The role of wildlife managers in wildlife reintroductions

The case of the Eurasian lynx in the Cantabrian Mountains in the north west of Spain

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Abstract

In the last decades Europe witnessed a general recovery of its large carnivore populations, while wildlife reintroduction projects became increasingly common conservation practices. Both population recovery and wildlife translocations can create or magnify coexistence challenges contributing to social conflicts among different interest groups.

The IUCN Species Survival Commission (IUCN/SSC, 2013) provided international guidelines on reintroductions. However, they appear to rely more on restoration biology principles, whereas limited attention is given to the social-ecological dimensions of reintroductions. If insufficiently addressed, these factors could jeopardize conservation goals.

In the Cantabrian Mountains of Spain, recently discovered fossil records of Eurasian lynx (*Lynx lynx*) trace its presence until the 19th century. These findings, then, renewed interest in a possible reintroduction of this large carnivore species whose ecological impacts can have positive cascading effects on local ecosystems.

Wildlife managers (WMs), represented in the study by environmental rangers and environmental technicians, are the involved figures whose position and expertise are explored. Relevant scholarship highlights how they are an understudied group, emerging, however as important sources of social-ecological knowledge.

This study relied on nine individual interviews and one focus group to understand how, through their role and perspectives, wildlife managers could provide insights into the social and ecological conditions shaping the feasibility of a potential reintroduction. Drawing on Epstein and Haggerty's (2022) conceptualization of wildlife managers as conflict intermediaries, particular attention was given to the relational strategies through which managers enact their roles.

The empirical evidence suggests that environmental rangers, in particular, constitute pivotal figures bridging Environmental Management Agency (EMA) and rural stakeholders. One key finding is that rangers enact forms of emotional and affective labor to manage the tension due the ongoing large carnivore conflict. However, the set of practices they adopt is much wider and aims to preserve a fragile social and ecological equilibrium. Strategic tolerance during law enforcement was an unexpected finding that emerged as a situated practice. Participants described adopting such approaches as a preventive effort to avert potential retaliatory actions, including forest arson and wildlife poisoning, which could have catastrophic ecological consequences.

Ultimately, this study contributes to explaining why wildlife managers are valuable frontline actors whose situated social-ecological insights can identify context-specific conditions that may shape social acceptance, thereby informing more resilient and socially sensitive wildlife reintroductions.

Keywords: Wildlife managers, environmental rangers, wildlife reintroduction, relational strategies, Eurasian lynx, human-wildlife conflict, social-ecological systems, conflict intermediation

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Abbreviations

Wildlife manager = WM

Large carnivore = LC

Environmental Management Administration = EMA

IUCN Species Survival Commission = IUCN/SSC

Common Agricultural Policy = CAP

1. Introduction

In Europe, the recovery of large carnivores (LCs), i.e. brown bears (*Ursus arctos*), Eurasian lynx (*Lynx lynx*), gray wolves (*Canis lupus*), and wolverines (*Gulo gulo*) has been successful, from a conservation perspective (Chapron et al., 2014; Chapron et al., 2026). Since Worl War II, internationally coordinated legal efforts to protect these species, context-specific management practices, political stability and habitat quality improvement have fostered cautious optimism in terms of European LC conservation (Chapron et al., 2014).

The recovery of LC populations in Europe features a high degree of human involvement and presence. The four species persist in human-dominated landscapes, outside of protected areas following a coexistence model, while in North America, where large carnivores primarily inhabit protected areas, a separation model prevails (Chapron et al., 2014). Hence, the European context demonstrates that large carnivores have the possibility of recolonizing areas with moderate human densities, and then sharing land with humans (Chapron et al., 2014). This integrative conservation trend has recently been complemented with European rewilding projects (Jepson & Schepers, 2016) also known as projects of conservation translocation (Butler et al., 2019; Zoderer et al., 2025) or reintroductions. In 2016, Europe counted 48 sites with active projects enlisted on the European Rewilding Network (Jepson & Schepers, 2016). In less than 10 years, in 2025, they almost doubled to 89 (Zoderer et al., 2025), clearly proving the increasing momentum of this conservation practice. These initiatives aim to restore ecological functions of ecosystems and foster conservation benefits through an array of actions that can include active translocations of individuals of target species (Butler et al., 2019). Except for the wolverine, which is a boreal/arctic species, the three remaining LC species are flagships for some of these initiatives.

The IUCN/Species Survival Commission (IUCN/SSC, 2013) guidelines rely on restoration biology principles that are useful to identify the ecological boundaries of rewilding initiatives (Butler et al., 2019). Stakeholder involvement and social feasibility aspects, instead emerge as subsidiary, showing a clear dichotomy between ecological and social aspects, with a minor concern for the latter (Butler et al., 2019).

Spain hosts the largest wolf and bear populations in western Europe (Marino, 2019; Chapron et al., 2014) while the Eurasian lynx is currently extinct in the whole Iberian Peninsula. So, while the first two species shared land with humans and coexistence has been negotiated over the course of centuries, up to this day, with the Eurasian lynx this phenomenon

ceased. Radiocarbon dating of the last fossil record of Eurasian lynx in the Iberian Peninsula traces back its presence to approximately 210 years ago, in the 19th century, proving that isolated populations still persisted well into the 18th - 19th centuries (Fernández-Bejarano et al., 2026). Considering wide European trends that see on one side the recovery of LCs, and on the other a steep rise in rewilding initiatives, this recent ecological finding could motivate reintroduction projects of the Eurasian lynx in the Cantabrian Mountains, from a restoration biology perspective.

This study focuses on the *possible* reintroduction of the Eurasian lynx in the Cantabrian Mountains (northwestern Spain). In such scenario, the aim is to explore the role and perspectives of Wildlife Managers (WMs). Being in a unique position, between the natural Environmental Management Administration (EMA) and rural communities, WMs' knowledge and attitudes will be explored to inform how this figure might play a role in implementing such conservation initiatives.

1.1 Problem statement

Across the European continent we are observing both a large carnivore populations' recovery and a growing interest in rewilding initiatives. These two phenomena are taking place in a broadly human-dominated landscape showing the applicability of the coexistence model.

Furthermore, wildlife reintroductions are following official IUCN/SSC (2013) guidelines that scarcely factor in the equation the inevitable complexity of social aspects. Coexistence challenges, human-wildlife interactions and conflict, on the other hand, are on the rise (Salvatori et al., 2020). What is often referred to human-carnivore conflict is instead increasingly described and understood as a *social conflict* over carnivores, negotiated by carnivore opponents and advocates (Lüchtrath & Schraml, 2015; Salvatori et al., 2021; Ferraro & Whitehead, 2026; Marino, 2019). The main clash takes place between different forms of knowledge, classes of society, and ideas over land use (Lüchtrath & Schraml, 2015; Salvatori et al., 2021; Ferraro & Whitehead, 2026; Marino, 2019). The socially rooted causes of conflicts over LCs led me to believe that qualitative research is most appropriate to properly address this topic. An example of how qualitative research can offer valuable contributions is given by Buijs et al. (2012) that, by using the concept of Social Representations, provide valuable insights on how cultural beliefs frame the conflict over wolves in the Norwegian context. They explained why tensions arise specifically around this LC species, rather than others that in the same area can have more detrimental effects on livestock.

In different contexts, environmental management professionals are in-between local communities and EMA and intermediaries in wildlife conflicts (Singh et al., 2021; Epstein and Haggerty, 2022). Furthermore, they are described as cost-effective sources of high-quality biodiversity information and key informants on local human-wildlife dynamics (Alba-Patiño et al., 2026).

Overall, these conditions make WMs ideal candidates that could offer valuable insight about the possible reintroduction of the Eurasian lynx in the Cantabrian Mountains. Furthermore, considering the growing body of research, discourse and initiatives related to rewilding, addressing the implication of wildlife management activities and its role, might help gather useful data to inform also other contexts, at least, at a continental level where the same coexistence model is already in place.

1.2 Purpose and research statement

The purpose of this study is to explore WMs' roles in the Cantabrian Mountains by analysing their interactions and relationships with relevant stakeholder groups. This will allow a deeper understanding of their position and practice, informing how they would contribute to a possible reintroduction of the Eurasian lynx in the study area, or to similar conservation efforts.

Main research question:

What roles do wildlife managers play in navigating stakeholder relationships and conflicts in the Cantabrian Mountains, and what does this imply for a possible Eurasian lynx reintroduction?

Specific sub-research questions addressed:

1) Which stakeholders do wildlife managers interact with in their work?
2) Which stakeholders are perceived as relevant to conflicts involving large carnivores?
3) What roles do wildlife managers play in navigating large carnivore conflicts?
4) How do wildlife managers perceive a possible Eurasian lynx reintroduction?

2. Theoretical framework

Environmental rangers are believed to be key actors in the implementation of conservation initiatives and/or wildlife management policies (Montero-Botey et al. 2021). Their unique intermediary social position, frequent interaction with local actors (Alba-Patiño et al. 2026) and systematic field exposure explain why they are so valuable (Moreto et al., 2017; Montero-Botey et al. 2021). In recent years, research has been increasingly recognizing rangers' experience and knowledge (Kuiper et al. 2020, 2025). However, while their role of links between communities and environmental resource management has been described already (Singh et al., 2021), far less attention has been given to WMs' relational strategies adopted to navigate the challenges of their job.

