

## The Rufford Foundation Final Report

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Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to [jane@rufford.org](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Juan Manuel Girini
<b>Project title</b>	Conservation of wetland and forest birds threatened by the invasive American mink ( <i>Neovison vison</i> ) in Lanín National Park (Patagonia, Argentina)
<b>RSG reference</b>	12535-1
<b>Reporting period</b>	October 2014 – March 2016
<b>Amount of grant</b>	£ 4757
<b>Your email address</b>	pachigirini@gmail.com
<b>Date of this report</b>	13 April 2016

1. Please 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
(1) Provide conclusive information about the impact of mink on bird populations			Yes	Difficulties in territory mapping of grebes, geese and coots. Preliminary results: Depleted waterfowl communities in sites with mink; waterfowl populations respond differently to mink's presence according to bird species; despite effective predation by mink, not were observed differences in terrestrial bird abundances between sites with and without mink.
(2) Identify more vulnerable bird species inhabiting wetlands and forests			Yes	(i) Water birds are more vulnerable than terrestrial birds to the mink's predation; (ii) the most vulnerable species are those that breed in the Andean Patagonia (ashy-headed goose, spectacled duck and the Andean ruddy duck); (iii) Red-gartered coot, grebes and other duck species that breed in other regions, could re-colonise the protected area, although the mink would impact on their populations at short term.
(3) Provide knowledge about the impact mechanism mink on bird populations			Yes	The mechanism of impact of mink on native birds depends of the bird species: (a) the mink diminishes reproductive success and recruitment of great grebe and southern lapwing, predating principally chicks and fledglings; and (b) the mink affects all the population of the ashy-headed goose and the red-gartered coot, predating on a great number of adults.
(4) Assess the experimental removal of minks			Yes	Removals of minks have been inefficient and produced little effect on waterfowl communities and mink population in Filo Hua Hum Lake. Is very important to consider size, connectivity and complexity of a watershed to remove minks in a particular wetland.
(5) Develop and implement a protocol for monitoring birds within temperate forests and wetlands			Yes	We conducted the two workshops, develop the protocols of bird monitoring and then we assessed preliminary protocols by observing the performance of volunteers, rangers and local birders applying these techniques in the field, during the period of October 2015 - January 2016.

<b>(6) Develop and implement a protocol for monitoring mink populations in lake coasts and river banks</b>			Yes	We conducted the two workshops, developed the protocols of bird monitoring and then we assessed preliminary protocols by observing the performance of volunteers, rangers and local birders applying these techniques in the field, during the period of December 2015 – February 2016.
<b>(7) Train rangers, technicians and other province and national government staff and local birdwatchers about regional conservation problems and monitoring techniques</b>			Yes	During the two workshops we trained 55 total participants. Between December and February, for the seasons 2014-15 and 2015-16, a total of 39 total field collaborators were trained about monitoring techniques.
<b>(8) Generate brochures for stakeholders to raise awareness on the mink threat to native birds</b>		Yes 75%		Together with Javier Sanguinetti, we are developing messages and images for the brochures. Together with the Department of Environmental Education of the LNP, we will design and print these materials as soon as possible.
<b>(9) Develop and implement guidelines for selecting appropriate and priority sites for the elimination of mink and conservation of biodiversity</b>		Yes 90%		Together with Leandro García (the GIS expert of the LNP), we have based on mink removal experience and knowledge of conservation value of different wetlands for develop a guidelines that assign scores to different wetlands according to three different components: "factibility of manage", "valuation of biodiversity" and "invasibility". Having more than 150 potential sites in the list, we are implementing this protocol to select one or two appropriate lakes to mink removing and birds conservation. Conclusions from goals (1) to (4) were very important to develop the guidelines.

#### **Generalities about field collaborators**

Field collaborators participated in the achieving the objectives (1) to (7).

Volunteers: formally two graduate students from national universities helped us during 20 days; opportunistically (during 1-5 days) helped us: 12 undergraduate students and one graduate student from national universities, and 17 local birders from San Martin de Los Andes and Aluminé.

