

Project Update: December 2021

Abstract

Domestic dog (*Canis lupus familiaris*) is the most common carnivore globally. It can interact with wildlife in diverse ways, through predation, competition, disease transmission and hybridisation. The closer to protected areas, more harmful its impacts could be. Nowadays, this species is considered one of the causes of more than half of bird, mammal and reptile extinctions globally. In this work, we want to quantify dog-wildlife interactions and understand how much society knows and worry about the conflict at national scale (Argentina) and at local scale (northern Patagonia).

Aims and activities proposed to achieve each aim

Aims	Activities proposed
Assess the state of the problem of dog- wildlife interaction in urban and rural areas near protected areas.	<ul style="list-style-type: none">– Online surveys at national level.– Personal Interviews.– Camera trapping in the largest protected area in north- western Patagonia (Nahuel Huapi National Park).
Determine the social perception about protected areas, the presence of dogs in protected areas, and dog- wildlife interactions by all the stakeholders involved.	<ul style="list-style-type: none">– Online surveys at national level.– Personal Interviews.
Obtain concrete records of dog- wildlife interaction.	<ul style="list-style-type: none">– Online surveys at national level.– Personal interviews.– Camera trapping in the largest protected area in north- western Patagonia (Nahuel Huapi National Park).
Estimate dog presence and abundance in protected areas near human settlements.	<ul style="list-style-type: none">– Camera trapping in the largest protected area in north- western Patagonia (Nahuel Huapi National Park).
Assess the main drivers that increase the negative impact of dogs on wildlife in the sampled areas.	<ul style="list-style-type: none">– We will elaborate a map risk of dog to wildlife with the data obtained in the surveys, interviews and camera trap survey.

Performed activities

May 2021 December 2021 At National level - Online surveys

I processed and analysed a second part of the data obtained from online surveys. Also, I wrote and published a second paper (Zamora-Nasca *et al* in revision). This paper reports the acknowledgment of the problem of the dog wildlife interactions by Argentinean society.

Our results show that:

- Free-roaming dogs are a widespread problem throughout Argentina.
- At least in three quarters of protected areas visited by interviewed people, dogs were present.
- People concern about free-roaming dogs and their potential threat depended on the frequency they witnessed cases of dog attacks on wildlife and their valuation of wildlife and protected areas.
- The greater the acknowledgment about the problem of dog-wildlife interaction, the more concerned respondents were about dog attacks and the less they agreed with the entry of dogs into protected areas.

Our study sought to identify the main factors in which to consider when beginning addressing the problem of the dog-wildlife interactions. Our results show that reinforcing experiences in protected areas, promoting its valuation and wildlife valuation and sharing knowledge about the possible negative effects of free-roaming dogs on wildlife are essential actions if we are looking for people to understand and comply with regulations regarding dog management and their implications for the environment.

Awareness campaign

During the strict lockdown due to the COVID-19 pandemic, field samplings were not allowed. So, I looked for ways to advance the project through other activities. I started to work virtually on the production of an awareness campaign in collaboration with professional illustrators and animators with extensive experience in audio-visual media. The aim was to perform a short video and a set of flyers where the information on each of the aspects mentioned in the video was expanded. We have produced this audio-visual material to share with society the results obtained so far and raise awareness of the problem.

We launched the awareness campaign during the first fortnight of December 2021 through social media, e-mails, newsletters, newspapers and radio. We took part in numerous interviews to disseminate the material produced and shared it with different associations and institutions. The video, among the different platforms where it was uploaded, already has more than 4000 views in the first 15 days of campaigning. We seek to continue to spread it and also, the material is available for download and use by anyone who needs it.

Details of the awareness campaign can be found at the end of this report.

At scale of North-western Patagonia Camera trapping

One of the cities of the study areas, San Carlos de Bariloche, is inside the Nahuel Huapi National Park, so the edges between city and park are diffuse. The area has a high intensity of use, either by local inhabitants, native communities (Mapuches) and tourists who circulate through trails enabled for walks. From the online surveys and talking to people I identify sites to install the camera traps. Several testimonies report that exist a very aggressive pack of 20 – 30 dogs, in a zone of the Nahuel Huapi National Park at the south of the city. The zone where the pack was

witnessed is near the landfill of the city in three valleys.

I installed the cameras in these valleys (Figures 1, 2 and 3). The aim was knowing how often dogs frequent sites at different distances from the city. My team of work and I seek to identify the pack, estimate presence and abundance and know the pattern of use of the protected area, roads, zones that frequent and overlaps with wildlife.