In this respect, Epstein and Haggerty (2022), based on a case study in the US over elk access, bring evidence that may offer important insights into this underexplored dimension. The authors of the study primarily focus on WMs, mainly game wardens and wildlife biologists. These professionals worked as intermediaries between landowners, hunters and the local state wildlife agency. The main focus, though, was given to WMs' relational strategies to sustain such relationships and to address conflict intermediation. Accordingly, in Epstein and Haggerty (2022) WMs are regarded as *"intermediaries, brokering among and across conflicting interests to maintain a core institutional function of wildlife governance on behalf of the state and its public."* (110). In order to mediate this conflict, WMs rely on relational skills that are situated at the very core of their job. These skills are recognized and categorized as *affective* and *emotional labor*.

Emotional labor refers to control over physical-emotional displays in a conflicting and emotionally charged situation, with the goal of diffusing those intense feelings, generated by wildlife or wildlife management practices (Epstein and Haggerty, 2022). Affective labor instead refers to the whole set of efforts made to create social networks, to promote closeness or to provide professional availability (Epstein and Haggerty, 2022). The overall goal of affective labor is to create some forms of community between the natural resource management administration and local stakeholders. Both emotional and affective labor aim to positively influence the experience of others. They play a central role in the relational practices that are needed to enact conflict intermediation. In the case of elk access, these strategies are adopted to foster cooperative relationships with landowners, thereby facilitating access to private lands where elk hunting occurs.

Critical focus on WMs in wildlife conflicts still provide limited reflections into interpersonal capacities and strategies of this group of professionals. The present study examines whether WMs describe relational practices consistent with emotional and affective labor in order to understand their potential intermediary role in wildlife conflicts. Although Epstein and Haggerty (2022) conceptualize WMs as intermediaries within conflicts over elk access in the United States, whether this characterization is applicable to WMs in the Cantabrian Mountains has never been proven yet. Differences in governance systems, policies and local wildlife mean that such a role cannot be assumed a priori. Rather, this study draws on the conceptualization of affective and emotional labor of Epstein and Haggerty (2022) as a theoretical lens to examine whether and in what ways wildlife managers perform intermediary functions in this different socio-institutional context.

The specific sub-research questions examine wildlife managers' perceptions of a potential Eurasian lynx reintroduction, their interactions with stakeholders, and their perceptions of the most central actors in conflicts over LCs. These aspects provide the empirical context necessary to interpret these findings. Overall, these findings contribute to explaining how wildlife managers navigate stakeholder relationships and conflicts, and what this may imply for a potential Eurasian lynx reintroduction in the Cantabrian Mountains.

While IUCN/SSC guidelines (2013) fail to integrate reintroduction projects into the conceptualization of social-ecological systems (Butler et al., 2019), this study aims to contribute filling this gap by exploring how WMs practice and relational strategies could help in wildlife reintroductions.

3. Background

This chapter will lay the foundation for this thesis, providing essential information to improve the reader's comprehension of the local context and in general of the study.

3.1 Eurasian Lynx ecology and conservation

The Eurasian Lynx is a large carnivore, belonging to the Felidae family, whose distribution spans from Western Europe to Eastern Asia. At EU level its conservation status is defined as Least Concerned, when considering also Belarus and Russia, instead, is Near Threatened (von Arx, 2020). However, Europe counts a total of 11 distinct populations whose conservation status greatly differs from each other. Reintroduced populations in Western and Central Europe are classified as Endangered or Critically Endangered (von Arx, 2020).

The Iberian Peninsula is home to the endemic Iberian lynx (*lynx pardinus*), while the Eurasian lynx (lynx lynx) is considered extinct in the area. The most recent fossil record of Eurasian lynx in the Iberian Peninsula dates back to the 19th century (Fernández-Bejarano et al., 2026), In combination with the previous fossil and historical records, they indicate an original distribution that included Cantabrian Mountains, Basque Country and Pyrenees (Rodríguez-Varela et al., 2015).

From a purely ecological standpoint, large carnivores and their local or global extinctions are associated with cascading effects on a whole range of ecological processes that influence disease dynamics, wildfires and carbon sequestration (Ripple et al., 2014; Estes et al., 2011). In the light of the current planetary crisis of biodiversity loss (IPBES, 2019) and climate crisis, exploring the possible reintroduction of large carnivore species, such as the Eurasian Lynx, could help in restoring ecosystem functions and helping biodiversity conservation.

An additional factor that motivates, the research around this specific reintroduction, is the presence in the study area of a remnant population of the Cantabrian Capercaillie (*Tetrao urogallus cantabricus*), a very iconic subspecies, endemic of the Cantabrian Mountains. The remnant populations are found along the border between the regions of Castilla y León and Asturias. This species is considered Critically Endangered by the Spanish Red Book of Birds (Libro Rojo de las Aves de España; SEO/BirdLife, 2021). The reintroduction of the Eurasian lynx would be expected to exert pressure on mesopredators, thereby potentially decreasing their pressure on the Cantabrian Capercaillie, facilitating its recovery. The capercaillie–Eurasian lynx relationship has already been demonstrated in other countries, such as Finland (Ripple et

al., 2014). For these reasons, these conditions provide a particularly interesting starting point to study and test the first steps of coexistence with this locally extinct apex predator.

3.1.1 Eurasian Lynx and Iberian Lynx reintroduction projects in Spain

When addressing the topic of wildlife reintroduction in Spain, especially if dealing with lynxes, it is essential to acknowledge the remarkable recovery of the Iberian Lynx that took place in Spain. With a remaining number of around 100 mature individuals split into two separate populations, by the end of the 20th century the Iberian Lynx was on the brink of extinction (Delibes-Mateos et al., 2022). Thanks to captive breeding programs and reintroduction efforts, this species now counts more than 2000 individuals including both remnant and reintroduced populations, according to the last census in 2023 (Godoy et al., 2025).

At present, no official proposal regarding Eurasian lynx appears to be on the table, and, also from unofficial sources, it doesn't look like either the EMA or other organizations (e.g. environmental protection NGOs) are currently pursuing this operation. Nevertheless, considering the reintroduction of the Eurasian lynx in Spain, it needs careful consideration.

Having similar appearances to its sister species, the Iberian lynx (Delibes-Mateos et al., 2022), and with possibly overlapping distributions call for cautiousness. In the first place, studies on how a possible hybridization, nowadays, could affect genetics and conservation status of both species are not available. However, at Doñana Biological Station (EBD-CSIC) a current PhD project is exploring genetic mechanisms to maintain or improve the genetics of threatened species, in particular of the Iberian Lynx (Estación Biológica de Doñana, n.d.).

From a social perspective, the Iberian lynx conservation success and the species similarity could instead lead to some confusion and potential misunderstandings while discussing the reintroduction of Eurasian lynx. There is, indeed, a possibility that the general public might confuse the two species or might not even be aware of the existence of the Eurasian lynx.

Another relevant factor to consider is that rewilding initiatives are growing in numbers across Europe (Zoderer et al., 2025) and that often the target species are large carnivores (Delibes-Mateos et al., 2022). The current absence of a proposal in the Cantabrian Mountains does not guarantee that in the future this could not change. As a matter of fact, in the Spanish Pyrenees in 2016 a proposal of reintroducing two castrated males of Eurasian lynx was presented and eventually rejected. In August 2025, the dialogue started again as an article in the "El Periodico" newspaper shows. Two environmental protection associations, called "Amics del Parc Natural de l'Alt Pirineu" and "ADLO Pirineo" stated that they intend to learn from the experience from 2016 and to develop a plan to test the possible consequences of the

reintroduction of the Eurasian lynx in the Alt Pirineu Natural Park (Costa, 2025). This took place in a region, Catalunya, where, as in the Cantabrian Mountains, fossil records of Eurasian lynx were found as well.

Any kind of wildlife translocation project that could take place in Europe, including Spain, would have to follow the principles outlined in the IUCN/SSC (2013) guidelines to be approved. These guidelines are rooted in conservation and restoration biology, useful to identify the ecological boundaries of rewilding initiatives (Butler et al., 2019). As a result, national or globally determined conservation goals tend to be the driving factors behind such projects, while local communities' needs and priorities are not equally considered (Butler et al., 2019). Stakeholder involvement emerges as subsidiary, only after numerous ecological considerations are listed, denoting a clear dichotomy between ecological and social aspects (Butler et al., 2019). This separation is consistent with Western and Late-Western environmental philosophies that traditionally conceptualize a separation between nature and humans (Ferraro & Whitehead, 2026).

However, more evidence shows that social, political, economic and institutional factors are playing an important part in biodiversity decline (Moon & Blackman, 2014). Consequently, to be effective, conservation and restoration biology need to incorporate and apply knowledge from social sciences to address these aspects (Moon & Blackman, 2014). Failing at this can result in increased levels of conflict, jeopardizing the success of rewilding efforts (Butler et al., 2019; Ferraro & Whitehead, 2026).

3.2 Natural and cultural landscapes in the Cantabrian Mountains

In the light of the gap emerging from the IUCN/SCC (2013) guidelines, this section will focus on locally relevant dynamics seen through the lens of social-ecological systems.