Other field collaborators: seven rangers.

#### **Generalities related to objectives (1), (2), (3) and (4)**

Total days of field work: 126 days.

Field activities: (i) line transects; (ii) territory mapping; (iii) direct counts.

Other related activities: (i) study of mink diet through analysis of scats.

### **Generalities related to objectives (5), (6) and (7)**

First we conducted two workshops: (i) in Aluminé village during March 2015, with 27 participants; (ii) in San Martín de Los Andes city during October 2015, with 28 participants. There we discussed the advantages and disadvantages of different census techniques applicable to the monitoring of birds and minks in forests and wetlands.

To develop workshops we had the collaboration of four biologists who work in research, conservation and management of wildlife in Andean Patagonia: PhD Gerardo Cerón (National University of Comahue), who investigate and conserve the torrent duck; PhD Javier Sanguinetti (Lanín National Park, LNP), who investigate and manage alien invasive mammals in northwestern Patagonia; PhD Martín Monteverde (Applied Ecology Center of Neuquén), who investigate carnivores in north-western Patagonia; and Alejandro Valenzuela (National Park Administration), who investigate and manage alien invasive mammals in southwestern Patagonia. Then we selected more appropriate techniques of monitoring according to four principal constraints: (a) habitat, (b) focal bird species, (c) minimum available resources, and (d) skills and preferences of workshop participants. We designed tentative and preliminary protocols to implement at field based on our field experience and theoretical knowledge, as well as the constraints mentioned above. Finally, we assessed reliability and feasibility of these protocols by observing logistic constraints and the performance of volunteers, park rangers and local birders applying these techniques in the field during October 2015 – February 2016.

### **2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

- The national currency devaluation affected the budget we had estimated, making more expensive some imported products (binoculars, spotting scopes, touring kayak equipment). We compensate costs at the best possible so that the money available was sufficient.
- The inflation in national market affected the budget we had estimated, making more expensive some goods and services (food and, particularly, fuel). We compensate costs at the best possible so that the money available was sufficient.
- National laws imposed limitations on the importation of some goods, which delayed the purchase of equipment: spotting scope and binoculars. While we could not incorporate these goods to the equipment, we borrow these items from colleagues.
- We hoped to have two formal volunteers for 20 days in January 2015, but both had personal problems and notified us at the last minute that they could not participate in the project field work. Therefore we did not have volunteers during such period. We were helped by opportunistic field collaborators. (For this reason we spent lesser money amount in “Volunteer subsistence payment” item that what we budgeted, see below)
- The design of brochures was more complicated than we supposed. The messages should be few, clear and concise, and should be accompanied by carefully selected images, while being informative and relevant for conservation. We are designing brochures together with Javier Sanguinetti and the Department of Environmental Education of the LNP, who have experience and abilities to generate this kind of material.
- The organisation of workshops and informative talks required participation of other institutions (LNP, National University of Comahue, and Ministry of Education of Neuquén). A lot of time was lost during the talks with administrative staff and cumbersome bureaucratic instances. Furthermore, the administrative formalities imposed many restrictions to develop open to the public talks, which limited the range of social actors reached. We bought a mini

projector to develop "informal" and "opportunistic" talks open to the public in camps, houses of park rangers, shelters of LNP volunteers, and birdwatchers clubs.

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

(a)- Unambiguous and conclusive information about mink impact on forest birds and waterbirds. The diet analysis shows that the minks eat aquatic and terrestrial birds in a large proportion with respect to other animals; the conversations with local informants (fishermen, fishing guides, rafting guides, journeys guides, park rangers and local people) show that minks hunt aquatic and terrestrial birds; and bird survey results show that mink abundance is negatively related with richness of aquatic bird communities, and population size of several aquatic bird species.

(b)- Experience, knowledge and protocols to improve effectiveness of mink management. Two principal sources of experience and knowledge have improved our abilities to remove mink: (i) 10 years of mink removal, and monitoring of waterfowl populations in the Filo Hua Hum watershed; and (ii) continuous exchanges of experiences with other professionals removing mink in other areas from southern Patagonia (Laura Fasola, Ignacio Roesler, Alejandro Valenzuela). Based on this we have designed new protocols of mink removal and we have developed a guide to identify priority sites to remove minks. The approach and criteria of this guide can serve to select priority sites from LNP to manage other invasive alien species, including plants.

