

**Project: Domestic dog interactions with wildlife in protected areas of Argentina**

**Abstract**

Protected areas seek to protect nature, including humans and their activities. However, the rapid increase in both, human settlements on its edges and unsupervised recreational use, compromises its conservation objectives. A worrisome problem is the entry of domestic animals that have numerous negative impacts on wildlife, such as dogs. We aim to study free-roaming dogs' presence and abundance in protected areas (PAs) and surrounding human settlement of Northern Patagonia, Argentina; and assess their overlap of habitat use with wildlife at spatial, temporal and food-resource levels. This will contribute to the understanding of the dog-human-wildlife conflict and its quantification.

**Aims and activities proposed to achieve each aim**

Aims	Activities proposed
1) to quantify the density of free-roaming dogs (FRDs) in cities and rural human settlements near protected areas (PAs)	– Street dog surveys to estimate the density of dogs associated with human settlements near the PAs where we will develop activities to achieve aims 2, 3 and 4. (Please see Project ID 42101-2 Update 1).
2) to determine the presence and abundance of FRDs in PAs adjacent to human settlements	– Camera trapping. We will install 30 camera-trap stations over 60 days to cover a total of 3000 ha sampling area in PAs.
3) to estimate the spatial and temporal overlap in habitat use between FRDs and wildlife in PAs	– Camera-trap data processing – Performing statistical analysis of the data obtained from the images to determine the presence and abundance of dogs in PAs adjacent to human settlements.

	<ul style="list-style-type: none"><li>– Statistical analysis of the data obtained from the images to estimate spatial and temporal habitat use overlap between FRDs and wildlife at PAs close to human settlements.</li></ul>
4) to estimate diet overlap between FRDs and wildlife in PAs	<ul style="list-style-type: none"><li>– Faeces collection. Carnivore faeces will be collected during FRD surveys in human settlements and during camera-trap surveys, to study carnivore's diet.</li><li>– Processing of faecal samples to determine prey items and prey overlap between FRDs and wildlife.</li></ul>
Continuously as we achieve each aim	<ul style="list-style-type: none"><li>– Extension and outreach activities</li><li>– Write scientific papers and technical reports.</li></ul>

## **Performed activities**

*December 2024 – May 2025*

I explored the terrain to install the cameras for the camera trapping survey and requested the necessary permits. With the first Rufford Small Grant we installed the cameras near Bariloche city (Figure 1c). In this instance I installed 21 camera trap stations in La Angostura (Figure 1b). The cameras stayed functionally from January to May. I went to check batteries and memories of the cameras each 20 days. During the camera trap installation, I collected carnivores' faeces to dietary study (Figure 2).