Social-ecological systems are increasingly adopted conceptualizations that recognize human components as equally important as ecological factors (Folke, 2006). Values, attitudes, behaviors, governance, power and politics are all factors considered to understand the actual dynamics of these systems (Folke, 2006; Butler et al., 2019). This wider and more holistic perspective allows one to approach natural resource management efforts, considering the non-linear dynamics in place between the various components of such systems, and to reach more favourable outcomes (Butler et al., 2019). As a result, the reintroduction of Eurasian lynx will not be analysed by only considering the ecological trade-off or requirements.

In the Cantabrian Mountains, conflict and coexistence with large carnivores have been shaped over the course of centuries and still are negotiated and experienced every day by rural communities, creating a unique cultural landscape (Marino, 2019). Large carnivores consist of the Brown bear and the Iberian wolf. Both species never disappeared and, hence, distributed across a human-shaped landscape, inhabited by rural communities, consistent with the European human-dominated landscapes described by Chapron et al. (2014).

In the mid-20th century livestock farming was a complementary activity for farmers in the area, with small, diversified and constantly monitored herds that added to other traditional subsistence practices (Marino, 2019). A fundamental social practice, in the last century, was the organization of day and night vigilance of livestock called "*veceras*", shared by the community members and ensuring protection against predators (Marino, 2019).

Two concurrent phenomena marked a shift in the livestock farming sector: modernization and the entrance of Spain in the EU in 1986. The first led to a progressive specialization in cattle farming because of higher profitability, while the second especially influenced herds' size (Marino, 2019). In Somiedo for example, between 1998 and 2016, since the Common Agricultural Policy (CAP) was implemented, the average number of cattle per farmer increased by 75%. On top of that, nowadays in different parts of the Cantabrian Mountains livestock farming is considered the main economic activity (Marino, 2019). The shift from subsistence livestock farming, with small, diversified and constantly monitored herds, to larger cattle herds and a decreased farmer's numerosity, was also accompanied by the progressive loss of the typical community-shared livestock monitoring practices. Cows, compared to goats, sheep and horses, are less likely to suffer from LC attacks. However, the combination of larger herds with less vigilance resulted in more conspicuous economic losses once the attacks occurred. This shift was a double-edged sword that made livestock farming more profitable but also more vulnerable. Inevitably, coexistence challenges increased.

CAP has also been responsible for indirectly favouring forest regeneration and shrubland succession by incentivizing grazing activities just in specific areas. Furthermore, the use of fire for land clearing purposes began to be more strictly regulated and overall traditional farming practices were dismantled (Marino, 2019).

Concurrently, a depopulation phenomenon rapidly took place. Still to this day, depopulation in rural areas is consistently perceived as the main issue for the territory.

Often, rural communities frame it as the starting point of a wider domino effect followed by land abandonment, forest or shrubland succession, and ultimately favouring an increase in wildlife presence. The underlying cause of rural depopulation is understood by them as a consequence of bad management or lack of political will that could support rural development (Marino, 2019).

A gradually increased protection of bears and wolves took place at the same time when the livestock farming sector became more vulnerable and rural communities were rapidly depopulating. In the same decades, several protected areas were created, and bear conservation has been a strong argument to motivate these land protection measures (Dempsey, 2010). In one instance the creation of a park was met by the local community as a top-down imposition. Lack of transparency and exclusion of local actors from the decision-making process contributed to the procedural injustice that featured the establishment of the nature reserve (Marino, 2019). Legal action was taken against the same park authorities and arson was also used as a sign of protest for what was seen as land dispossession and the intrusion of wildlife into productive areas (Marino, 2019). Consequently, both the presence of bears and the creation of protected areas were perceived by some people as an expansion of the state authority (Vaccaro and Beltran, 2009).

On the other hand, according to current narratives, wolves are portrayed by local farmers as a cause and as a symbol of depopulation (Marino, 2019). Wildlife protection, especially of wolves and bears, in a scenario featuring loss of traditional practices, lack of development prospects and depopulation, is conceived by rural actors as an example of how wild animals are prioritized above domestic ones, and hence above traditional practices (Marino, 2019).

Population-wise both species experienced an all-time low in the last century, but in the last decades they witnessed a much more favourable status, thanks to the increased level of protection, improved habitat quality and prey availability, among other factors (Junta de Castilla y León, 2025; Salado et al., 2023; Chapron et al., 2014; Marino, 2019)

Nevertheless, over time perceptions on bear and wolf conservation, because of their highly different species-specific hunting behaviours, drifted apart in terms of local acceptance. One reason is that when wolves prey on livestock considerable damages and even surplus kills is reported, whereas bears are mainly vegetarian and very rarely attack domestic animals (Marino, 2019). This factor, along with local narratives that developed,

made bear conservation consistently more accepted than wolf conservation by local resource users (Marino, 2019).

Furthermore, the last decades saw a development of ecotourism activities centred around LC sightings integrated with different degrees of acceptance or suspicion. Evidence from the ethnographic research of Marino (2019) suggests that ecotourism can simultaneously be a potential economic asset and a source of socio-cultural tension, thereby playing their part within the complex mosaic of wildlife interactions and perceptions.

Overall, the management itself of bears and wolves is just the tip of a considerably larger iceberg that hides underneath a recent history of natural and cultural transformations. The practice of the EMA, over the years, reflected political decisions and state authority that directly impacted both wildlife species and local communities. When discussing the reintroduction of another LC, all these transformations in the social-ecological system in question need to be considered in order to address crucial aspects of social justice. Historical context, cultural components and livelihood strategies are core aspects to work with to prevent the failure of conservation strategies in the long run (Marino, 2019).

3.3 Wildlife managers and EMAs in conservation

According to Epstein and Haggerty (2022), wildlife managers can be the intermediaries that engage with local communities while representing the EMA. Recent studies show how their formal ecological training and systematic experience in the field allow them to provide reliable insights on poaching, wildlife-disease outbreaks, and invasive and native species distributions (Alba-Patiño et al., 2026). Interestingly, recent evidence from Alba-Patiño et al. (2026) also reveals that reliability of wildlife management professionals extends beyond the field of ecology: rangers can be a large-scale source of social-ecological information on human-wildlife interactions, able to highlight who the relevant stakeholders are and possible social inequities. If at first glance the profession of WMs could resemble a more scientific or regulatory role, with tasks such as data collection and wildlife population estimates, their day-to-day job also includes frequent interactions with local people. (Alba-Patiño et al., 2026; Epstein and Haggerty, 2022). As a result, robust *people skills* can become critical assets that usually do not appear in the job descriptions but can play a pivotal role in wildlife management (Epstein and Haggerty, 2022). Interpersonal capacities and strategies might be crucial in

situations where environmental social conflicts have to be handled, such as arresting poachers, law enforcement or inspecting possible damage caused by wildlife. However, these specific aspects of their job have not received great attention in critical scholarship of wildlife conflict (Epstein and Haggerty, 2022).

LC conflicts, in particular, are frequently defined as social conflicts (Lüchtrath & Schraml, 2015; Salvatori et al., 2020; Marino, 2019; Alba-Patiño et al., 2026). Social aspects are central within this kind of conflict because the clashes occur between values that in turn shape different cultures, power relations and worldviews (Salvatori et al., 2020; Lüchtrath & Schraml, 2015). Disagreements and different perspectives can be about the presence itself of large carnivores or regarding their management, but, in any case, LCs become means to express different cultures and worldviews (Salvatori et al., 2020; Lüchtrath & Schraml, 2015). Different conceptualizations of bears in the Cantabrian Mountains are a proof: they can be perceived as symbols of pristine wilderness or also as a symbol of an expansion of state authority (Marino, 2019).

Salvatori et al. (2020), in a comparative study among 4 different European sites, outlined common challenges that featured conflict over European LCs. While exploring the perception of conflict of relevant stakeholders with one or more species (among wolf, brown bear and Eurasian lynx), a consistent finding emerged. Conflict is not really unfolding *directly* between LC advocates and their opponents, it is rather described as a conflict occurring between all stakeholders and the relevant authorities, i.e. the EMA (Salvatori et al., 2020). Many stakeholders reported feelings of abandonment, frustration and lack of trust to the relevant authorities not approaching the issue with strategic planning or without political will to tackle the problem (Salvatori et al., 2020). Confrontations and protests carried out by rural constituents regarding EMA's initiatives were also highlighted by Marino (2019) specifically in the Cantabrian Mountains.

If on one side, evidence from Salvatori et al. (2020) suggest who the actual conflicting parties are, Epstein and Haggerty (2022), in their study on elk management and access in the US, better clarify how WMs, by being the intermediaries in conflict, rely on their facilitative skills and capacities to build relationships with relevant stakeholders to navigate wildlife management issues.

4. Material and methods

The following sections outline the methodological choices of this study and an ethical reflection on my position and background.

4.1 Research design and data collection

The research design of this qualitative study is based on a case study approach (Robson & McCartan, 2016) limited to two specific areas in the Cantabrian Mountains (more details in 4.2), whereas the method for data collection relied on individual and group interviews (Robson & McCartan, 2016).

