Final Evaluation Report

We ask all grant recipients to complete a project evaluation that helps us to assess the success of your project.

We understand that projects often do not follow the predicted course, but knowledge of your experiences is valuable to us and to others who may be undertaking similar work—remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please DO NOT fill in and submit this form until the project has been completed.

Please complete this evaluation report in English and refer to the reporting guidelines. We may ask for more information or a revised report if we have follow-up questions or feel information is missing. Note that edits may be made before posting on our website, so please provide the report in **MS Word format** (not PDF).

Your final budget should be submitted separately, using the Excel template sent with your offer letter.

Please email both the completed report and budget to jane@rufford.org.

Your Details	
Full name	Viviane Monteiro Silva Kupriyanov
Project title	ECOS OF SILENCE - Exploring the Impacts of Visitors on the Soundscapes of Protected Areas in the Metropolitan Region of Sorocaba
Application ID	44853-1
Project start date	Januray14th 2025
Project end date	January 26th 2026
Date of report submission	February 13th 2026

Outcomes, indicators and activities

1. **Indicate the level of achievement of the project's original expected outcomes. Include a brief explanation of the activities conducted and your key findings, providing specific, measurable outputs, based on the indicators in your project proposal (e.g. number of camera traps deployed).**

Expected outcome (as per project proposal)	**Level of achievement**	**Indicator (as per project proposal)**	**Summary of activities and outputs**
Environmental Education at schools	Fully achieved	100 students reached through environmental education activities	We conducted environmental education activities at two elementary schools near the Ipanema National Forest, promoting direct engagement with nature and fostering greater environmental awareness.
Acoustic Indices	Fully achieved	Four types of acoustic indices used	One AudioMoth recorder was installed at each site. Acoustic indices did not indicate consistent structural changes in the soundscape related to visitor flow. A total of 585 noises were recorded, which were classified into 12 categories: Aeroplane (65.75%), Engine (21.75%), Voices (2.9%), Chainsaw (2.6%), Dog Barking (2.5%), Branches Breaking (1.5%), Alarm (0.8%), Helicopter (0.8%), Music (0.7%), Unidentified Noises (0.5%), Fireworks (0.3%) and Gunshots (0.2%).

Vocal activity pattern of key species (*Euphonia chlorotica*)	Fully achieved	2,835 validated vocalizations of *E. chlorotica* across treatments	Activity pattern of the species and the responses to human noises were very similar in HV (high visitor flow) and LV (low visitor flow), differing from the control treatment.
Identification of bird species	Partially achieved	50 bird species richness identified	Acoustic analyses to validate bird species are ongoing. To date, 50 species have been identified and validated.
Workshops	Fully achieved	Two workshops conducted and 22 participants trained in bioacoustics and citizen science	Two workshops on bioacoustics and citizen science were conducted—one at the university and another at Avistar (the largest gathering of ornithologists, birdwatchers, and enthusiasts in Latin America) - with the aim of presenting species recording tools and highlighting their importance for science communication and biodiversity conservation. We invited the staff and manager of Flona to the workshop at the university, but they were unable to attend. As a result, only the undergraduate students attended workshop. 25 students attended the workshops in total.
Conference	Fully achieved	Two scientific events where the project and its results were presented	The project and its preliminary results were presented at the Brazilian Congress of Ornithology and at the 1st ICMBio Scientific Research Seminar.

2. **If relevant, describe any other important or unexpected outcomes of your project. Feel free to include evidence (e.g. maps, tables and figures).**

Other important outcomes of the project are described and presented in Annex 1 of this report, where the main results, supporting tables, figures, and associated evidence are provided.

Challenges

3. **Explain any challenges that arose during the project (e.g. severe weather, broken equipment, delay in obtaining research permits, etc.). Were you able to overcome these? If so, please explain how.**

The first fieldwork campaign was initiated in late August 2025, under unusually dry conditions, as the expected rainy season had not started. Similar conditions persisted during the second field campaign in September. In this context, a wildfire occurred within the Ipanema National Forest (FLONA). Due to the prolonged drought, the fire spread extensively and burned approximately 1,000 hectares of vegetation - about one-fifth of the total area of the conservation unit (Figure 1).

