

Final Evaluation Report

Your Details	
Full Name	Rosario Ballester
Project Title	Protecting the Southern River Otter: Investigating their Distribution and Population Structure, and Promoting Public Awareness
Application ID	41189-1
Date of this Report	15/05/2025

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
Update information on Southern River Otter's (SRO) distribution in north Patagonia.			x	<p>We surveyed a total of 105 sites across multiple basins in Chubut province during the months of March and April of 2024 and 2025. Signs of Southern River Otters were found in 11 sites (10.4%). Sites in Carrenleufú and Pico river where repeated both years. The results are shown in Table 1 and the visited sites are shown in the maps of figure 1 and 2.</p> <p>We did not obtain any images from camera traps. We were only able to install camera traps at a few locations, as most of the sites were in publicly accessible areas, which posed a high risk of theft. Additionally, we did not have sufficient time at each site to increase the chances of capturing an image.</p> <p>Water samples for environmental DNA (eDNA) analysis were also collected during both field campaigns, totaling 42 sites. The laboratory analysis of these samples is still</p>

				<p>pending. Once completed, the results will be compared with those obtained through traditional survey methods in order to evaluate and compare the efficiency of each sampling method.</p>
<p>Study the genetic structure of Southern River Otters in north Patagonia:</p>		x		<p>We are waiting for the DNA amplification sequencing results that was sent to an external lab. With the sequencing we will be able to analyze the alleles</p> <p>We collected a total of 8 faecal samples during the fieldwork. Laboratory analyses have so far focused on 5 of these samples, as the remaining 3 were collected during the 2025 campaign and have yet to be processed. Also, 2 samples were collected in the Limay River basin in River Negro in previous campaigns where analyzed. The collected faeces were fresh and preserved in 96% alcohol in the field, then stored in a freezer until DNA extraction. Several extraction methods were tested, but the phenol-chloroform method proved to be the most effective. DNA was successfully extracted from all 7 samples (100%). Subsequent amplification of the extracted DNA was performed using a primer targeting the mitochondrial</p>

				control region gene. To confirm amplification, agarose gel electrophoresis was conducted (Figure 3). The control region (CR) was successfully amplified in 5 of the 7 samples (71.4%) (Table 2). The two samples in which amplification failed were both collected from the Futaleufú River. The next step will be to extract and amplify DNA from the remaining 3 samples, attempt re-amplification of the two previously unsuccessful samples, sequence the DNA, and analyse the results.
Survey the habitat quality at lake shores and riverbanks to inform the habitat suitability map			x	We were able to identify areas with potential suitable habitat for the southern river otter, although further evaluation is needed—particularly regarding the species' diet in these areas. We also developed a habitat suitability model for the Limay Basin, which highlighted several potentially suitable sites. The next step will be to visit these areas and conduct field evaluations to validate the model's predictions
Analyze Southern River Otter's diet			x	
Production of photographic and video graphic material for educational and outreach purposes:		x		We were able to photograph southern river otters trachs, a holt, its environment, hight quality habitat and low quality habitat and threats the

				<p>otter has. We were not able to photograph the species as its very elusive - we did photograph some individuals but unfortunately the camera broke. As a result, we were only left with a video recorded on a cellphone. The images included in the project update are screenshots taken from that video. ater, we organized a campaign to the Limay and Traful rivers, where we identified active otter holts. However, we were not successful in photographing the species during that survey.</p>
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2. Describe the three most important outcomes of your project.

- a). Updated information on Southern River Otter's distribution
- b). We organised activities with local in Chubut where the species is not known
- c). We were able to achieve a successful DNA extraction from SRO feces.

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

1. **Access to sites:** We encountered difficulties accessing some sampling sites because they were located on private property, and we were unable to obtain permission from the landowners.
2. **Difficulties in the lab:** DNA extraction from feces usually has a low rate of success. Several extraction and amplification protocols were tested until we successfully implemented one that allowed the amplification of the mitochondrial DNA of the samples.
3. **Production of photographic:** We were not able to produce photographic and video material as the species is very elusive.

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

One of the main strategies for involving local communities has been through the creation of high-quality educational and outreach materials. These materials are intended to support awareness campaigns and educational activities that help build a sense of identity around

the SRO as a flagship species of Patagonia. Local communities are a key component of this project as the otter shares its habitat with areas undergoing rapid urbanization so we recognized the importance of community engagement for the long-term conservation of the species.