A total of nine semi-structured interviews and one focus group with six participants were conducted. The data collection was carried out in Spanish. Face-to-face semi-structured interviews were adopted because of their flexibility and openness to unexpected findings (Robson & McCartan, 2016). The goal was to understand how participants conceptualised the addressed questions and to reveal the current dynamics and discourse surrounding conflicts over LC in the area. Then, the Eurasian lynx topic was introduced to evaluate interviewees' attitudes and knowledge about the species. An interview guide was used to ensure that specific themes and topics are addressed (Robson & McCartan, 2016).

The focus group was chosen to allow the observation of joint construction of meaning around the topic and to identify potential limitations, disagreements, and sources of conflict (Robson & McCartan, 2016).

Both interviews and focus group were recorded with an audio recorder upon both a verbal agreement and signing of a consent form. In the latter, the purpose of the research was explained and also the conditions regarding anonymization and privacy standards were ensured, in accordance with EU data protection regulations (GDPR). It was finally highlighted that participation was completely voluntary and that the interviewees could leave the interview at any time.

4.2 Study area and participants

The area of study comprises a portion of the Cantabrian Mountains split in two different regions of Spain, Asturias and Castilla y León. Each region has its own authorities that govern wildlife management such as environmental monitoring, large carnivore management, fire control, logging, hunting regulation and vigilance. In Asturias, the "Principality of Asturias" is the governing regional organization, including a specific team called "Bear Patrol" (*Patrulla Oso*)

that is dedicated to all the monitoring, management and damage assessment related to the Brown bear. In Castilla y León, the governing authority is the Government of Castilla y León, but there is also another organization called “Patrimonio Natural de Castilla y León”, directly employed by the Government of Castilla y León, that complements their operations.

The professionals included in this study are environmental rangers with a hands-on role involving wildlife management such as handling LC damage inspections or forest and fire management. The other category is represented by environmental technicians with a more administrative and organizational role and less activity in the field.

In this study wildlife *manager* is used as the umbrella term when including both environmental rangers and environmental technicians (shorthand “rangers” and “technicians”). The empirical material, however, in this study is predominantly based on rangers within the Environmental Management Administration (EMA) of Castilla y León. and Asturias. This distinction is kept throughout the analysis where differences between professional positions are relevant.

Three interviews took place in Asturias, while in Castilla y León six interviews and the focus group were carried out. In Asturias the participants were an environmental ranger belonging to the Bear Patrol, and two environmental technicians, all under the Principality of Asturias. In Castilla y León for the interviews all six were rangers, three belonging to the “Government of Castilla y León " and three from “Patrimonio Natural de Castilla y León”. The 6 participants of the focus group were all rangers of the “Government of Castilla y León ". A Spanish Master of Science student from University of Vigo, joined me in the six interviews in Castilla y León and took notes that were integrated to validate findings.

STUDY PARTICIPANT	ROLE	REGION	INSTITUTION	TYPE OF INVOLVEMENT
SP1	Ranger	Asturias	Principado de Asturias	Interview
SP2	Technician	Asturias	Principado de Asturias	Interview
SP3	Technician	Asturias	Principado de Asturias	Interview
SP4	Ranger	Castilla y León	Government of Castilla y León	Interview
SP5	Ranger	Castilla y León	Government of Castilla y León	Interview
SP6	Ranger	Castilla y León	Government of Castilla y León	Interview
SP7	Ranger	Castilla y León	Patrimonio Natural	Interview
SP8	Ranger	Castilla y León	Patrimonio Natural	Interview
SP9	Ranger	Castilla y León	Patrimonio Natural	Interview
FG1, FG2,…FG6	Ranger	Castilla y León	Government of Castilla y León	Focus group

Table 1. Study participants involved in the study

4.3 Analysis

The software NVivo was used for the transcription. Both transcription and analysis were carried out in Spanish, and the main findings and quotes were translated into English. Thematic coding was used to organize data (Ahmed et al., 2025; Robson & McCartan, 2016). Codes are meaningful to group chunks of data that share specific features, whereas themes are patterns that emerge by merging codes (Ahmed et al., 2025; Robson & McCartan, 2016). Afterwards,

a thematic network was created and interpretation conducted (Ahmed et al., 2025; Robson & McCartan, 2016). Overall, the analysis is primarily data driven but also reflects a mix of inductive and deductive approaches. Indeed, the analysis was theoretically sensitised (Robson & McCartan, 2016) by the concepts of emotional and affective labour, as described by Epstein and Haggerty (2022). These concepts were therefore used to interpret and contextualise emerging themes, particularly those concerning wildlife managers' relational practices, interactions with stakeholders and navigation of conflict. This approach allowed the analysis to remain grounded in the empirical material while examining how participants' accounts relate to existing theoretical understandings of relational work and conflict intermediation.

4.4 Positionality and limitations of the study

My background in natural sciences and my experience in the field of wildlife conservation are crucial aspects that I had to consider while approaching this study, and I believe are also important for an informed reading. As for many other scholars in Environmental Communication, environmental issues such as the climate crisis and the global crisis of biodiversity loss (IPBES, 2019) are not only topics of academic interests, but also sources of personal awareness and concern, shaping personal choices and beliefs.

At first, especially before the literature review, my immediate preferences on whether wildlife reintroductions should take place, generally tended to lean in favour of their implementation. The reason is that I believe that concrete and bold actions are needed to actually have a significant impact on the current status of planetary issues such as the climate crisis or the biodiversity loss crisis.

For this reason, I do not pretend to carry out a study that is not somehow biased by my background and personal beliefs. In contrast, I claim that my pre-existing perspectives were considered and recurrently reflected upon during this work. In the first place, during the literature review, I examined the history and many cultural aspects of the study area where a potential reintroduction project would take place. While preparing the interview guide, I put considerable attention in phrasing neutral questions. However, I was aware that interviewing WMs about a possible LC reintroduction initiative is an element that, in itself, could lead them to believe that I had a scientific and personal interest in pursuing such an operation. Lastly, throughout the analysis I made a systematic effort to not exclude unexpected arguments or data that was not confirming preliminary assumptions due to my background.

In my opinion, this study would benefit by complementing it with questionnaires. Indeed, on one hand it would be possible to have a larger sample that would allow for potential generalizations of results, on the other it could allow for a better appreciation of differences between environmental rangers and technicians. Furthermore, questionnaires created after the individual or group interviews would allow to gather data more systematically, and whose interpretation is less influenced by personal aspects, as opposed to interviews.

5. Results

In this section results are outlined and organized according to the themes that emerged during the analysis.

5.1 WM's interactions with stakeholders

Most of the information regarding stakeholders was gathered by asking two specific questions: (1) which stakeholders do WMs interact with on a daily basis and (2) which are the stakeholders already involved in the conflict over LC in the local area. One of the first emerging findings is that stakeholders' boundaries are often blurred. Especially within rural communities, such boundaries can be even more loose because working activities and hobbies often allow for complementarity, e.g. a farmer can be at the same time a hunter or part of the neighbourhood association. Different professions and hobbies can lead to a mosaic of stakes that could be either apparently incompatible or mutually reinforcing each other, while belonging to the same person. A farmer could be at the same time a wild boar hunter, and this could result in apparently contrasting interests. As a matter of fact, the higher the number of wild boars and the higher the chance of suffering crop damages, on the other side a higher number of wild boars ensures more successful hunts.

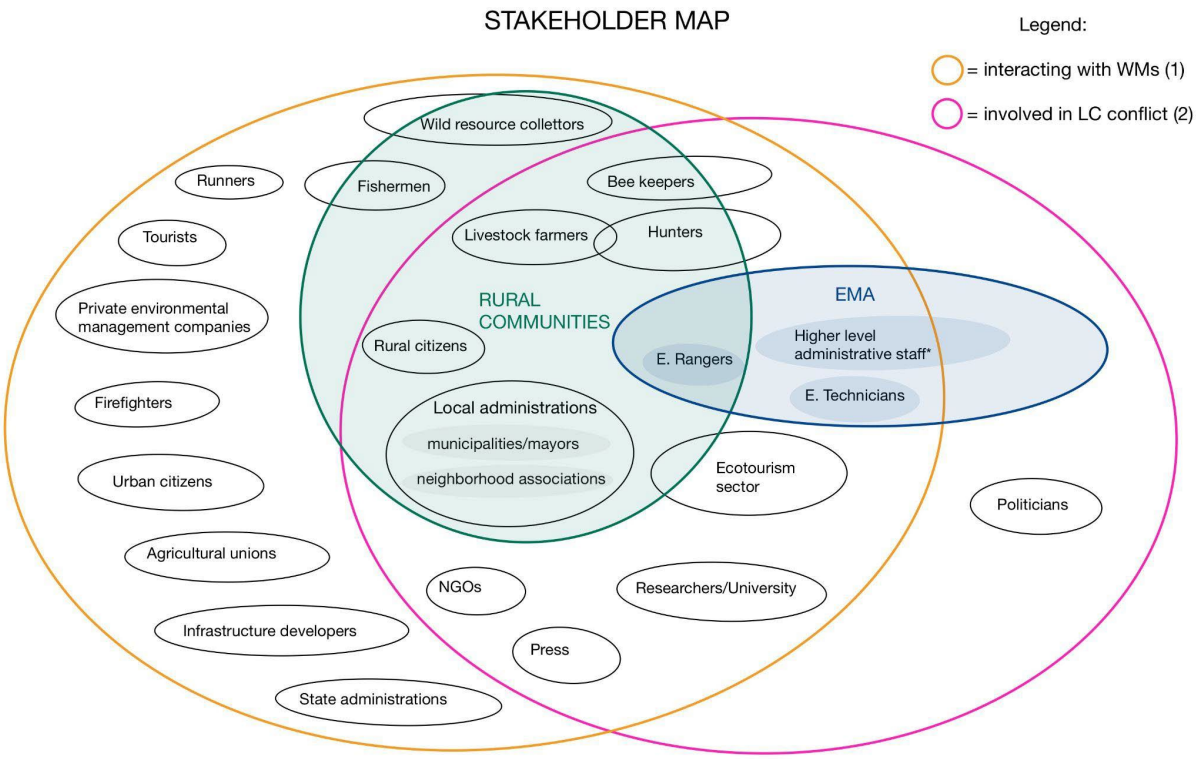


Figure 1. The diagram showcases the results from question (1) which stakeholders do WMs interact with on a daily basis and question (2) which are the stakeholders already involved in the conflict over LC in the study area.