Figure 1. Regional news coverage documenting the wildfire that affected the Ipanema National Forest (FLONA) during the project's fieldwork period.

The area originally selected to investigate the impacts of public visitation was directly affected by the fire, compromising the initial sampling design. In addition, ten passive acoustic recorders were lost during the fire event (Figure 2). Consequently, the original research questions could no longer be adequately addressed, and both the sampling design and project objectives required revision. The loss of equipment also necessitated a reassessment of the number of recording units available for continued monitoring. Despite these significant and unforeseen challenges, the project was successfully adapted.

Figure 2. An acoustic recorder damaged by the fire.

4. Were there any changes to the project plan or any activities that you were unable to carry out or had to adapt? (If these changes impacted your budget, please include amounts in the budget section only.)

Due to the wildfire that occurred in the Ipanema National Forest, we were required to reconsider the original sampling design of the project. However, this unforeseen event created a unique opportunity to investigate the effects of fire on birds, as part of the acoustic recording units remained operational during the event and data collection was already underway. Consequently, pre-fire data were available for a subset of sampling sites, enabling an initial assessment of fire impacts.

We conducted field visits immediately after the fire to evaluate its effects on fauna and on the soundscape structure. Based on the data collected prior to the fire and the newly burned areas, we developed a revised sampling design comprising two treatments: Fire (F) and Control (CF), as illustrated in the figure below.

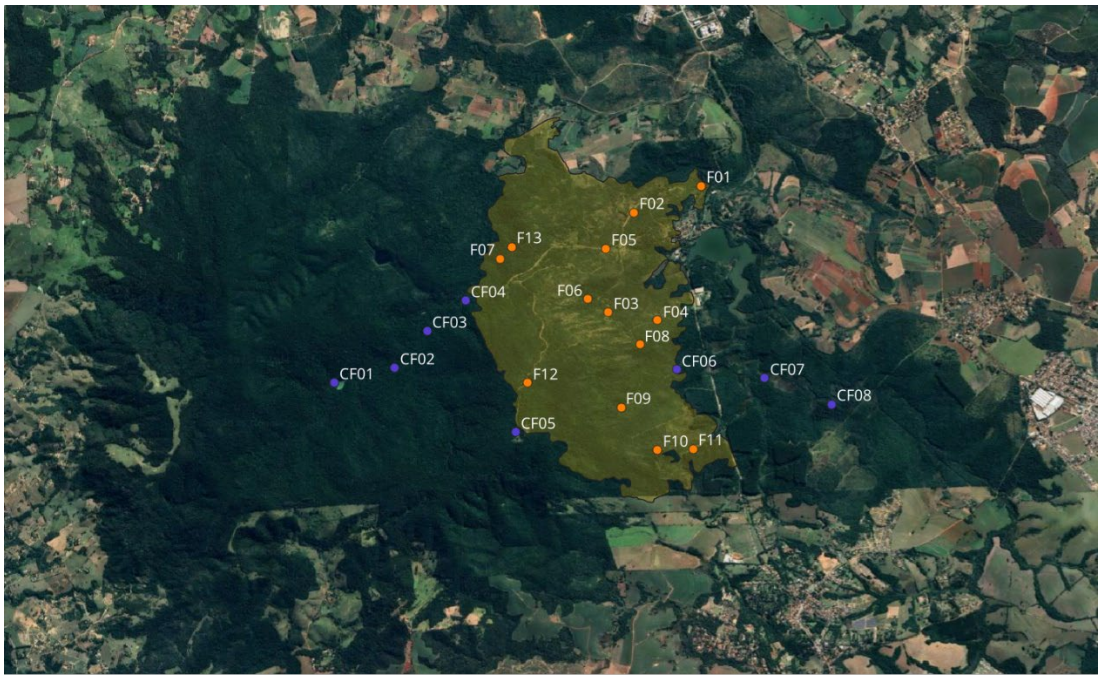

Figure 3. New sample design. Legend: orange indicates F (Fire) and purple indicates CF (Fire control). The area highlighted in yellow corresponds to the area burned by the fire.