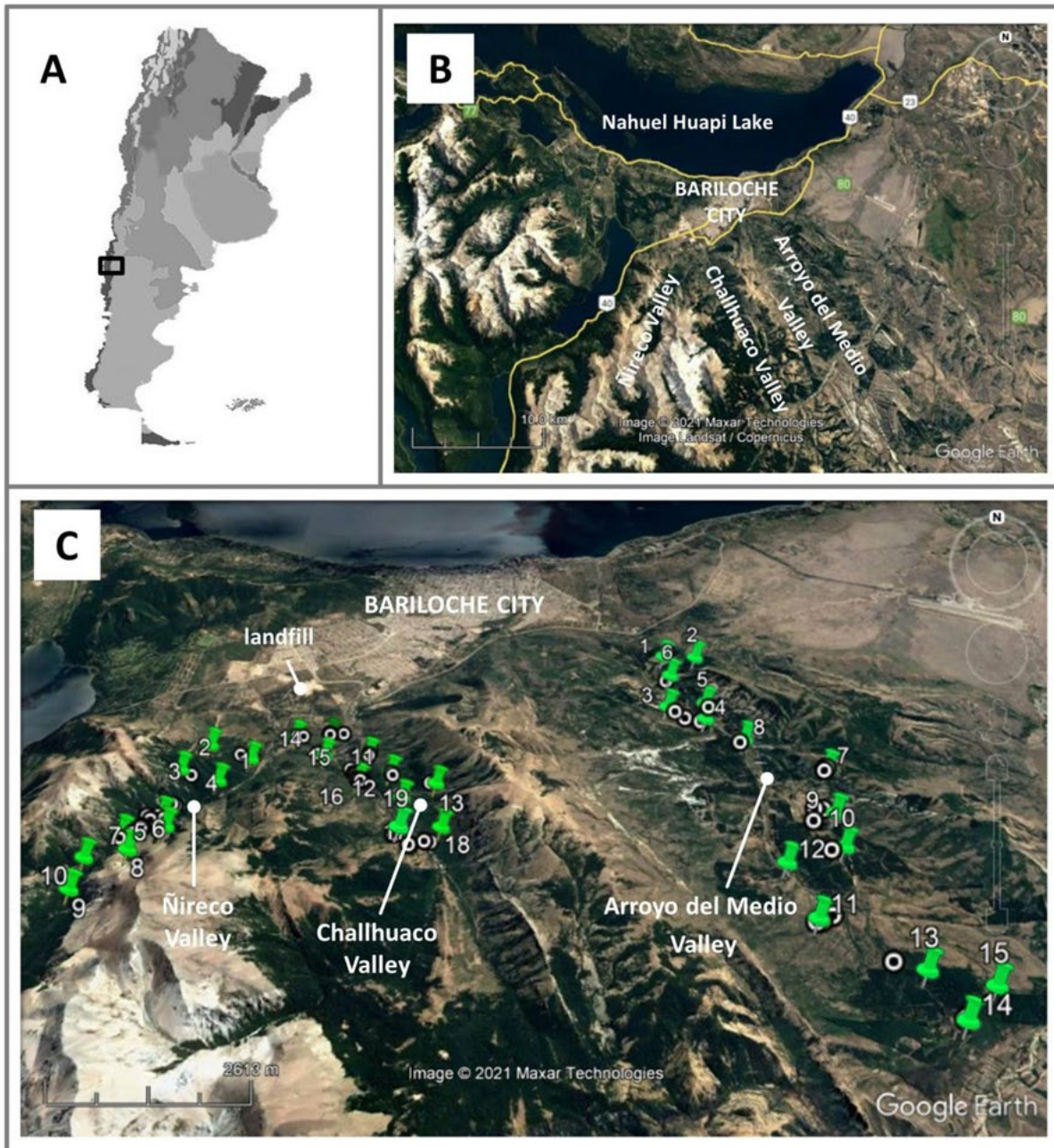
I continued with camera-trap sampling, extending the coverage area. In the first stage, which has already been reported, I installed 20 cameras 800 m from each other. In this second stage, I installed 15 camera stations in a valley parallel to the valleys surveyed before. The sampling covered an area of 2240 ha.

At a first glance of the captures of the cameras, we observed presence of dogs in the area, and also native fauna, and other invasive species (Figures 2, 4, 5, 6, 7).