Furthermore, kinship ties in rural communities could complicate things even further:

"[...] and if someone isn't a livestock farmer, then their uncle or cousin is. If they're not a hunter, then their uncle or cousin is. In rural communities, everyone is connected in one way or another" - SP4

This adds another layer of complexity because, not only can the boundaries be blurred within the same person, but also the interests of distinct stakeholders can be in close connection to one another because of kinship itself.

Figure 2 illustrates the frequency with which stakeholder groups involved in the LC conflict were mentioned by study participants. Livestock farmers were the most frequently mentioned stakeholder group, followed by EMA personnel and actors within the ecotourism sector. The number of mentions cannot be directly taken as an index that represents relevance in the conflict, but it surely provides insights about how central the stakeholder groups are in WMs' experience or perspective.

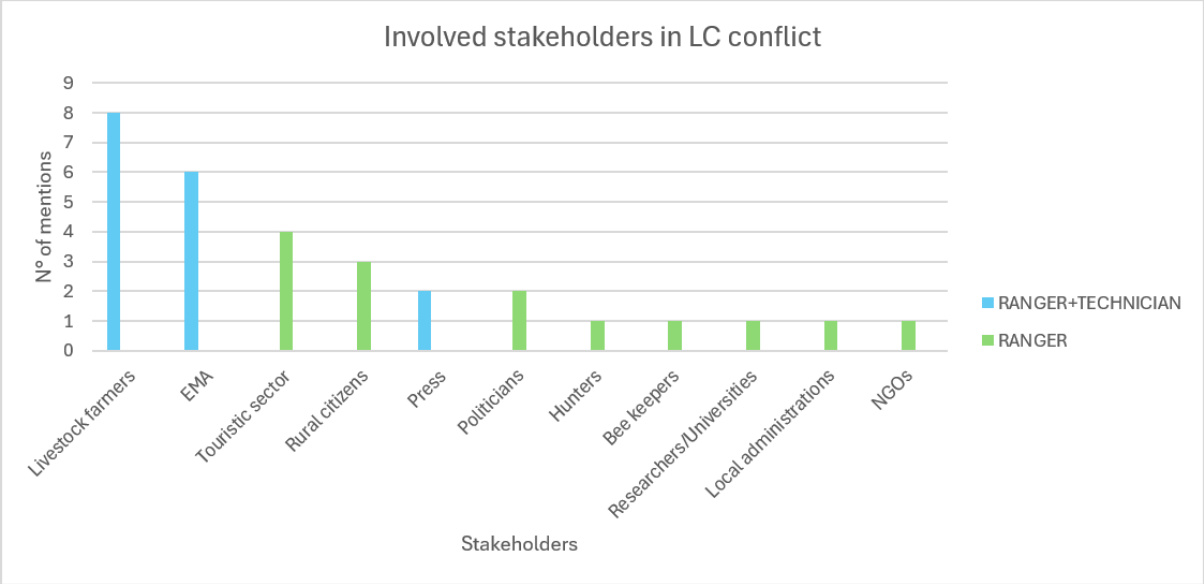


Figure 2. Stakeholder groups involved in LC conflict according to WMs' accounts, based on frequency of mentions.

Figure 3, instead, shows the interactions of WMs with other stakeholders. Furthermore, it clarifies the differences between rangers and technicians. As it appears, rangers and technicians differed the most in their interactions when considering stakeholders that were less mentioned.

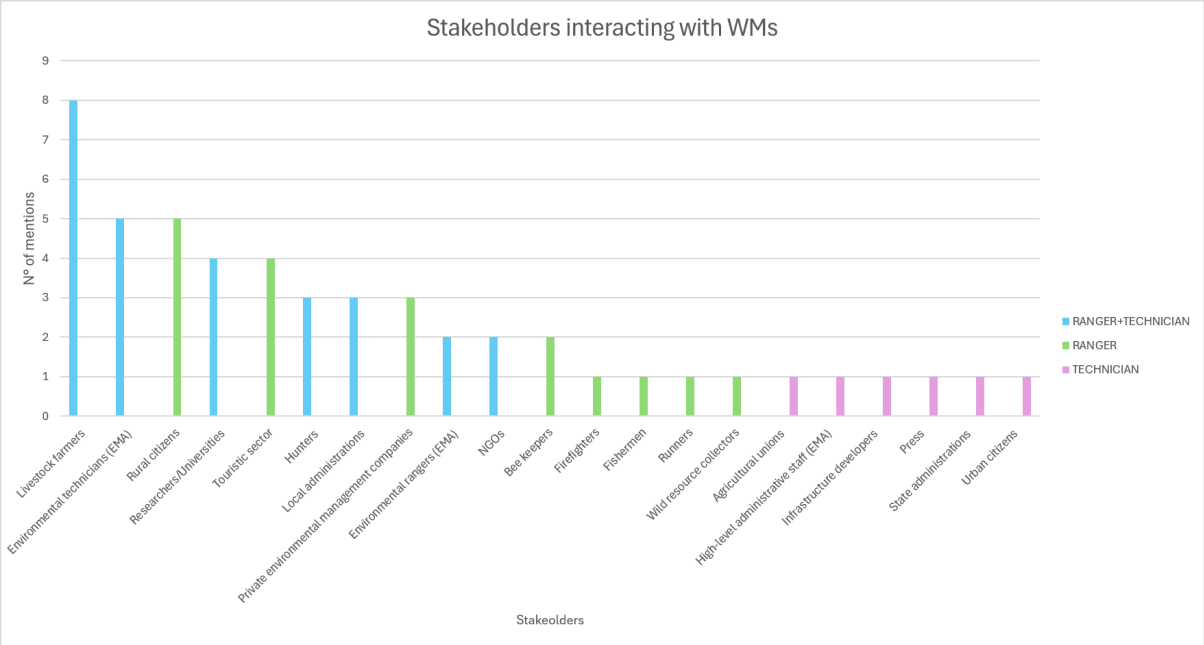


Figure 3. Stakeholder groups that WMs interact with the most, based on frequency of mentions.

Figures 1 and 3 show that WMs deal with a great number of stakeholders. In Figure 1 at the intersection of (1) and (2) are mostly found rural citizens and local associations. Rural

citizens are grouped into categories that reflect some of their jobs and/or hobbies. All types of occupations (jobs and hobbies), e.g. hunting, beekeeping and farming are important to mention because they are all potentially interacting with the local wildlife and hence with LCs. The intersection between hunters and livestock farmers in the diagram is an example of how professions and hobbies can be overlapping.

Overall, at the intersection of (1) and (2) there are 10 stakeholders (including EMA). In total the number of stakeholders that are reported to be involved in the local conflict over LC is 11. This means that, without considering the EMA (single stakeholder), WMs in their job interact with 9/10 (90%) of the remaining actors who are involved in the conflict. The remaining 10% consists of just one stakeholder, who correspond with politicians. However, higher-level administrative staff within the EMA sits at the border of stakeholders involved in the conflict and stakeholders that interact with WMs. Technicians and rangers reported that they interact with each other but together they do not represent the EMA as a whole. Higher-level administrative staff is the last third of EMA components whose position and role is explained later in this section.

Rangers are fundamentally part of the rural communities where they live, for this reason they are included in the rural community's subset.

> "(rangers) They're the ones who go out to inspect the (large carnivore) damage, the ones people call, and the ones who live in the same area where they work." - SP2

> "...yes, with the neighbours… You have quite a close relationship with the neighbours in the villages." - SP4

and also:

> "Well, I run into the livestock farmers on the street. I mean, I'm in the villages every day. I go to the bar for a coffee, I'm with the livestock farmers, I live alongside them." - SP4

Rangers, as the technician in the first statement describes them, live in the same towns or rural areas where they work. Hence, local rural actors such as livestock farmers are naturally referred to as being their neighbours. Environmental technicians, instead, are usually working in offices

in the cities, so they are higher up in the hierarchy of the EMA and not part of rural communities. In particular this hierarchical structure also emerges by how environmental rangers refer to a higher up chain-kind of structure. SP6 (environmental ranger) reports:

> "So we (rangers) are the ones who then report to the technicians further up".
> - SP6

Furthermore, in another interview a major difference between rangers and technicians emerged.

