

Final Evaluation Report

Your Details	
Full Name	Cristian Fabián Lager
Project Title	Marine Biodiversity Conservation of the Monte León National Park (SW Atlantic, Argentina)
Application ID	32841-1
Date of this Report	30/December/2022

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
Elaborate the first marine diversity inventory of the Monte León National Park (MLNP)				We have partially achieved this objective due to some logistical difficulties (detailed in question 2). However, it is worth noting that we have presented the first list of marine species present at MLNP to the authorities of the Argentine National Parks.
An updated diagnosis of the underwater environmental status providing conservation recommendations				After our expedition, we elaborated and presented a final report to the Environment Secretary of the Santa Cruz province, detailing our underwater observations about the environmental status found along the MLNP coast to be considered in future conservation actions.
Produce audiovisual content to raise awareness of the need for marine protection of the Patagonian Sea				We have created and produced original audio-visual material that has been presented numerous times on different platforms.

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

a). Be the first scientific team to do a marine expedition in this national park. The MLNP was the first maritime coast park in Argentina, but until our campaign, no one had been any study there.

b). We presented baseline data on marine biodiversity that inhabits this scarcely known Patagonian region. This biological information is essential for implementing better monitoring schedules and conservation strategies for the entire area. We established a robust methodology for sampling the marine ecosystems along the MLNP, other research groups can use that in the future.

c). Our science communication activities and powerful storytelling helped develop concepts related to the marine environment, leading to a general empathy for SW Atlantic Ocean issues and what people can do to help protect them. Moreover, our underwater audiovisual capsules reached thousands of people (students, stakeholders, politicians, NGO members, local communities, and the wider public), educating them on the fantastic Patagonian marine ecosystem. In addition, we are

sure that in-person and virtual classes where we presented concepts related to exploration, science, and ocean education motivated young people to become true protagonists in conserving our oceans.

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

Before taking the huge challenge to carry out this project, we already knew that no underwater scientific studies had been carried out previously in this national park. Therefore, we had to fight against an enormous lack of information mainly related to logistic issues. Some of these were: shoreline access sites within the park (road infrastructure is minimal), best diving sites, distances between sampling sites, tidal range, tidal currents, underwater visibility, etc. Although these logistical challenges were expected due to the park's remote location and the fact that it is almost uninhabited (except for park rangers), overcoming these hurdles consumed much of our fieldwork time.

However, the major inconvenience we had was the need for one boat to have better access to the sampled sites. During our stay in the MLNP, we attempted to hire a private boat to do our fieldwork; unfortunately, it was impossible. Due to the lack of one boat, we had to spend a lot of time swimming or diving on the surface (9° C water temperature) to achieve the dive sites. Although it was physically exhausting, this way of attaining the sites allowed us to meet the objectives partially.

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

After this project, several students from local universities from Patagonia are now engaged in their research projects (final courses, master's, or PhD theses) to investigate some marine topics along the coast of MLNP. Our expedition was a hinge for new lines of research to begin to be carried out within the park, making visible the importance of the interaction between local researchers and this national park.

Our fieldwork was carried out in permanent cooperation with ten national park rangers of the MLNP, who were able to learn much of our scientific methodology. This experience and acquired skills will allow them to help and advice new research groups in their fieldwork.

On the other hand, after our expedition, we held six face-to-face talks in educational institutions in the neighbouring towns of the park (Luis Piedrabuena, Puerto Deseado, and Puerto San Julián), reaching a minimum of 1000 students, including elementary, middle, and high schools, enhancing learning about marine ecosystems and biodiversity conservation. It should be noted that most students and teachers had never seen underwater images of the region (all the underwater photos we showed were taken with equipment purchased with Rufford funding).

Finally, financially we have supported local communities through all purchases made during our stay in the national park (food, drinks, groceries, tools, etc.).

5. Are there any plans to continue this work?

Yes, we plan to continue our investigations along the sublittoral zone of MLNP. We believe in the necessary continue monitoring the marine ecosystem of this national park because with extra new sites of samples and longer-term data, we can make a more accurate analysis of the temporal changes in biodiversity, function, and structure of this pristine region under natural seasonal disturbances. In addition, we should collect additional oceanographic data (nutrient availability, Chlorophyll-a, water temperature, currents) to have a complete vision of this ecosystem's health.