We intend to submit a new grant proposal to the Rufford Foundation to support continued post-fire monitoring and to formally address this emergent research question. The circumstances are particularly exceptional, as baseline data were being collected at the time of the disturbance. If additional funding is secured, this will enable robust comparisons between pre- and post-fire conditions, strengthening the scientific value of the study.

Community and other stakeholder involvement

5. **Were any local community members or other stakeholders involved in the project (e.g. fishers assisting with data collection)? Please describe who and their involvement. Disaggregating gender data is important for highlighting diversity, equity and inclusion. When quantifying stakeholder engagement, please state how many women and men were involved.**

Yes, several local community members and key stakeholders were actively involved in the project at different stages. Local schools located near the Ipanema National Forest (FLONA) participated through the outreach initiative entitled the "Nature Watchers and Guardians Programme", which reached around 140 people in total, comprising 100 schoolchildren and 40 visitors to the national park.

As part of this process, meetings were held with school managers and coordinators, who discussed the project objectives with the research team, and based on this dialogue, selected the target audience within each school (specific age groups and school classes). Students then participated in environmental education and awareness activities related to biodiversity conservation and wildlife monitoring.

FLONA staff and managers were also central stakeholders throughout the project. The research was conducted at their request, and they actively contributed to the project design, including assistance with the sampling framework and the definition of public use classifications within the conservation unit. Additionally, the University of Sorocaba (UNISO) provided institutional support and was directly involved through the training of undergraduate students, who assisted with project-related activities and capacity building.

Regarding gender participation, school management in both institutions was represented by women (principal and vice-principal). Among the participating students, there was equal representation, with 50 boys and 50 girls.
The project team included six women who actively assisted in the implementation of activities, as well as two male supervisors who provided guidance throughout the project. At the Ipanema National Forest, direct collaboration involved three staff members, comprising one man and two women.

6. Describe if local communities and other stakeholders have benefitted from the project. Did local communities present any resistance to the project at any stage?

Although the project did not generate immediate or direct financial benefits for local communities, it provided relevant indirect and potential long-term benefits through environmental education, capacity building, and the development of conservation-related skills. Activities conducted under the *Nature Watchers and Guardians Programme* increased students' awareness of local biodiversity and conservation issues, particularly related to birds and protected areas.

c

b

d

Figure 4. Nature Watchers and Guardians Programme. **a**: presenting the activity to students; **b**, **c** and **d**: students exploring the school grounds. **[Some images intentionally removed]**

Importantly, by fostering interest in birds and nature observation, the programme may encourage, in the future, the involvement of local students as ecotourism guides focused on birdwatching within FLONA. Birdwatching is a growing market in Brazil and remains underexplored by communities surrounding the conservation unit. In this context, the project may contribute to opening future economic opportunities, potentially generating income for local communities while reinforcing conservation values. In addition, the project is generating baseline information on bird communities, providing quantitative data on daily peaks of vocal activity and species distribution within FLONA. This information is valuable for birdwatchers, as it indicates where and when species are most likely to be detected. Simultaneously, it supports park management by identifying areas of high conservation relevance, thereby

contributing to the potential establishment of exclusion zones or specific management measures for Species of Greatest Conservation Need (SGCN).

Additionally, training activities included capacity building in the use of the iNaturalist platform, promoting citizen science and empowering participants to contribute to biodiversity records. This initiative can support the development of a more accurate and participatory inventory of biodiversity in FLONA and its surroundings, benefiting both local stakeholders and conservation management.

No resistance from local communities or stakeholders was observed at any stage of the project. On the contrary, engagement was consistently positive, with strong institutional support from FLONA staff, schools, and the University of Sorocaba. The project has been very positively received, and there are already plans in place to ensure the continuity of acoustic monitoring in FLONA.

7. **If you have observed any behaviour change by stakeholders as a result of your project, please explain the change and how you have measured this. We understand that behaviour change can take a long time, but any progress towards this is useful to include.**

Although long-term behavioural change could not be quantitatively measured within the project timeframe, early signs of positive behavioural shifts were observed. Among institutional stakeholders, particularly FLONA managers, the project reinforced the relevance of integrating scientific data, citizen science, and education into conservation planning. Collectively, these outcomes indicate progress toward increased environmental stewardship and engagement, with the potential to translate into sustained conservation-oriented behaviours and future socio-economic benefits for local communities.