(c)- The involvement of local people in wildlife conservation. We develop four kinds of activities that attempted to include local people in the wildlife conservation: (a) two informative talks open to the public in which we introduced principal aspects of the conservation problems related with the mink; (b) two workshops in which we discuss about birds and mink monitoring with local birders, park rangers, fauna keepers, tour guides (fishing, rafting, bird watching), and students and teachers of high school and university; (c) several working days in the field with park rangers and local birders; and (d) opportunistic talks, directly "face to face", or indirectly by radio or audiovisual material as "advertising spots" (see below). Nowadays, several of the reached people are showing me desired effects of these activities to start a regional net to monitor birds and survey mink: they are sending me observations with valuable information to update geographic range of mink, interactions between mink and native fauna, and new records of threatened birds of forest and wetlands; they are asking me for bibliography and field activities related with monitoring of birds and minks; land owners with wetlands infested by minks are asking me by mink trapping.

### **4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).**

Involvement of local communities from Aluminé, Junín de Los Andes and San Martín de Los Andes in the project:

(a)- Activities dedicated to transmit experience and knowledge about mink impact on native birds in Argentinean Patagonia and elsewhere (particularly in Chile and Europe): two talks open to local communities (one in San Martín de Los Andes city, and another in Aluminé village), in which over 150 people participated in total; several talks in local and provincial radios; audiovisual material as "advertising spots" to disseminate mink problems in the municipal television channel from Aluminé; opportunistic conversations with local individuals and ancient or frequent visitants.

(b)- Activities dedicated to train local people in the survey, surveillance and monitoring of bird communities and populations: two workshops for local birders, park rangers, fauna keepers and guides (fishing, rafting and birding), in which 55 people participated in total; several working days in the field with seven park rangers and 17 local birders.

Benefits that local communities received from the project:

(a)- Local people were warned about the different problems that mink could cause: in regional ecosystems, particularly wetlands and forests, by threatening native biodiversity; in the aesthetic perceptions, by impoverishing waterfowl communities in wetlands where local people lives or develops recreational activities; in the familiar economy, by affecting poultry, as well as in local economy, by affecting breeding of salmonids and eco-tourism (particularly fishing and birdwatching).

(b)- Professors and students of local high school and universities received material for think about biology and ecological process.

(c)- The LNP, the Protected Areas Chañy and Batea Mahuida (Aluminé), and the Urban Nature Reserve COTESMA (San Martín de Los Andes), were benefited directly through the dissemination talks and the workshops by rising awareness in local people and staff about importance of providing records and the native fauna monitoring.

(d)- Clubs of local birders, park rangers and fauna keepers showed me enthusiasm about monitoring of wildlife and expectancy that they can provide valuable information to conserve native birds and control the mink, so they received: (i) different methodological tools to surveying and monitoring birds and carnivores; (ii) specific and simple tasks to monitor local presence and regional distribution of mink; and (iii) specific tasks to monitor local presence and reproductive success of torrent duck and spectacled duck.

(e)- The brochures to raise awareness on the conservation threats to water birds and their habitats. This is a goal that was partially achieved (see above), but it will be another benefit for local communities, once the material is printed.

## **5. Are there any plans to continue this work?**

I plan to continue with this work. Local people are sensitized on the conservation of native birds and the impact of alien species. I want to start a net of local people to surey bird and mink populations in San Martín de Los Andes, Junín de Los Andes and Aluminé. I want to design and print a book with the basics and the protocols developed in this project.

Birders from Aluminé are interested in offer bird watching to tourists, an incipient activity in this locality which is sustainable and can provide income to the households and local economy. I want to impulse the starting of this activity with birders and few young from deprived families.