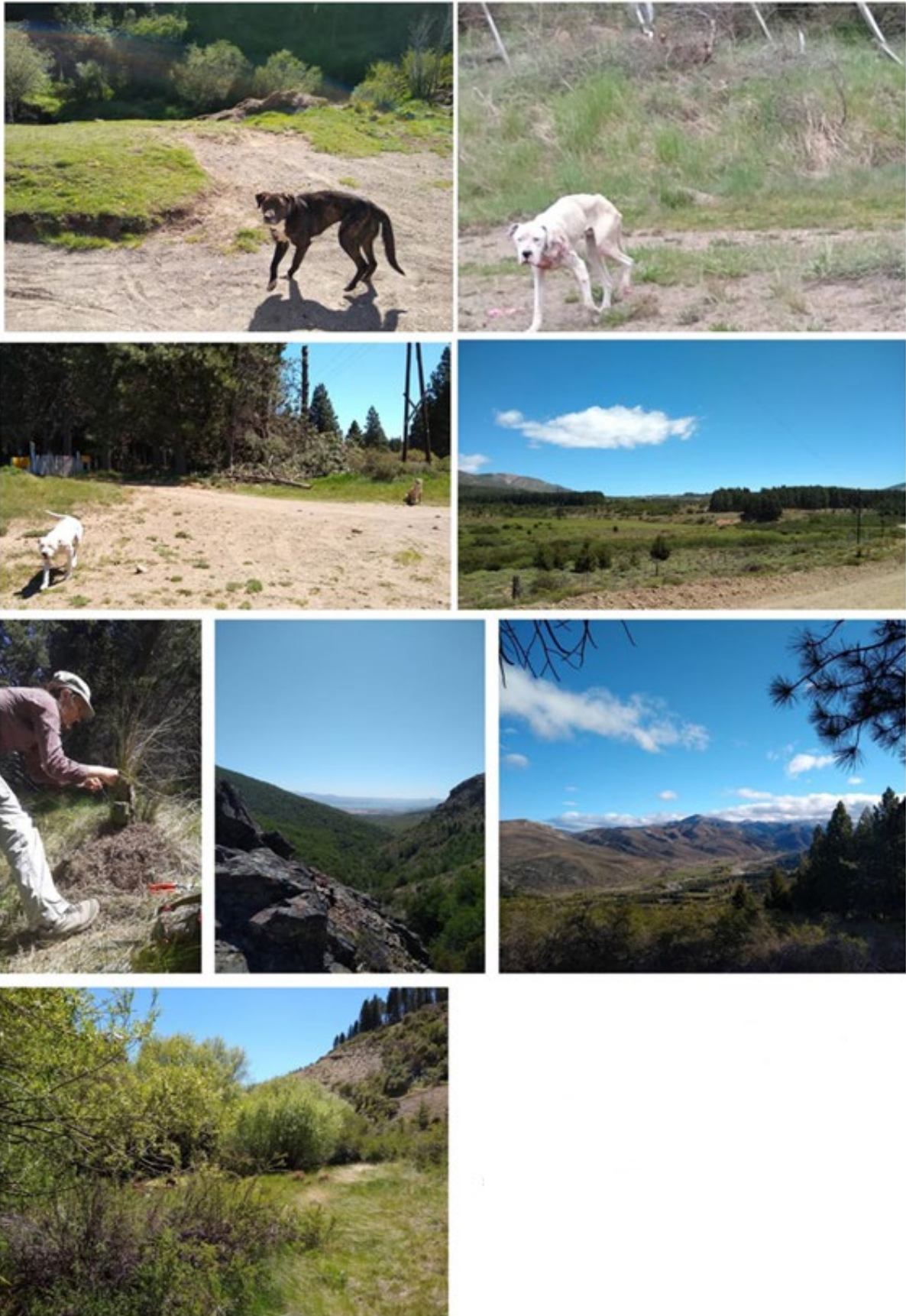
Also, during field work, I continued collecting faeces of dogs and wildlife which will be analysed to study zoonosis aspects. Also, I will use the faeces samples and hair of dogs and wildlife also collected during field samplings to study dietary aspects through isotopes. These materials will be analysed in collaboration with URESA Andina and the department of Parasitology of the Comahue National University. The aim of the collaboration is to add information about health problems caused by dogs, to people than to wildlife. Also, we want to study diets overlaps between domestic dogs and wildlife.