Through environmental education activities, students demonstrated increased interest in birds, conservation, and nature-based activities, including active participation, more informed questions, and greater engagement during field and classroom discussions.

The training provided on the iNaturalist platform represents a concrete behavioural outcome, as participants acquired practical skills to record and share biodiversity observations. This promotes continued engagement beyond the project's duration and encourages ongoing participation in citizen science initiatives. Behavioural change was qualitatively assessed through participant feedback, observations during activities, and informal discussions with educators and FLONA staff.

Communications and results dissemination

8. **Have you or will you share your findings with relevant stakeholders? Please fill in the table below to explain who with and how.**

Type of stakeholder	**Name of stakeholder (e.g. specific government entity or department)**	**What you have or will share (e.g. data, key results, recommendations)**	**How you have or will share this (e.g. reports, workshops, meetings)**
Park or reserve management	ICMBio (Chico Mendes Institute for Biodiversity Conservation)	Data, key results, recommendations	Workshops, meetings
Local community members	Students and teachers/ local community Flona	Environmental education activities conducted through the Nature Watchers and Guardians Programme	Talks, interactive discussions and field-based learning on biodiversity and conservation
Other	University of Sorocaba /Scientific Community/Wider Public	Academic dissemination through student training activities, integration of results into teaching and research discussions and institutional reporting. Sharing results through outreach initiatives, social media posts related to the project and FLONA, and citizen science platforms such as iNaturalist.	Outreach initiatives, social media posts related to the project and Flona. Promoting broader access to biodiversity information

9. Do you plan to share your data or findings with the relevant IUCN Species Survival Commission Specialist Group? If so, which group?

Yes. Once data analyses are completed and results are consolidated, relevant findings from this project will be shared with the IUCN Species Survival Commission Bird Specialist Groups. The information generated may contribute to broader discussions on species conservation, habitat management, and future assessments, including Red List evaluations, where applicable.

10. Do you plan to submit a manuscript to a peer-reviewed journal? If you have already published a paper/s relating to this or a previous Rufford Small Grant, please include the DOI link here.

We plan to submit two manuscripts to peer-reviewed journals. The first, currently in its final stages of preparation, presents a literature review on the impacts of anthropogenic noise on wildlife in natural areas. The second will report the results of the acoustic index analyses conducted in the Ipanema National Forest (FLONA) and is presently in the data curation and analysis phase. To date, no manuscripts have been submitted.

11. Have you or do you plan to present your project findings at any conferences?
In the previous year, the project and the application of bioacoustic tools for biodiversity conservation were presented at the Brazilian Congress of Ornithology (CBO) which took place from 28 September to 2 October, under the title "*Bioacoustics in Conservation: Between Landscape Ecology and the Effects of Anthropogenic Noise*." The project was also showcased at the 1st ICMBio Scientific Research Seminar in Iperó, where the passive acoustic monitoring approach was introduced to a diverse audience of researchers, stakeholders, and conservation practitioners, under the title "*Echos of Silence – Exploring the Impacts of Visitors on the Soundscapes of Protected Areas in the Metropolitan Region of Sorocaba.*"

Figure 5. I presenting the project at 1st ICMBio Scientific Research Seminar in Iperó.

In 2026, I plan to present the research findings at Avistar, one of the largest bird-related events in Latin America. The results will also be disseminated at the University of Sorocaba through the Observatory Project and at the Ipanema National Forest Seminar during the second semester of 2026.

12. Did you develop any outreach materials, and have you shared your project on social media, websites or through other media? Please fill in the table below and, where possible, provide links or images.

Item (e.g. poster, documentary, news article, social media post)	Type of material	Target audience	Level of dissemination	Link (if relevant)
Social Media	Social media post	For all audiences	Instagram 8 posts/ 102 followers	www.instagram.com/projetoecosdosilencio?igsh=MXRsNGYyNzlibXg1eQ%3D%3D&utm_source=qr
Card games	Hard copy	For all audiences	30 persons, including child and adults	These card games will be presented in the detailed report in Annex 1
News article	Online article	University community and those interested in science		https://sistema.uniso.br/site-uniso/unisociencia/jornal/tabloide-ed-34.pdf

Going forward

13. Are there any plans to continue this work? Outline the important next steps.

Yes. The project will be continued with an adapted research design that explicitly incorporates the effects of the wildfire on the study area. Data collected during the first field campaign will be used as robust pre-fire baseline data, enabling comparative analyses with post-fire conditions. This provides a rare opportunity to assess the short- and medium-term impacts of fire on wildlife in a protected area where systematic data collection was already underway at the time of the disturbance.