We also seek to continue working closely with the national park rangers of MLNP and local authorities on the conservation status and the legal framework of MLNP. We expect that the scientific results and images created during the expedition, accompanied by powerful stories, will finally help declare MLNP as a Marine Protected Area, being the most awaited achievement by the local communities and us.

We are creating a citizen science profile using the iNaturalist platform (www.inaturalist.org). This way, we will upload all species determined during this project, accompanied by nice underwater photos. This will help to aid species identification in the field by specialists and non-specialists. Local people will be constantly encouraged to be part of our iNaturalist project, thus enhancing public understanding and engagement in the biodiversity of the MLNP.

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

We worked with the national NGO "Por El Mar" (PEM) to make disseminating our results more robust. We have also presented this project at "The Forum for the Conservation of the Patagonian Sea," an international network of organisations dedicated to protecting the marine ecosystem of Patagonia, which has positively supported this project.

We also expect to publish at least one scientific paper in a peer-reviewed, high impact, open access journal. Each scientific document will be available in the ResearchGate profile of Cristian Lager. All the data analysed will be available at the Global Biodiversity information Facility.

The results were exhibited in talks, lectures, and meetings in schools, universities, and dive clubs to raise conservation awareness. The generated multimedia contents are available on free platforms (Instagram, YouTube, Vimeo, etc.) for the public, science communicators, ocean educators, and storytellers by providing new tools for communicating and conserving the marine ecosystem of Argentina.

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

We know that we did a great job and took a big step toward getting to know a little-studied place. We did the hardest step, getting started! Nevertheless, it is not enough. We need more biological information on this national park's sublittoral zone

to work with the authorities and develop conservation programmes and regional management policies. We have already established strong links with the National Parks Administration and Argentina's Marine Protected Areas Programme. We will continue working closely with these groups to integrate our results into the Argentine Sea's ongoing marine management and conservation policies. We need to establish the MLNP as a Marine Protected Area shortly.

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?

The logo was used for the following outputs:

Many oral and virtual presentations to colleagues and students of Universidad Nacional de Córdoba, our lab team, and the ONG Por El Mar.

We created a final official video of our Rufford project ("Expedición Atlántico Sur" - Episodio Parque Nacional Monte León"), which was presented at Rafaela City (May 2021) during the conference "XVI Apertura del Ciclo Universitario." It is important to note that this video is currently used to promote marine biology research at the MLNP. The YouTube link to this video is: https://www.youtube.com/watch?v=iLq3e_fEQoQ

We also created a promotional video of the MLNP for "Ocean Day" (8th June) that was uploaded to the official account of the Argentinian National Park (@parquesnacionalesar) and the official account of MLNP (@pn.monte.leon), where it was mentioned that Rufford financed the project. This video currently has more than 4000 views.

We made a Rufford flag and shirts with the Rufford logo to show it during our fieldwork.

We will acknowledge The Rufford Foundation in the academic publication submitted to the international scientific journal.

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

Diego Giménez (Marine Biologist/Scientific Diver). Diego participated in all diving activities and helped in all underwater operations. He was in charge of making the dives with the Trident OpenROV. He also helped identify the species registered and classify them as native, exotic, or invasive.

Manuel Novillo (Marine Biologist/Scientific Diver). Manuel helped collect, identify and classify all marine species, and stored them in alcohol 90%. Manuel helped in the drafting of the results of the expedition. Manuel was also the cook of the expedition.

Carolina Pantano (Marine Biologist/Scientific Diver). Carolina actively participated in writing the pre-campaign report and organizing the activities and logistics in the

field. She participated in diving activities. She was the contact point with local actors and worked in building networks with local stakeholders.

Uriel Socolowicz (Underwater Filmmaker/Safety Diver). Uriel was in charge of the safety of scientific diving activities. He also created underwater multimedia content (underwater photos and videos).

Joel Reyero (Photographer/Diver). Joel helped to record the wildlife around the MLNP and documented the "behind the scenes" of our scientific expedition. He worked on the postproduction of all the media content.

10. Any other comments?

First, we appreciate the support from The Rufford Foundation that allowed us to advance with our ambitious project. We were aware of the enormous challenge of being the first, and today I can say that my team and I gave our 100%. However, there are still many gaps to fill to take proper conservation actions. This situation is an enormous challenge. Nowadays, we have more knowledge and experience than ever to organise the second scientific expedition to this national park. We are motivated to continue and produce new outcomes.