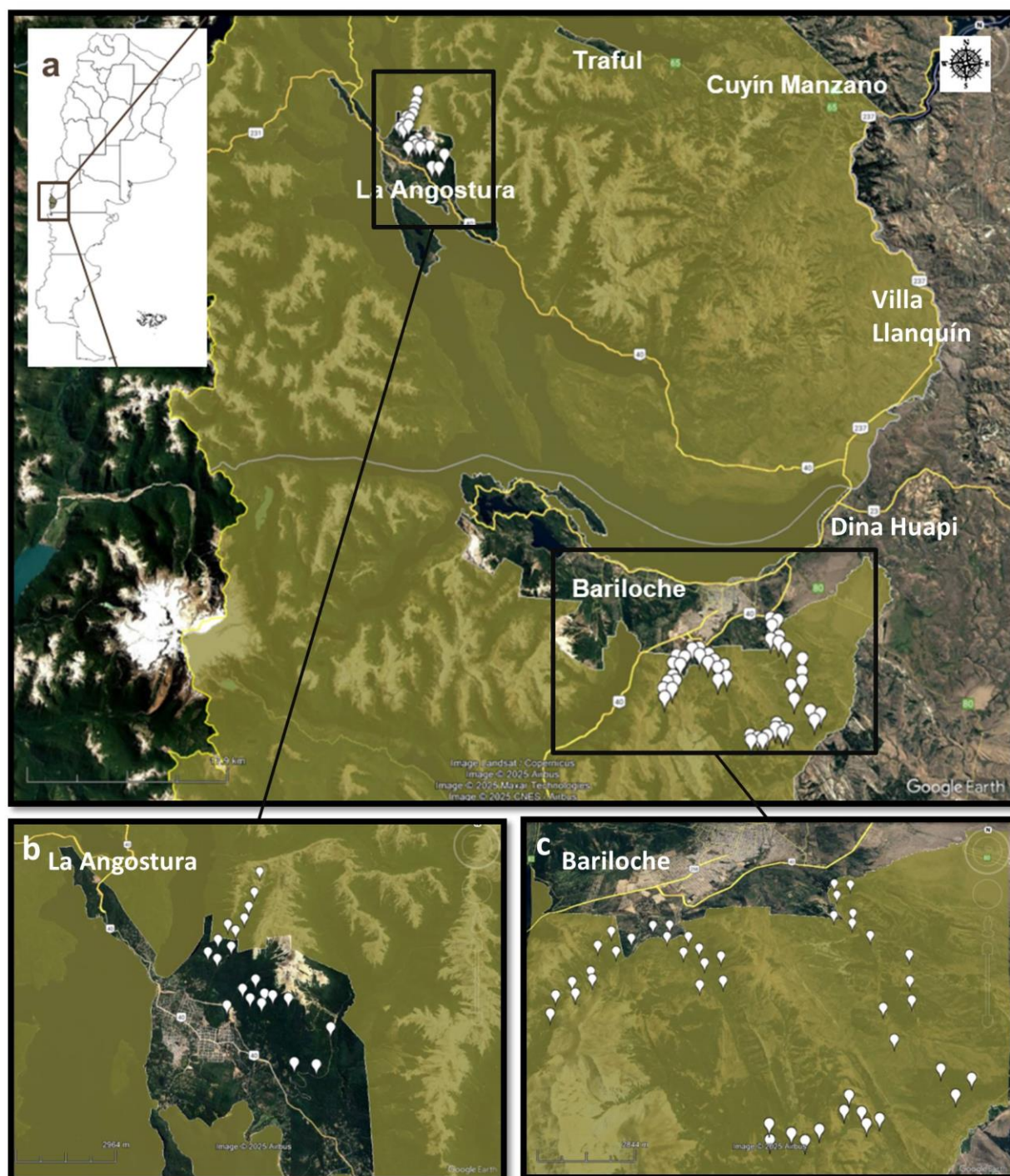


Figure 1. a. Map of Northern Patagonia and the human settlements where we estimate the number of free roaming dogs in the streets (please see Project ID 42101-2 Update 1). b. Detail of the natural areas where the camera traps (white balloons) were installed in La Angostura and c. Bariloche city. The shadow area corresponds to the Nahuel Huapi National Park.





Figure 2: Exploration of the terrain, installation of the camera traps and collection of faeces of carnivores.



## Upcoming activities

The upcoming activities will be cleaning and processing of camera trap images. At a first glance I noticed much less abundance of wildlife along all the sites of La Angostura city compared to the sites of Bariloche city. Also, I observed that there is a higher intensity of human and domestic animal use in all the La Angostura sites compared with Bariloche sites (Figures 3 and 4).



Figure 3: Photos captured with the camera traps in the protected area sampled, Nahuel Huapi National Park. It were observed few individuals of native species, like *Lycalopex* sp. (top left photo) and high abundance of non-native and domestic species (dogs, cows and wild boar).