The next steps include (i) re-establishing the acoustic monitoring network in fire-affected and unaffected areas, (ii) expanding post-fire data collection to capture patterns of faunal recovery or change, and (iii) integrating these results into management-relevant outputs that can support conservation planning within the Ipanema National Forest (FLONA). This continuation will significantly enhance the scientific and applied value of the original project.

14. Do you intend to apply for another Rufford Small Grant or funding from another donor?

Yes. I intend to apply for an additional Rufford Small Grant to support the continuation and expansion of this research. Further funding will allow the project to fully capitalize on this unique before-and-after fire dataset, strengthening its contribution to biodiversity conservation, applied management, and long-term monitoring in the FLONA.

Personal capacity and professional development

15. Has the project helped you personally or in your career?

a) **Experience** (e.g. time in the field, stakeholder engagement)**:**

The project provided valuable professional experience. It was my first opportunity to lead a research project, which involved increased responsibility as well as greater autonomy in decision-making. Through this process, I developed experience in time management, coordination of human resources, and evaluation of field and laboratory workflows to assess what was working effectively and what required adjustment.

b) **Skills** (e.g. technical skills, leadership skills, fundraising, proposal and report writing)**:**

The increased responsibilities associated with leading this project contributed significantly to the development of my self-confidence and leadership skills. Managing and coordinating team members required effective planning, decision-making, and problem-solving. In terms of leadership and capacity building, I trained team members through an internal workshop that covered the fundamentals of bioacoustics and the use of the ARBIMON platform for bird species identification. I remained available throughout the project to provide guidance and address questions as they arose.

Communication skills were also strengthened through regular interaction with the project team, as well as with management staff at the Ipanema National Forest (FLONA) and partner schools. Clear and consistent communication proved essential to avoid misunderstandings and ensure smooth project implementation. Additionally, I developed skills in task delegation by assigning specific responsibilities to team members, such as managing Instagram content and designing educational materials, including the ecological interactions game cards.

Fundraising was another important skill I developed throughout this process. It began with the successful proposal submitted to the Rufford Foundation and was further strengthened by securing additional support from a national funding agency, which also contributed to the advancement of this project.

c) **Qualifications** (academic or other)**:**

This study is part of my doctoral research at the University of Sorocaba. Receiving funding from the Rufford Foundation was essential for the implementation of this project and played a decisive role in my professional and academic development, significantly strengthening my research training and contributing to my career advancement.

Other

16. Which of the Global Biodiversity Framework 2030 Targets does your project address? List as many as applicable (e.g. Targets 2 and 4).

The Project is better addressed in TARGET 20: Strengthen Capacity-Building, Technology Transfer, and Scientific and Technical Cooperation for Biodiversity and TARGET 21: Ensure That Knowledge Is Available and Accessible To Guide Biodiversity Action.

17. **Did you use the Conservation Evidence website when planning your project, and was this helpful? If your project provides useful information about what worked or did not work, please consider sharing it through Conservation Evidence.**

The primary focus of the project is to collect and analyse robust data on wildlife and potential human impacts within the Ipanema National Forest (FLONA), with the aim of providing a scientific basis to support management decisions for the conservation unit. At the outset, the project did not propose any direct management actions targeting fauna, such as population interventions or predator control. Therefore, the Conservation Evidence website was not used during the project design phase.

To date, the results have not indicated significant impacts of anthropogenic noise on wildlife. Based on these preliminary findings, no immediate recommendations for changes in management practices within the conservation unit can be made. However, should subsequent analyses reveal relevant differences or impacts, the results will be considered for sharing through the Conservation Evidence platform.