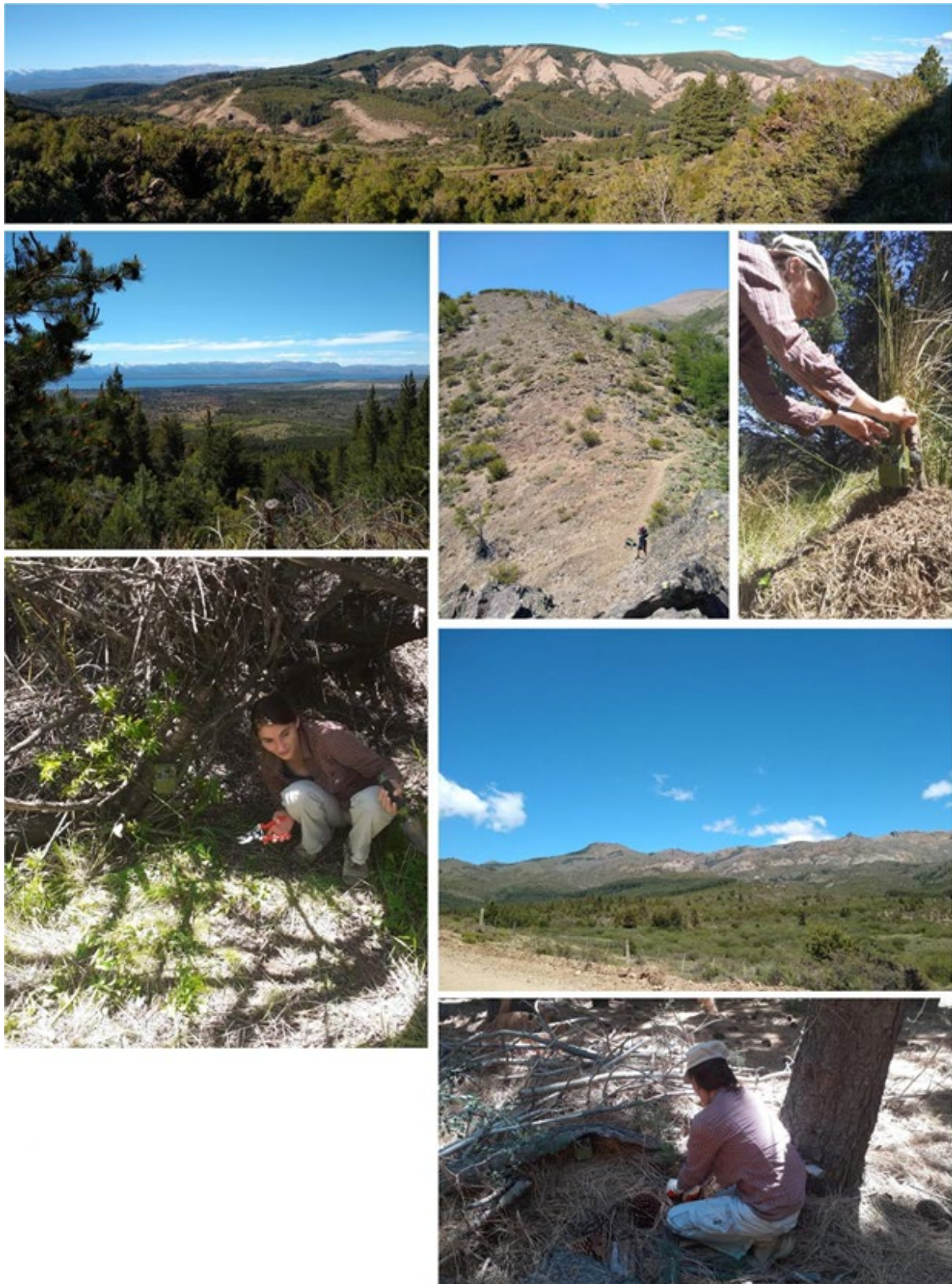
Camera station 5. European wild boar (exotic), domestic dog & fox (native). (Figure 4).



Study area located in North Patagonia of Argentina (A); in Bariloche City (B). The cameras were installed in the Nahuel Huapi National Park, in three valleys at difference distance of Bariloche city (C). Green marks correspond to each camera station, white circles correspond to carnivores' feces collected. (Figure 1).



Camera trap sampling on the edges of protected areas with human settlements. Numerous abandoned dogs can be found in the area, some of the in a serious state of health. (Figure 2).