In north of the Andean Patagonia, the abundance of the torrent duck and the spectacled duck has decreased dramatically during the last two decades. Gerardo Cerón, Javier Sanguinetti and valuable local informants pointed to the American mink and the climatic change as the principal causes. I want to perform particular management practices to protect these species.

In north of the Andean Patagonia, American mink is expanding its geographic range. Park rangers, fishermen, rafting guides and birders have sent me new records of minks for the region. In addition, we are implementing the guidelines for selecting appropriate and priority sites for the control of mink and conservation of biodiversity. I want to conduct mink control in prioritised sites, as well as in areas recently colonised by this alien species.

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

I plan to share the results of my work by: dissemination talks open to the public, conservation/management meetings in protected areas, technical reports, scientific meetings and scientific papers.

**7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?**

I used the Rufford Foundation grant during the period October 2014 – March 2016. I'll use the money left over (see below) to design and print posters and brochures as soon as possible.

The anticipated length of the project was 18 months (October 2014 – March 2016), but I still have to meet a target (see above) for which I need the money left over (see below). Therefore the actual length of the project will be 1-2 months longer than the anticipated one.

**8. Budget: Please 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.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Handy YAESU FT-270 + 2 batteries	300.40	298.20	2.20	
Two-way radio MOTOROLA	73.21	141.44	-68.23	The item was bought after it was affected by the devaluation of Argentina's currency.
Binocular BUSHNELL Legacy WP	150.13	172.88	-22.75	The item was bought after it was affected by the devaluation of Argentina's currency. We bought an accessible binocular (1 unit).
Spotting Scope BUSHNELL Trophy XLT	196.03	374.50	-178.47	The item could not be obtained on request from Argentina. A similar item (Spotting Scope BUSHNELL NatureView) was bought after it was affected by the devaluation of Argentina's currency.
GPS Garmin etrex HCX	276.66	271.45	5.20	
Rechargeable AA batteries	19.79	27.85	-8.06	
Touring equipment Kayak	567.97	768.43	-200.46	Some sub-items were bought after them were affected by the devaluation of Argentina's

				currency.
<b>Stationery store costs</b>	21.99	11.95	10.04	
<b>Vehicule fuel</b>	507.64	690.46	-182.82	The value of fuel increased during the period of project since inflation in national market.
<b>Food</b>	922.33	628,32	294.01	
<b>Volunteers subsistence payments</b>	1319.16	545.67	773.49	I had 2 formal volunteers instead of 4, as planned when I did the budget.
<b>Workshop costs</b>	183.22	68.42	114.79	
<b>Brochures costs</b>	183.22	80.62	102.60	We have not spent all the money planned because we still have to print the material.
<b>Other costs</b>		328.62	-328.62	We have bought a Mini Projector UNIC UC40 to give talks in camps, houses of guards, clubs birdwatchers.
<b>Total</b>	4721.75	<b>4408.83</b>	312.93	

Exchange rate used is from October 2014: £ 1 = AR\$ 13.645

The exchange rate at the date March 2016: £ 1 = AR\$ 20.440

Therefore, the actual amount of money (in pounds) left over from the project is £ 208.90. I'll use the money left over to design and print the posters and brochures as soon as possible.

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

With the outcomes of my project, the next steps are: start the control of mink in appropriate and priority sites; disseminate the protocols for surveillance/monitoring of birds and minks; start a net of surveillance/monitoring; design and implement management practices to protect the torrent duck and the spectacled duck. Furthermore, from our information and knowledge of mink impact on birds, we have new questions to answer: Native birds have developed anti-predator behaviour to face the mink? The European rabbit, an alien mammal which is invading north-western Patagonia and is predated by mustelids, damps the mink impact on native birds? What is the current distribution of mink in Patagonia Argentina, and what its potential distribution? Answering these new questions can improve our future management practices.

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

Yes I have used The Rufford Foundation logo in: (a) slides of presentations for workshops and informative talks; and (b) certificates of participation to workshops. I have made mention of the RFSG during: meetings with administrative staff and birdwatchers clubs for organise the workshops, and during the workshops and informative talks (thanking the RF for funding). I will use the RF logo in brochures design.