The project indirectly benefits local communities by promoting the conservation of the freshwater ecosystems. By protecting the SRO and its habitat, the project also contributes to the broader conservation of clean water sources, native vegetation, and biodiversity.

5. Are there any plans to continue this work?

Yes. The project will continue. We will continue to monitor the SRO colonization in the different basins. We will try to do a nuclear DNA extraction to achieve a more in depth understanding of its population structure, and will continue to work with local communities to produce educational campaigns and make the species better known.

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

The results of this project will be shared through a variety of channels to reach both scientific audiences and the general public. Scientifically, I plan to publish the results in peer-reviewed journals and present them at national and international conferences. One example is the recent presentation at the 2024 "*Jornadas Argentinas de Mastozoología*", where preliminary results were shared.

Locally, the information will be shared with stakeholders such as the National Parks Administration, provincial environmental authorities, and conservation NGOs like Aves Argentinas, with whom this project is being developed. Although the project is still ongoing, we have already shared some of our preliminary findings through outreach talks in Esquel, both in local schools and in open events for the general public. Additionally, we presented results at scientific meetings such as the Mastozoology Congress held in Jujuy last year, and we plan to present the 2025 results at the upcoming edition of the same congress, to be held in El Calafate. Once the laboratory analyses and data processing are completed—which we expect to finalize this year—and the results are validated, we will prepare a scientific report. We aim to disseminate the findings through peer-reviewed publications, scientific conferences, and targeted outreach efforts directed at local stakeholders and conservation authorities.

For broader outreach, the photographic and video material obtained will be used in educational campaigns aimed at raising awareness about the species and the importance of conserving its habitat. These materials will be made available to schools and community groups.

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

Firstly, a key next step is to organize educational activities in local schools and community organizations to promote awareness and generate a sense of community and responsibility for the conservation of the Southern River Otter (SRO) alongside locals. Actively involving communities is essential for long-term support and conservation for the species and its

habitat. In addition, establishing a long-term monitoring framework is essential to evaluate the recovery of Southern River Otter (SRO) populations over time and to assess the effectiveness of the conservation actions implemented. Moreover, the data collected will be used to identify priority areas for natural recovery as well as those that may require active management interventions.

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, the logo was used in:

- "XXXV Jornadas Argentinas de Mastozoología": a mammalogy congress where the project's preliminary results were presented in November 2024
- International Otter Day: an awareness and outreach event in Esquel, Chubut, dedicated to raising the profile of the Southern River Otter among local communities in May 2024. The outreach event reached approximately 100 people, including local residents, students, park rangers, and representatives from conservation organizations. Activities included talks, games, interactive demonstrations, and the distribution of educational materials about the species, to 4th-grade students from local schools in an event organized by the provincial government. In addition, informational talks were held for the general public, where we introduced the species, presented the overall goals of the project, and shared some preliminary results. Feedback from participants was very positive, and due to the strong interest and engagement, the event was held again in June 2025.
- Participation in the "IV Conservatorio de Agua" in the city of Zapala, Neuquén, organized by Viento Sur Zapala, where research progress was presented and work experiences were shared on June 2024.

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

Laura Fasola: My PhD supervisor.

Graciela Obregón: Fellow PhD student that helped with the lab analysis of the feces and field research.

Lucas Hormachea: Field technician.

Geronimo Cutolo: Field technician.

Gonzalo Pardo: Photographer.

Juan Ignacio Túnez: Investigator that coordinates the research lab where the feces were analysed.

Claudio Chehébar: Southern river otter specialist that helped with the logistics of the project

Hernán Pastore: Biologist from National Parks that helped with the logistics of the project

Leonardo Buria: Biologist from National Parks that helped with the logistics of the project

Ignacio Roesler: Investigator and Programa Patagonia Coordinator at Aves Argentinas that helped with the logistics of the project.