## Domestic dog interactions with wildlife in Protected areas of Argentina

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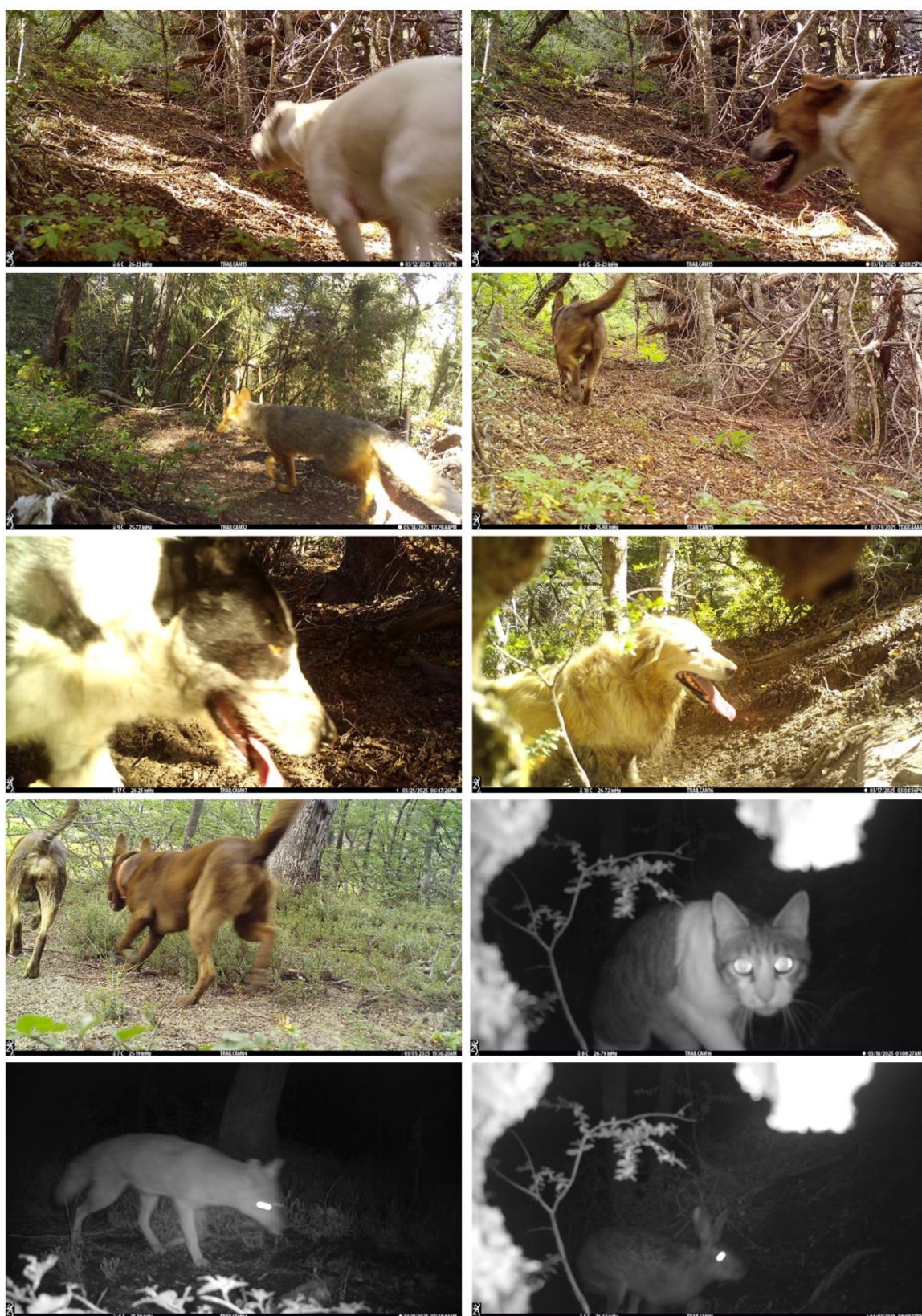


Figure 4: Photos captured with the camera traps Nahuel Huapi National Park. It were observed few individuals of native species and high abundance of non-native and domestic species (dogs, cats and hare).

After cleaning and tagging the images, I will estimate through statistical analyses the influence of several anthropic variables on the presence of wildlife in the protected areas sampled. Regarding the anthropic variables I will analyse the intensity and type of human use of the area (hiking, bicycle, motorcycle, domestic animal grazing), the presence of domestic dogs with humans and alone, the presence of other domestic animals like cows, much of them semi-wild. Also I will estimate the influence of the abundance of free-roaming dogs estimated in the streets of the cities (please see Project ID 42101-2 Update 1) on the presence of free roaming dogs in the protected areas where the cameras were installed. I will compare all these aspects between the cities and their nearest protected areas taking into account their particularities (human population, rural/urban area, municipal normatives regard free-roaming dogs, management measures of free-roaming dogs).

In the other hand, I will analyse the data of the survey performed to the volunteers that collaborated with the street dogs estimation (please see Project ID 42101-2 Update 1) to assess possible changes of perceptions or opinion about free roaming dogs after having carried out the survey and knowing the results.

I will continue performing outreach activities to raise awareness in the society about the problems related with the free-roaming dogs. Currently I am performing a workshop with a dog trainer to share information about the problem associated to the presence of free roaming dogs in the cities and natural areas, and to learn tips of animal well-being, how to enrich the environment where our dogs lives, how to walk with our dogs and where. Also I administer two social media where we publish different aspects regard environmental education, between them, we address different aspects regards the problem of the free roaming dogs (Figure 5; [https://www.instagram.com/p/DG6FQP8xe87/?utm\\_source=ig\\_web\\_copy\\_link&igsh=MzRIODBiNWFIZA==](https://www.instagram.com/p/DG6FQP8xe87/?utm_source=ig_web_copy_link&igsh=MzRIODBiNWFIZA==)).