> "We're the field staff. We're the eyes of the technician who's based in the city." - SP4

Technicians, consequently, are not part of rural communities, but still they are involved in the current local conflict and in close contact with rangers.

While no ranger has reported about direct interactions with higher level administrative staff, SP2, the first technician I interviewed, reported that he also interacts with his "*bosses*". Technicians, then, appear to be the link between rangers and higher-level administrative staff. The latter is the only part of EMA that is also present in (2). None of the study participants explicitly mentioned the higher-level administrative staff as being directly involved in the current conflict. However, many study participants consider the EMA itself as an important actor within the conflict.

Additionally, both in the interviews and in the focus group the narrative around EMA's general line of work was consistent and tended to blur boundaries between politics and environmental management, unveiling a possible connection between the two.

> "It's always been the same with the bear: 'Now it suits me to say there are many. Now it suits me to say there are few.' That's what they've been saying. Administration (EMA) and politics are the same because (EMA) it's run by politicians. 'Now there are lots of wolves; now there are only a few'" - SP9

In this statement EMA and politics are referred to as being "the same" thing, which is a very powerful claim that supports at least a plausible strong connection between the two.

In the focus group, study participants were asked which the areas of influence were to mitigate the conflict over LCs, two rangers made relevant considerations that clarify their opinion on the EMA-politics boundary.

> "What can be done? Nothing, because the positions within the administration are political appointments. They don't back environmental protection at all; they tip the balance towards the livestock and agricultural sectors... because that's where their votes are in rural areas." - FG4

or also:

> “None, because of the internal political strategy of the administration we belong to.” - FG6

Overall, these statements reinforce the doubts regarding what is the actual relationship or interaction between politics and EMA. For this reason, rangers, technicians and higher-level administrative staff in Figure 1 are treated as independent parts within the EMA, but not as independent stakeholders. The last two statements also make it harder to grasp who exactly study participants referred to when mentioning “politicians”, if by politicians they meant actual political figures belonging to specific parties or if, instead, they just meant higher-level administrative staff with more influence in the EMA’s line of work. Putting the focus on these management-political aspects seems to be crucial because the provided testimonies are inherently describing how power is distributed across the EMA and politics. SP2 makes it clear that the political sphere has great influence:

> “Nobody misses it (the Eurasian lynx), right? And the livestock farmers even less. What are the people in charge looking for? Votes, they're politicians, right? If they can get votes from it, then you'll have it (the Eurasian lynx), even if it causes problems... Politics has a big influence.” - SP2

This position illustrates how in case of a possible reintroduction of the Eurasian lynx, the decisional power relies on politicians, in spite of social or scientific factors.

Furthermore, two interviewees made relevant and complementary statements:

> “Well, (the EMA) they are the ones who hold all the power. They're the ones who manage everything. We're all subordinate to the administration.” - SP1

> “Keep in mind that I'm just a nobody. I'm at the bottom of a hierarchy of administrative positions. So, even though I'm an environmental ranger, many people still see us as something like soldiers.” - SP7

Authority and power entered the conversation and either politicians or the EMA were defined as the ones holding it. Rangers on the other side, are described at the very bottom of the internal hierarchy, hence not having much influence. Within the EMA, SP7 refers that rangers are perceived just as “soldiers”, as if they do not have any decisional power, but rather they are mere executors of their duties.

Rangers, then, are an actor within the LC conflict, part of the administration who interact with the vast majority of stakeholders but that refer to not having links with either higher-level administrative staff or politicians. Interestingly, EMA and politics are described as the ones holding decisional power and whose boundaries at higher levels are blurred.

5.2 WMs’ roles in LC conflict

5.2.1 WMs as intermediaries

While analysing the role of WMs, one of the themes that consistently emerged across the interviewees is their role as intermediaries:

> “You're the intermediary between the administration and the individual (livestock breeder), in the end it's between the administration and the person, and you (the ranger) are the intermediary” - SP1

> “Well, we (rangers) are the administration's direct link to rural communities. There are no (other) intermediaries.” - SP4

SP2, a technician, confirms and expands SP4’s words, highlighting rangers as being the point of connection with rural communities:

> "Environmental rangers are the ones who have the closest relationship with those stakeholders (rural citizens). They're the visible face of the

> administration and they're the ones who are in contact with them the most. They're the ones who go out to inspect the (large carnivore) damage, the ones people call, and the ones who live in the same area where they work. Many people contact them directly instead of going to the office to report the damage and express their concerns." - SP2

Overall, several rangers appear as actors that sit right at the intersection of EMA and rural communities. In particular, while assessing LC damage, rangers are in close contact especially with livestock farmers who are seeking monetary compensation for either wolves' or bears' attacks on their domestic animals.

5.2.2 LC damage inspections

Inspections for LC damages are a fundamental part of rangers' job that deserve special attention. Many interviewees reported that these specific assessments often lead to conflicts and unpleasant situations to manage.

> "The thing is, we have quite a few conflicts that we really shouldn't have when we're called out to assess damages. Even when it's clear that someone may be trying to deceive you." - SP5

Another recurrent topic consists of livestock farmers who try to take advantage of the compensation system by deceiving rangers during their assessments. In order to receive the agreed monetary compensation, rangers' assessments need to attest that the cause of death of a domestic animal was due to predation. Farmers, in some cases, want to receive monetary compensation even when the animal died of natural causes or when the conditions of the deceased animal do not allow rangers to establish whether it was predated or not. In practice, this can happen for a variety of reasons, for example dead animals can be encountered days after they died and so scavengers may have already depleted any sign of possible predation. Rangers also reported that, in some cases, animals died of natural causes and just after they were consumed by a pack of wolves or by a bear. In both cases the evidence does not support compensation or disappears because of LCs or scavengers coming to play after a natural death. The technical challenge of damage assessments is likely to be very high in itself, however more factors could make the situation even more intense.

> "'Hey George, there's a livestock farmer who has a damage claim somewhere.' That's bad news for the ranger... It's a difficult situation because, as the saying goes, you're dealing with someone else's children's bread and butter. And we're always thinking about that. Whenever we have to assess a damage, we try to go in pairs… You don't always see things clearly, but you're hoping to arrive and find clear evidence that it was caused by a wolf... Because if you can't, having to say 'no' leads to a confrontation with that person." - SP5

From this explanation, it is made clear that, while inspecting damages, the ranger is aware of the impact that his assessment has on the other person's livelihood and even on the other person's family. At the same time, there is a margin of error in their judgements that can depend on the contextual evidence. This seems to make their judgement harder, especially because rangers know that a conflict might spark right after a negative assessment. However, due to natural factors such as remote location of domestic animals or scavenging activities, farmers can lose their legitimate right to get compensated. Rangers, however, are the intermediaries that are supposed to apply the law despite the system's imperfection.

During the focus group it was also highlighted that as rangers often interact with livestock farmers, or generally with rural citizens, in remote areas, they can sometimes feel unprotected when tension arises. In these confrontations rangers may even fear for their physical wellbeing.

> "It was about grazing permits in areas where grazing wasn't allowed. It had nothing to do with wolf predation or any other wild species. All of us who work with the public... it wasn't just that day, when I was physically assaulted and ended up in hospital with a broken wrist. Two years later, a colleague and I also had to leave because a group of fishermen approached us aggressively." - FG1

This highlights how dangerous sometimes law enforcement operations are and how they could even lead to physical aggression.

5.2.3 Emotional strategies during damage inspections

Although most LC damage inspections do not lead to physical violence, there are other problematic ways in which rural actors show or express their feelings. Rangers, indeed, often experience conflicting interactions and are exposed to different kinds of physical and emotional

displays. During the focus group many insights about the general intense feelings of farmers were provided and drew a clear picture:

> “Quite often, you go out into the field to assess damage, and all of a sudden the farmer turns verbally aggressive towards you because you're the representative of the administration, and you're the one they have in front of them.” - FG3

> “Most of the time, you have to put up with verbal abuse and threats. I once had to slam the door on a livestock farmer because I'd already warned him. I told him, 'The next time you come here and get in my face, we'll have a problem.' Since then, though, it worked like a charm.” -FG4

FG3, despite sharing that it is common to deal with verbal aggression enacted by farmers, later highlighted that not all farmers are reacting in the same way with these seemingly basal feelings. He stated that there are also some people who are very respectful and that take their losses as hints to improve their husbandry practices. FG4 reported of a case in which, upon verbal aggressiveness, he chose to be very firm and intransigent in order to prevent further intense confrontations.

The specific strategies to navigate through these emotionally charged situations are different but generally, calming things down, defusing, being tactful and respectful are recurrent expressions across different respondents.

> “With livestock farmers? Well, it varies. You try to defuse the situation, calm things down, and remain courteous. Some of them are very confrontational, and you have to set boundaries.” -SP4

> “With the people who suffer the damage—the compensation claimants—you try to handle things as tactfully and respectfully as possible. You have to be patient with them because some of them are understandably upset after suffering damage to their property.” -SP8

However, it was during the focus group that were provided the clearest insights around these dynamics between rangers and farmers:

> “In the end, we're the ones who bear the brunt of these people's frustration and bad temper. Sometimes we end up acting more like psychologists than field rangers. Quite often, you just let them talk so they can vent. And what I do, when things start getting heated, is simply move on to the next step: 'How many (guarding) dogs do you have?' I change the subject straight away." - FG3

This “acting as psychologists” beautifully frames this discussion: very often, rangers need to rely on relational skills in order to carry out their tasks because emotional aspects are inherently present during these procedures.