10. Any other comments?

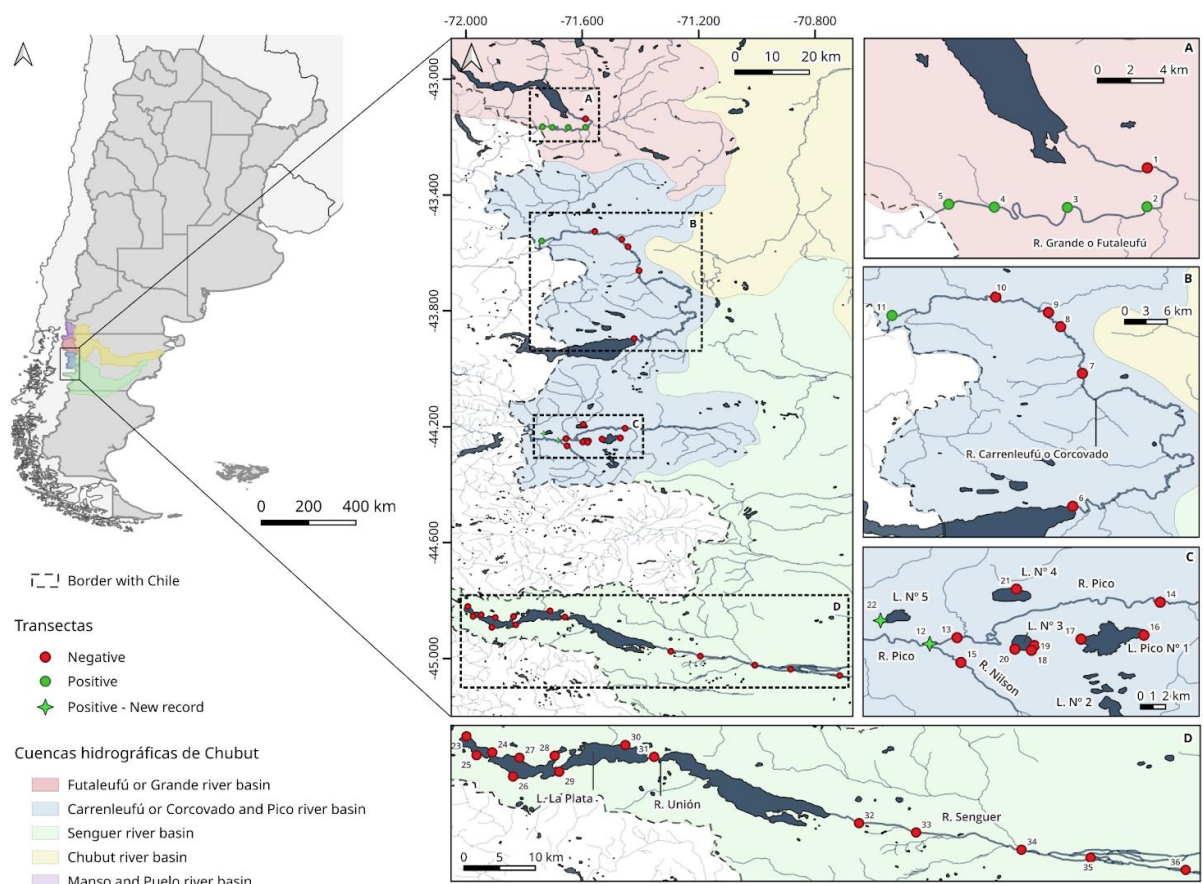


Figure 1. Map of the survey area and location of the sites done in 2024. Where signs of SRO were found (green dots), where the species was recorded for the first time (green asterisk), and where no signs of SRO were found (red dots).