Camera trap sampling of protected areas with human settlements. (Figure 3).



Camera station 14. European wild boar (exotic), European hare (exotic), Fox (native), Cougar (native), Geoffroy's cats (native) & European wild boar. (Figure 5).



Figure 6 Camera station 15. Cougar (native), Geoffroy's cat (native).

Personal interviews

I started the personal interviews in rural areas to know the perception of the problem of the free roaming dogs and the state of the situation in these areas. During the personal interviews, the interviewees' dogs were also vaccinated against rabies and dewormed. This work was performed in collaboration with residents of the Program of Veterinary Public Health of URESA Andina (Regional Unit of Epidemiology and Environmental Health Andean Zone, <http://www.uresaandina.com.ar/residencia/>) (Figure 8).

Upcoming activities

I am processing the data already obtained by the cameras, the online surveys and personal interviewees for search the main drivers that increase the negative impact of dogs on wildlife in the sampled areas. With this information I am making the map risk of dog to wildlife.

I plan to reinstall the camera traps in another area of the Nahuel Huapi National Park to cover a greater surface area.

I plan to continue with the personal interviews to reach the projected number of interviewees. This aim was delayed due to the social isolation imposed as a measure to prevent the spread of the COVID-19 pandemic.



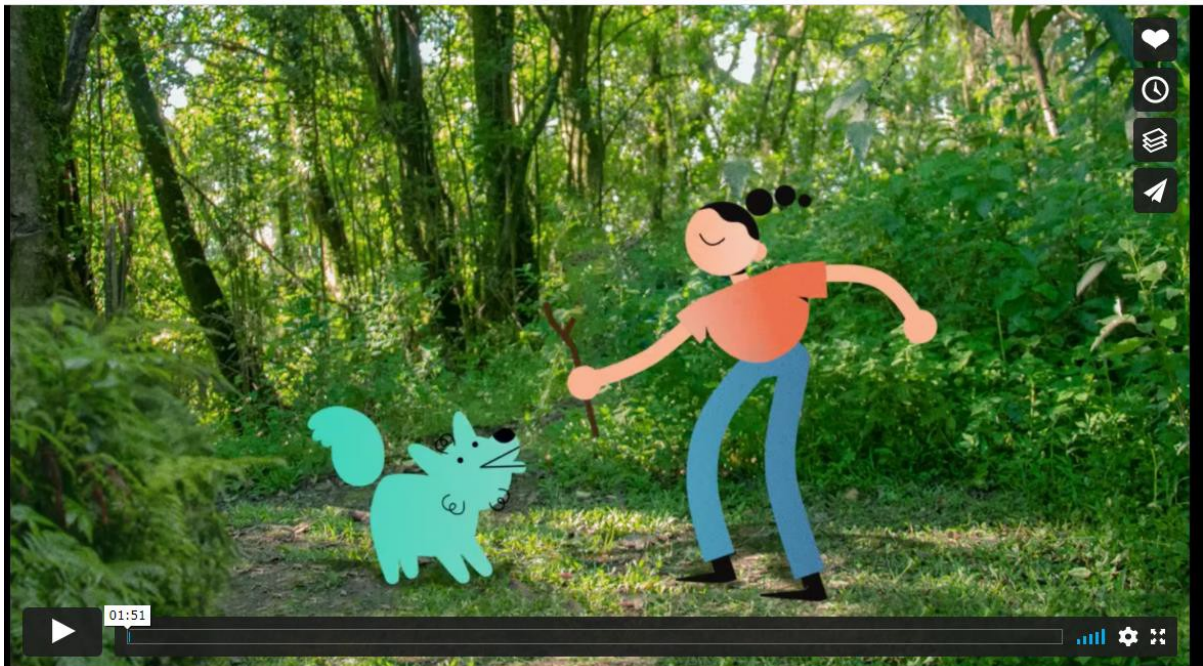
Camera station 13. European wild boar (exotic), Fox (native), Domestic dog, European wild boar & domestic dog. (Figure 7).



Rabies vaccination, deworming and personal interviews in rural areas. (Figure 8).