> "Well, they say it right to your face, pointing a finger at you, and it takes a lot of self-control to keep quiet." - FG2

> “Quite often, you have to let people vent. Just let them talk, you stay quiet.” - FG5

Letting people talk and vent while remaining quiet is arguably the strategy most frequently reported specifically during damage inspections. One respondent reported that in these situations it is very easy to get triggered and to potentially answer back, as a consequence it really requires effort to control their own reactions.

5.2.4 Affective strategies during damage inspections

A different branch of strategies adopted by rangers to help farmers, and more in general local stakeholders, has to do with the general fluency and responsiveness when engaging with rangers. This includes availability, easiness to get in contact with the personnel and giving the highest priority to damage inspections.

As already mentioned by SP5, whenever possible two rangers take care together of the damage assessment. According to rules, rangers must carry out the inspection within 48-72 hours, but usually the respondents said that they go in the field as soon as possible, in order not to lose evidence of predation that gets lost quickly.

Another ranger reported that a collaborative and supportive approach enacted by the EMA is particularly relevant:

> “I have to give you that help and that support. If you, as a livestock farmer, feel you've been treated well by the administration, then I gain more from it. Because you'll have someone in me who helps you, someone you'll ask for advice, someone you'll turn to. It's an administration that is closer to people. It's not the typical relationship with an administration that's up there.” -SP6

He also added:

> “...everything flows much more easily with a simple phone call [...]. That ease of communication, that sense of closeness, is what we can't afford to lose. That's what I always try to convey: whether it's the presidents of the neighbourhood associations or any livestock farmer, I want them to feel that we're right there beside them and that they don't have to make any special effort to get in touch with us.” - SP6

Collaboration and closeness seem to be very important aspects to some rangers.

> “It's very important when it comes to large carnivores—very important—to lend them a hand. I've installed a lot of electric fences even outside my working hours, extending my workday.” - SP9

This is an example of how much effort rangers put to be perceived by local actors as available personnel especially by livestock farmers.

5.2.5 Strategic tolerance during law enforcement

While exploring study participants’ roles, another important theme that emerged was strategic tolerance during law enforcement. This topic, though, requires more background about how LC conflict is perceived in rural areas, especially when talking about wolves.

> “Look, it's like a balloon... you keep inflating it, inflating it, until it bursts. If it just keeps going and going, eventually it will burst. Here, if livestock farmers reach the point where they realize they can no longer keep livestock, or that they can't keep a single calf alive, they're going to explode.” -SP8

Farmers' sense of agency could be heavily impacted because of wolf predation, and this could lead them to a breaking point. Ultimately, Spanish and regional laws are protecting wolf populations, so depending how and if preventive measures are adopted, livestock predation rates could increase. The balloon analogy describes a situation that involves a risk because tension is accumulating. Naturally, one could wonder what could happen when the metaphorical balloon explodes. Rangers made very clear that two are the main concerns once the breaking point is reached:

> “I mean, (imagine) someone eventually snaps and ends up setting fire to a forest covering 1,000 or 2,000 hectares. A farmer may think: 'There won't be any wolves here again!'. They burn the whole thing, everything. Do you know what it means to lose a forest that has taken hundreds of years to develop? A wolf is just one wolf. But that... that's thousands and thousands of living beings.” - SP8

Arson and its possible devastating effects were explicitly mentioned just by this ranger; poisoning, instead, is the other individual extreme measure that many rangers worried about:

> “And then there are the measures they may resort to individually. Imagine someone puts out poison because they (could) say, 'Look, I can't take this anymore. I can't keep having my livestock killed every week. I can't be with the livestock all the time.' In the end, with poison, one animal dies, then the bear, then another animal, and another again.” -SP8

> “I think livestock farmers respect the law out of fear, because many of them are thinking about poisoning wolves, that's obvious.” - FG3

> “Well, here in Asturias, I don't know about other parts of Spain, poison is used specifically in the conflict against the wolf." - SP3

The last statement came from a technician that specifically oversees the operations of the anti-poison canine unit working in Asturias, emphasizing the link of wolf conflict to illegal poisoning.

> “There are times when you have to hold yourself back in a given situation to avoid creating a bigger problem. We have the authority to report whatever offence we consider appropriate, whatever the reason may be. Of course, it has to be well founded. But sometimes we choose to hold back a little because we believe that filing a report or getting into a confrontation can actually create a much bigger problem. If you put people under too much pressure, you have to be careful, because sooner or later you may come across someone who becomes radicalized and does something reckless. A report over two trees here could end up costing the lives of four vultures, a bear, three wolves—or whatever else happens to be poisoned.” - SP6

The attempt of avoiding the “bigger problem" is the essential cause for caution and a discretional use of tolerance when applying the law. This strategic tolerance, hence, is said to be fundamental to prevent the metaphorical balloon from bursting. It is remarkable how, in the case of SP9, this specific strategy and aspect of his work practice came up right away in the first answer of the whole interview. This kind of active mediation appears to be central to his way of conceiving the job as a ranger.

> “We're in the middle of it all, and we're constantly in contact with the people who live there, the local residents. I think we're fundamental to ensuring good coexistence. Sometimes we try to enforce the law, other times we educate, and at other times we have to be more strict. ” - SP9

In his view law enforcement, education and coexistence seem to be very interconnected elements. Strategic tolerance and education of local farmers seem to be tools to complement law enforcement when rangers feel that potential confrontations could lead to far worse threats. Arson and poison are the “bigger problems” that some rangers always bear in mind while carrying out their tasks, as they would be plausible consequences of the burst of the metaphorical balloon that is, instead, still inflating.

5.3 Perceptions on Eurasian lynx reintroduction

5.3.1 Prior knowledge of Eurasian lynx historical presence

The conversation about Eurasian lynx reintroduction usually started by asking whether the interviewees were aware of the presence of fossil and historical records of this lynx species in

the Cantabrian Mountains. Seven respondents out of nine (77,7%), covering both Asturias and Castilla y León regions, answered positively. The two remaining interviewees (22,2%) were not familiar with it and allegedly traced the presence of Eurasian lynx back to glaciations.

5.3.2 Eurasian lynx ecological impact

Ecological aspects of a possible reintroduction were discussed with different rangers. Having an abundant prey base to sustain the reintroduction of this LC has been a recurrent topic among respondents, but just SP1 and SP2 provided detailed insights. They claim that the natural prey would be roe deer (*Capreolus capreolus*), chamois (*Rupicapra pyrenaica*), red deer fawns (*Cervus elaphus*), wild boars (*Sus scrofa*), hares (*Lepus europaeus*) and some terrestrial birds. Both were also aligned on the fact that domestic animals could also be impacted by the new predator, particularly sheep. SP2 extended his concerns also to calves and goats. Both also agreed that there could be possible negative impacts on the remnant critically endangered populations of capercaillie due to Eurasian lynx predation.

> "You wouldn't release it in an area where there are capercaillies." - SP1

SP1 explicitly considered the distribution of capercaillies as an indicator that alone should dictate where not to reintroduce the Eurasian lynx.

> "The capercaillie is a ground-nesting species, and its main predators are animals such as martens. Some people argue, and this would need to be verified, that competition from the lynx, and the lynx's feeding habits, might rebalance the predator community and could ultimately benefit the capercaillie. But, of course, that would have to be confirmed" - SP3

In this statement the second technician interviewed, although taking distance from the described dynamic, highlights the possibility of mesopredator control. SP3 links together Eurasian lynx, capercaillie conservation and mesopredators.

SP1, SP2 and SP4 have also talked about mesopredator control and agreed that the Eurasian lynx would likely keep mesopredators in check without really linking it to a capercaillie population increase.

> "Would meso-predator populations decline? Of course they would,

> absolutely. The Eurasian lynx will prey on anything that's smaller than it." - SP4

5.3.3 Eurasian lynx social impact

Five out of nine agreed that, at least to some extent, the reintroduction of another carnivore in the study area would have a negative social impact and that it could create social conflicts. It is interesting to compare specifically the statements of SP6 and SP7:

> "I think it would be very disruptive. At all levels, I think. In terms of wildlife and in social terms. [...] But at the social level, I do think there would be something negative." - SP6

> "So, introducing a species that could generate social conflict would come at the expense of the other species? I wouldn't do it. [...] Introducing an animal that could cause problems would be a tremendous mistake." - SP7

Both respondents brought up in the conversation the social impact of such an operation and then both mentioned the impact on local wildlife. On one side SP6 believes that the reintroduction would have some undefined ecological effects, later on arguing that nature would eventually find a new balance. SP7, instead, correlated the possibly arising social conflict to negative ecological impacts. This assumption reveals how interrelated social and ecological impacts are in his view. SP6, however, elaborated more how and why there would be a negative social impact:

> "In rural areas, whenever someone—an administration, an NGO, or whoever—wants to introduce some measure, people immediately become hostile towards any kind of intervention. [...] It's something that is beginning to take hold among the rural population now: there is money for everything except for the people themselves. I mean, there are millions of euros available for reintroduction projects, conservation, management, and so on, and then you get confronted by people because they don't even have an adequate health centre in their area. So that alone can bring the whole thing down. So, I think there would be some rejection among the local population." - SP6

The distrust of the rural communities for the EMA and environmental protection NGOs seems evident and, apparently, the possible rejection or confrontation could also have to do in the first place with who is making a proposal.

