuscript writings.

In the REBITRI: Janette González assisted to plan the field work and was the key actor to encourage the participation of communities during the study. Park rangers, area managers and volunteers of the Comisión Nacional de Áreas Protegidas de México REBITRI helped with logistics.

In PNS: Karina Chamorro and Rodrigo Cisneros facilitated the contacts to apply the workshops and interviews. Diego García applied some interviews and participated in the walks in the forest with inhabits of the communities of the reserve.

Doris Castañeda gave their support to facilitate the paperwork in ECOSUR. Ahmed Aly was the illustrator of the outreach material and participated in the logistic activities in the REBITRI.

10. Any other comments?

Thanks for the Rufford support, it helped to collect relevant and important information that is used to understand the human factor in wildlife conservation, especially about the focus species of this study. Besides, it allowed the making of synergies among academia, local communities, non-governmental organisations, and management institutions. This fact represents essential progress for wildlife conservation in the REBITRI and PNS.



Figure 1. Children playing with the “Ecological Memoria”. It is the outreach material that include biological, ecological and local knowledge about the focus species of the project and more vertebrate’s species.