Awareness Campaign on the Impact of Dogs over the Wild Fauna

Animated video



Link to the Video en Vimeo (with English subtitles):

<https://vimeo.com/650812429/ea922c94ab>

Link to the Video en YouTube:

<https://youtube.com/watch?v=kuKHG999304&feature=share>

Link to the post in Facebook:

<https://www.facebook.com/watch/?v=1653275648397252&ref=sharing>

Link to the post in Instagram:

https://www.instagram.com/tv/CW6ThXhgpUm/?utm_source=ig_web_copy_link

Link to the post in Twitter:

<https://twitter.com/Grinbic/status/1466382278842535937>

The campaign was also publicized in the press and radio:

<https://www.facebook.com/eltucumanoOK/posts/4616731445069047>

<https://www.facebook.com/145382742291670/posts/2085408304955761/>

https://www.facebook.com/watch/?v=590498162181608&extid=CL-UNK-UNK-UNK-AN_GK0T-GK1C&ref=sharing

<https://www.rionegro.com.ar/el-peligro-de-entrar-con-la-mascota-a-un-parque-nacional-2066009/>

<https://www.eldiario24.com/nota/argentina/483370/perros-sueltos-son-amenaza-para-fauna-silvestre.html>

Flyers

Flyers were also produced to expand on the information provided in the video. The flyers and topics covered were as follows.

Flyers about responsible pet owning.



La **Tenencia Responsable** es el conjunto de condiciones, obligaciones y compromisos que el dueño de un animal de compañía debe asumir para asegurar el bienestar del mismo, de las personas y la fauna que lo rodea.

Algunos de estos compromisos son:



IDENTIFICACIÓN

Colocarle collar con un contacto para evitar que se pierda.

SALUD

Brindarle atención veterinaria, vacunar y desparasitarlo regularmente.

ADOPCIÓN

Es mejor, dentro de lo posible, no comprar. Adoptando aportas al bienestar de numerosos perros que se encuentran en condiciones poco dignas en las calles, criaderos y refugios.

ESTERILIZACIÓN

Las nuevas crías dificultan la tenencia responsable y favorecen el abandono.

ALIMENTACIÓN

Brindar alimentación de calidad y agua.

NO ABANDONARLOS EN LA VÍA PÚBLICA O EN ESPACIOS VERDES

Algunos de estos perros abandonados se unen a jaurías asilvestradas dificultando el manejo de las poblaciones de perros.

HOGAR

Mantenerlos dentro del predio/hogar, en un espacio protegido y digno.

PASEO

Sacarlos a pasear con correa por sitios habilitados para perros. Durante el paseo, juntar sus excrementos para evitar la transmisión de enfermedades.

Flyers about results obtained from this project of species and ecoregions threatened by free- roaming dogs in Argentina.



El **68%** de **mil** argentinos
encuestados vió al menos
una vez a **perros sueltos**
atacando a fauna silvestre.

El **7%** de las especies
observadas se encuentran
amenazadas a nivel nacional.



Se observan eventos de persecución y ataque de perros sueltos a fauna en **toda la Argentina**.

Encuestados por Ecorregión:

50 150 300

Encuestados que vieron eventos

Encuestados que no vieron eventos

Zamora-Nasca et al 2021

Zamora-Nasca et al 2021

Flyers about results obtained from this project of occurrence of free-roaming dogs in protected areas of Argentina.



Las **ÁREAS PROTEGIDAS** son espacios destinados a la **CONSERVACIÓN** de especies y ambientes naturales.

Los perros pueden generar estrés con su ladrido y olor, atacar o transmitir enfermedades a la fauna silvestre.

Es por esto que no se permite su ingreso (a excepción de perros guías o lazarillos) en las áreas protegidas.



A pesar de que no está permitido,
en el **75%** de las áreas naturales
protegidas visitadas por argentinos
se observaron perros sueltos.

El éxito en la conservación de la
fauna y los ambientes en áreas
naturales protegidas es clave para
prevenir crisis ambientales, que
pueden derivar en pandemias.



Flyers about diseases that can be transmitted between dogs, wildlife and humans.





Los perros sueltos sin supervisión y poco cuidados **pueden transmitir enfermedades** tanto a las personas como a la fauna silvestre.

Aquellas enfermedades que pueden afectar a los seres humanos se denominan **zoonóticas**.

La emergencia de enfermedades en la fauna silvestre

Síntoma de un planeta enfermo





Algunas de estas enfermedades son:

Rabia

Enfermedad zoonótica. Se transmite por mordeduras y resulta mortal la mayoría de las veces. También puede ser transmitida de fauna (murciélagos) a perro y de perros a fauna.