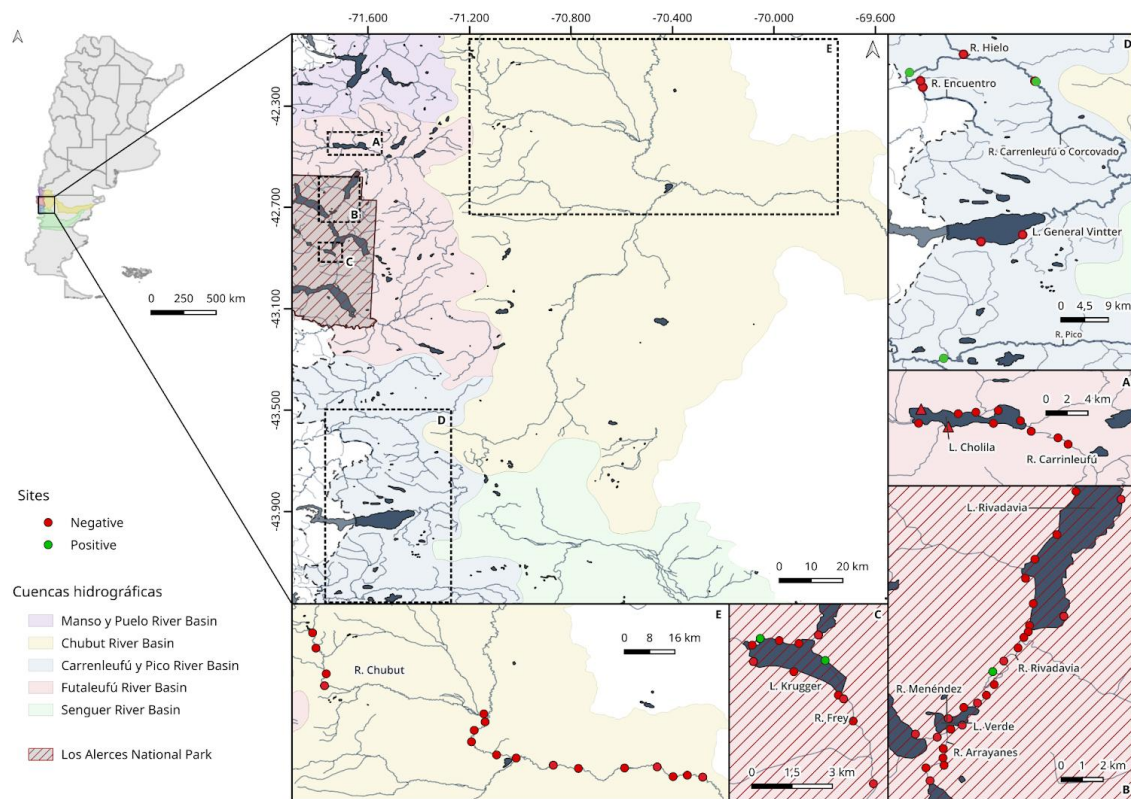


Figure 2. Map of the survey area and location of the sites done in 2025. Where signs of SRO were found (green dots) and where no signs of SRO were found (red dots).

Year	Basin	River/Lake name	Number of sites	With SRO signs	No SRO signs
2024	Río Futaleufú	Río futaleufú	5	4	1
2024	Río Senguer	Lago la Plata	8	0	8
2024	Río Senguer	Río Unión	1	0	1
2024	Río Senguer	Río Senguer	5	0	5
2024/2025	Ríos Carrenleufú y pico	Río Carrenleufú	6	2	5
2024/2025	Ríos Carrenleufú y pico	Río Pico	3	1	2
2024	Ríos Carrenleufú y pico	Río Nilson	1	0	1
2024	Ríos Carrenleufú y pico	Lago Pico N°1	2	0	2
2024	Ríos Carrenleufú y pico	Lago Pico N°3	3	0	3
2024	Ríos Carrenleufú y pico	Lago Pico N°4	1	0	1
2024	Ríos Carrenleufú y pico	Lago Pico N°5	1	1	0
2025	Río Chubut	Río Chubut	17	0	17
2025	Río Corcovado y Pico	Lago Vintter	2	0	2
2025	Río Corcovado y Pico	Río Encuentro	2	0	2
2025	Río Corcovado y Pico	Rio Hielo	1	0	1
2025	Río Futaleufú	Lago Cholila	8	0	8
2025	Río Futaleufú	Lago Krugger	9	2	7
2025	Río Futaleufú	Lago Rivadavia	7	0	7
2025	Río Futaleufú	Lago Verde	4	0	4
2025	Río Futaleufú	Río Arrayanes	5	0	5
2025	Río Futaleufú	Río Carrinleufú	3	0	3
2025	Río Futaleufú	Río Frey	3	0	3
2025	Río Futaleufú	Río Rivadavia	7	1	6
Total			105	11	94

Table 1: Results of the transects done during 2024 and 2025 . Basins are coloured differently.

Sample	Place	Basin	DNA extraction	Amplification
1	Futaleufú River	Futaleufú River	Successful	-
2	Futaleufú River	Futaleufú River	Successful	-
3	Carrenleufú River	Carrenleufú y Pico River	Successful	Successful
4	Pico N°5 Lake	Carrenleufú y pico River	Successful	Successful
5	Frey River	Futaleufú River	Successful	Successful
6	Limay River	Limay River	Successful	Successful
7	Traful River	Limay River	Successful	Successful

Table 2: Results of the DNA extraction and amplification. Basins are coloured differently.