18. **Did The Rufford Foundation receive any publicity during your project (such as including the Foundation logo on outreach materials)? If yes, please describe how.**

In all materials, presentations, workshops, and digital media produced as part of this project, the Rufford Foundation was publicly acknowledged. The Rufford Foundation logo was consistently included in the acknowledgements section, on the final slide of presentations, and in digital media outputs. In poster formats, the logo was displayed in the footer, as shown in the accompanying photographs.

Figure 6. a: poster presented at the environmental education activity at Flona de Ipanema; **b**: poster posted on Instagram promoting the Echoes of Silence project; **c**: on the day of the activity at Flona, with part of our team.

19. Provide a list of all the members of your team and briefly describe their role in the project.

Teamwork was essential to the successful implementation of this project. The research activities relied on a highly proactive, efficient, and collaborative team. Team members actively contributed suggestions for both fieldwork and environmental education activities. As project coordinator, I was responsible for organizing and supervising all activities, ensuring continuous communication within the team and discussing necessary adjustments to the project design, particularly in relation to environmental education components.

- **Beatriz Littig**
  Beatriz Littig assisted in all fieldwork activities, including organizing and preparing equipment, recording and georeferencing sampling points, and verifying all necessary materials prior to field deployment. She also contributed to the planning and implementation of environmental education activities at the Ipanema National Forest (FLONA) and at EMEF Coronel and EMEF Pedro Ferreira primary schools. Her role included demonstrating activity procedures to students, answering questions about observed organisms, and supporting discussions on ecological relationships between biotic and abiotic components.She joined the project as an undergraduate student and subsequently used project data for her Biology degree thesis. The study entitled "*Vocal activity patterns of Euphonia chlorotica (Fringillidae, Aves) and its responses to anthropogenic noise*" was developed as her final undergraduate project under my co-supervision.

- **Ana Gabriele Domingues dos Santos, Cristiane da Silva Costa, Anne dos Santos Rodrigues, and Daiene Martins**

All team members are undergraduate students at the University of Sorocaba and were interns at the Laboratório de Ecologia Aplicada (LEA) (in English: Applied Ecology Laboratory), coordinated by Professor, Doctor of Science Thiago Simon Marques. They contributed to the design and preparation of educational materials, particularly the ecological relationship game cards. In addition, they participated in environmental education activities at EMEF Pedro Ferreira, where they demonstrated the activities, addressed students' questions about observed organisms, and supported discussions on ecological interactions between biotic and abiotic components.

- **Barbara Protocevich**
  Barbara Protocevich contributed to environmental education activities at EMEF Coronel primary school. Her role included demonstrating activity design,

answering questions about observed organisms, and contributing to discussions on ecological relationships between biotic and abiotic components.

- **Professor Thiago Simon Marques, PhD, José Wagner Ribeiro Jr., PhD, and Ana Carla Medeiros Morato de Aquino, PhD** jointly formed the advisory committee for this project. They provided scientific guidance, methodological support, and constructive suggestions throughout the development and implementation of the research.

If not already provided, please include some photos from your project, along with brief captions and copyright information.

The photographs, recording all the activities carried out by the project, are available in the detailed report (Annex 1). All copyrights for the photographs belong to the Echoes of Silence Project and may be used by the Rufford Foundation to publicise the project on its website.

Any other comments?

This project has been a deeply rewarding experience, both scientifically and personally. Conducting fieldwork and seeking to answer ecological questions through systematic data collection reaffirmed my motivation for conservation research. The opportunity to coordinate a research team, plan activities, and make decisions throughout the project significantly contributed to my development as a researcher and as a professional.

Alongside these positive experiences, the project also presented important challenges. Managing human resources, organizing field logistics, and ensuring the availability and functioning of equipment required careful planning and flexibility. The large-scale fire that affected the study area demanded an unexpected but necessary adaptation of the original project design, reinforcing the importance of resilience and adaptability in field-based ecological research. Despite these challenges, the project advanced my academic training and strengthened my leadership, organizational, and problem-solving skills. It also reinforced my commitment to producing scientific knowledge that can support conservation management and environmental awareness.

I am sincerely grateful to the Rufford Foundation for the financial support that made this project possible. This funding was essential for the successful development of the research and for the implementation of fieldwork and outreach activities. I also thank the Rufford Foundation for believing in my potential and supporting my growth as an early-career conservation scientist.