Brucelosis

Enfermedad zoonótica

Leptospirosis

Enfermedad zoonótica, también puede transmitirse a la fauna silvestre por medio de orina.

Sarna

Puede ser zoonótica en caso del *Sarcoptes scabiei* y también puede afectar a fauna silvestre.

ALARMA POR POSIBLE AUMENTO DE SARNA EN LA FAUNA SILVESTRE

Zorros,
guanacos y
vicuñas
serían los
más
afectados





Hidatidosis

Enfermedad zoonótica grave, se transmite por contacto estrecho con perros parasitados con *Echinococcus granulosus*. Ciertas especies de fauna silvestre (ej. guanacos, felinos, zorros) pueden ser huéspedes intermediarios o definitivos del parásito.

Parásitos gastrointestinales

Enfermedad zoonótica y también puede afectar a la fauna.

Parvovirus

No zoonótica, puede transmitirse a la fauna.

Distemper

(moquillo)

No zoonótica, puede transmitirse a la fauna.

Conozca la enfermedad que amenaza a las últimas manadas de leones asiáticos

21

Brote de Distemper mató al menos al 30% de la población



Particularmente, el Distemper o moquillo es una enfermedad que se puede contagiar **por inhalación del virus que se encuentra en el ambiente.**

El moquillo podría afectar, entre otras numerosas especies, a pumas, zorros, yagüaretés, focas, lobos marinos y al huillín.



Todas estas especies poseen poblaciones de muy pocos individuos, muchas están en **peligro de extinción**, a diferencia del perro que es muy abundante.

Es decir que, una vez que un perro introduce el virus en los ambientes naturales, la propagación puede ser incontrolable y poner en riesgo la conservación de estas especies.

Flyers about impacts that free-roaming dogs can have on wildlife.



A veces creemos que sólo **juntando los excrementos** evitamos que nuestros perros afecten a la fauna silvestre.

Sin embargo, los perros sueltos pueden generar **otros impactos** en la fauna que frecuentemente nosotros no percibimos, por ejemplo:



Pueden hibridarse con especies silvestres.

La fauna cambia sus ciclos diarios de uso del ambiente para **evitar al perro**.



Los ambientes naturales y la fauna silvestre que habita allí se encuentran en un **delicado equilibrio**. Está en nosotros conocer estos posibles impactos y pensar en la **salud del medio ambiente, la salud animal y la salud humana como una sola salud**.

Con el ladrido y olor **generan miedo y ahuyentan a la fauna.**

Transmiten enfermedades
(por ej. parásitos internos, sarna, moquillo, parvovirus, rabia).

Al perseguir a la fauna **generan estrés, abandono de nidos o de crías y alteran sus ciclos de descanso.**

Depredan a fauna silvestre, la mayoría de las veces **sólo por instinto**, no para alimentarse.



Flyers about the risks for dog, people and wildlife of letting a dog to roam free.





La mayoría de los argentinos tiene un perro como parte de la familia. Este vínculo tiene innumerables aspectos positivos, pero cuando dejamos que circulen libremente sin supervisión, pueden pasar cosas que ni imaginamos:



Con sólo su presencia **generan miedo** en la fauna y ésta evita el uso de ambientes en donde el perro está presente.

Al circular por zonas de reproducción de fauna silvestre o al perseguirlas, esta puede **abandonar nidos o crías**.

Pueden atacar a **animales de producción**, impactando sobre el sustento de numerosas familias.

Pueden ser **atropellados o atacados por otros animales**, provocándoles heridas graves o la muerte.

Pueden morder o atacar a personas a pie, en moto o bicicleta y provocar heridas graves.

Pueden **transmitir enfermedades** a la fauna silvestre y a las personas.

Pueden atacar y matar a **la fauna silvestre**.



Flyers about the problem of predation by free-roaming dogs on farm animals.



Los perros son excelentes
compañeros para los productores
rurales ya que pueden ayudar con
**la protección y el manejo de los
animales.**

Sin embargo, cuando otros perros
no se encuentran bajo tenencia
responsable, pueden poner en
riesgo la producción y sustento
económico de numerosas familias.



Los perros, al seguir su instinto,
pueden perseguir a otros
animales. Entre ellos, ovejas,
gallinas y ¡hasta vacas!

Existen casos de mortandades
masivas de animales debido a uno
o **pocos perros sin supervisión
de sus dueños.**

**¡Cuidemos responsablemente
a nuestros animales de
compañía!**