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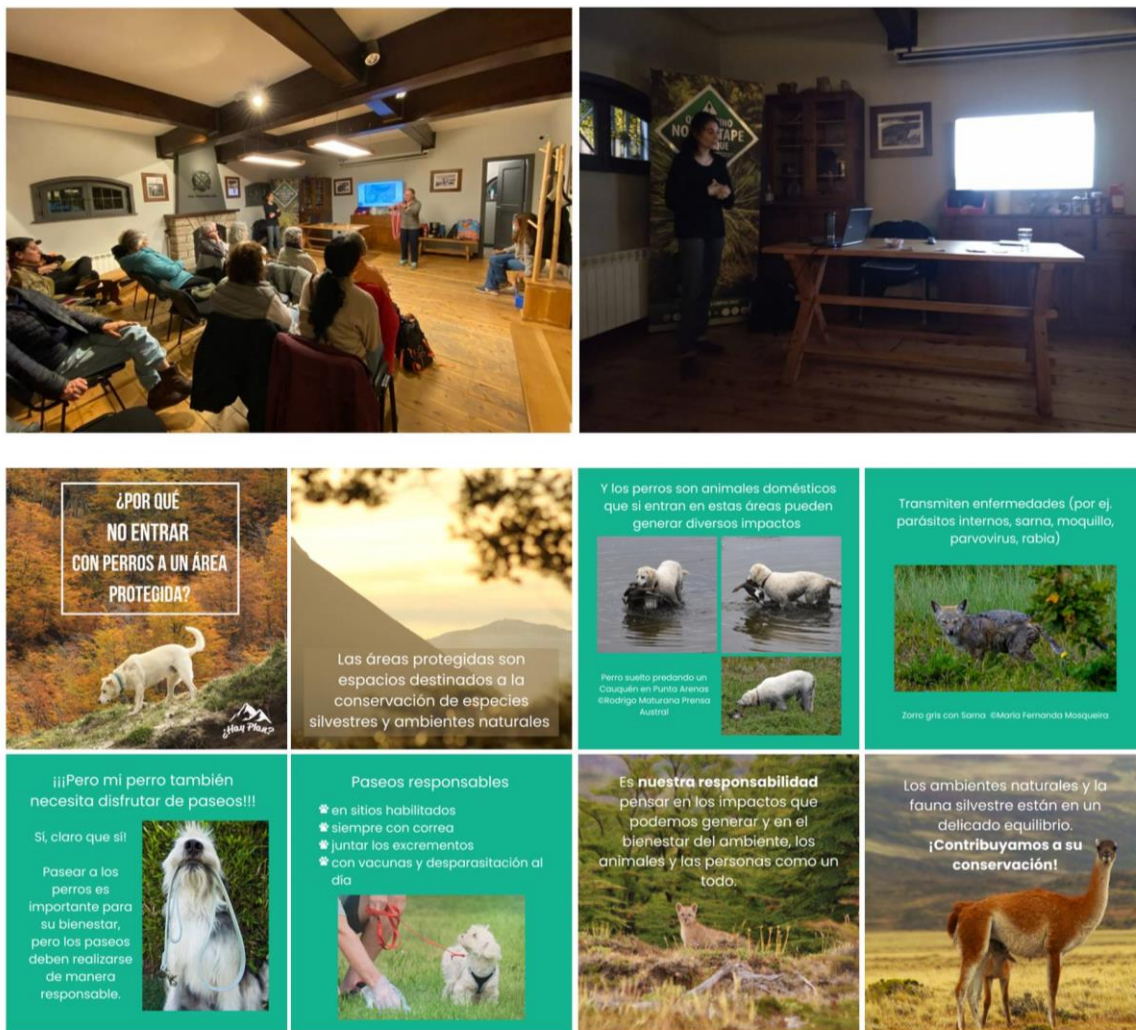


Figure 5: Top: photos of the workshop with the dog trainer. Bottom: Eight Instagram posts to raise awareness about why dogs should not be enter into protected natural areas.