SP1 on his side added that, in Asturias, a suitable area to reintroduce the lynx would be in Picos de Europa National Park, where local farmers are “anti-wolf”. The best area, in terms of habitat, in the whole country would be the Pyrenees, but again he points out that local farmers are already “anti-wolf” and “anti-bear” and logically one could assume they would also be “anti-lynx”. Overall, prior LC coexistence challenges and the relationship between EMA and farmers or rural communities are important factors to consider. In their opinion they will influence local acceptance to conservation initiatives of this kind or how social conflict will have negative effects on local wildlife.

SP3, though, took a different position:

> "I don't think the presence of the lynx would generate anything like the level of conflict with livestock farming associated with the wolf. Not by any means." - SP3

He previously supported this claim by saying that the Eurasian lynx would mostly target sheep, as a domestic animal. In Asturias, sheep are present in areas already occupied by wolves and bears and hence (in SP3’s view) preventive measures such as guardian dogs, fences and other protective shepherding practices are already in place. This would imply much less interaction between livestock and Eurasian lynxes once they are reintroduced. This is an interesting point of view that was not mentioned before, but at the same time, opposed to some rangers above, he is not questioning how the process itself of bringing back this carnivore would be received by rural communities when proposed by EMA.

5.3.4 Viability of Eurasian lynx reintroduction

In the end of every conversation about this possible reintroduction, I asked the study participants if they considered it a viable project, considering what was shared before. The answers can be categorized in four clusters: 1) lack of data hence cannot / does not want to express his opinion 2) No, there are other priorities 3) No, it would be hard/a mistake 4) Yes, but.

- *lack of data hence cannot / does not want to express his opinion*

SP5 and SP9 simply said that they are not in a position to properly assess it or that in order to do so there is the need for a scientific assessment first. SP3 instead made a very strong point, expressing his concern about a possible hybridization with the Iberian lynx that currently is expanding its territory because of new reintroductions or because of natural recolonizations. After sharing this thought, he did not really want to express his position in what apparently for him was a controversial topic.

- *No, there are other priorities*

SP1 and SP2 claimed that the Eurasian lynx is not a priority in local ecosystems and that, rather, more "primordial" or endangered/endemic species should be prioritized. These species, e.g. the capercaillie and Iberian lynx, should receive more attention and funding before focusing on reintroducing a locally extinct lynx species.

- *No, it would be hard/a mistake*

SP6 and SP8 connected the Eurasian lynx to glaciations and hence saw its comeback as something that should not be pursued or that would be difficult. SP7 instead considered the potential social turmoil generated by the reintroduction of this LC as possibly having negative impacts on local wildlife. In his opinion it would be a "terrible mistake" because of the problems that it could cause.

- *Yes, but*

SP4 is the only one representing this category because she has a unique position compared to other respondents:

> "Do I think it is viable? Yes. Why not? But we don't know how to manage the species we already have, like the wolf… just look at how we're managing it. [...] So, would it generate conflict? Yes. Do I see it as viable anyways? Of course, why not? It could be viable, but we would have to somehow ease the population into it." - SP4

SP4 sees it as a challenging operation but believes it could be possible if, as she argued later, the rural communities become active participants.

5.3.5 Preliminary conditions for Eurasian lynx reintroduction

During interviews, after evaluating opinions on the reintroduction if context allowed it, a follow up question was asked: "What is important to do before reintroducing the Eurasian lynx?". SP3 provided a concise and yet complete response that embraced to a great extent all the others. He said that two elements would have been fundamental to proceed with such a project. The first one was social acceptance in the areas where the reintroduction would take place and in the surrounding ones, the second one was the approval of the scientific community. Interestingly, this statement seems to resonate with one made by SP6 when sharing his opinion about wildlife reintroductions in general.

> "What you have to do is prepare the area very carefully, not only in terms of habitat for the species, but also in terms of habitat for the people who live there. You have to prepare all the habitats." - SP6

These statements overlap because both respondents put emphasis on the social side of the process, the "social habitat", and then addressed two complementary aspects such as scientific approval and ecological requirements. So, to a good extent it can be argued that both respondents, despite their general judgement on this specific reintroduction project, are agreeing on important premises regarding wildlife reintroductions.

The remaining interviewees SP1, SP2 and SP4 all agreed that dialogue with the local population is an essential step to make for a possible reintroduction. They all brought up different connotations of measures that could fall under the umbrella definition of "preliminary social work". SP2 focused more on social awareness campaigns and education, also of children in schools. SP4 instead, on top of dialogue with different stakeholders, put the emphasis on favouring, through EMA's resources, the development of Eurasian lynx-related businesses such as tourism, as a way to involve the local actors, especially young people. SP4 also stressed that a fair and efficient compensation scheme must be in place for Eurasian lynx-related damages. Finally, SP1 would incentivize dialogue with livestock farmers, who in his view would more likely be the ones killing lynx specimens once reintroduced. Following the same line of thought about possible causes of death, in his view, safe wildlife crossings would also be crucial to implement along with preventive measures.

6. Discussion

The following chapter combines the empirical findings with previous research to discuss the research question: What roles do wildlife managers play in navigating stakeholder relationships and conflicts in the Cantabrian Mountains, and what does this imply for a possible Eurasian lynx reintroduction?

6.1 WMs' interactions with stakeholders

One of the most striking results is the centrality of WMs in the conflict over large carnivores. WMs interact with a total of 21 actors, while just 11 are the ones described as involved in the LC conflict. WMs, without considering the EMA to which they belong, interact with 90% of the actors involved in the local LC conflict, with politicians being the only exception. Furthermore, the composition of the set of actors involved in LC conflict shows remarkable correlation with evidence from Grossmann et al. (2020) in a study about human-large carnivore coexistence in Europe. This research was carried out across 14 European countries, including Spain, and after the stakeholder identification phase a set of 10 stakeholder categories consistently relevant for the European context, were found. The current investigation and the results from Grossmann et al. (2020) show a remarkable intersection: 9 out of 10 of those stakeholder categories found a corresponding one in the list of stakeholders involved in LC conflict, illustrated by Figure 2. Livestock owners, hunters and nature conservationists (defined here as NGOs) are the three stakeholders that in Grossmann et al. (2020) are found consistently in every country of their study. All of them emerge in this investigation, but livestock farmers, in particular, occupy a central role. Indeed, they are the stakeholder group that was most frequently mentioned, both in terms of interactions with WMs and involvement in LC conflict, as shown by Figure 2 and Figure 3.

Speaking of involvement in the LC conflict, the second most frequently mentioned stakeholder was the EMA, so overall livestock farmers' and EMA's relevance was highlighted by the data. Findings from Salvatori et al. (2020) in a multi-site comparative study on LC conflict in Europe led to highly comparable results. The centrality of livestock owners and relevant authorities coincides. In the same study, findings from stakeholder identification share great commonality as well. Salvatori et al. (2020) found that the 6 main interest groups in LC conflict were: farmers, hunters, institutions, scientists, environmentalists and animal welfare

organizations. Exception made for animal welfare organizations, all the other interest groups are reported by WMs (see Figure 2).

Another finding that emerged from this study was the heterogeneity within the EMA. Different roles have different possibilities to influence EMA's line of work, but this is not surprising per se, it could just reflect the hierarchical organization of the EMA. Hence, differences in decisional power and authority between rangers, technicians and higher-level administrative staff are not accounted for when considering EMA as a unique stakeholder. Hence, rangers who are in direct contact with livestock farmers and that might consequently be in possession of very relevant and detailed social-ecological knowledge have limited possibilities to directly influence environmental management strategies.

On top of that, politics as well appear to have a very relevant role in terms of power and yet the EMA-politics boundary and relationship is not fully clear. The inconsistencies and differences within the EMA seem to find correlation, once again, with the findings from Grossmann et al. (2020). In that study, as well, it is advocated for further research to address the internal inconsistent relationships between the category of Ministries and Administration[1] and other stakeholders.

Finally, another important insight brought up by WMs was that within rural communities having multiple occupations e.g. livestock farmers who are also hunters was common. Alba-Patiño et al. (2026) and Grossmann et al. (2020) highlighted the same phenomenon, and the latter described it as a case of blended professions that encompassed most of their respondents.

Overall, WMs were capable of accurately pinpointing a set of relevant stakeholders involved in the local LC conflict. They described how different types of knowledge are (or are not) accounted for and how the internal hierarchical power distribution ultimately shapes the environmental management strategies of EMA. They also highlighted possible blurred boundaries between higher-level administrative staff and politics and finally they underlined the possibility of witnessing blended professions within rural communities. All these findings strongly support WMs role in being a source of high quality social-ecological information (Alba-Patiño et al., 2026) with a remarkable degree of transferability across Europe because of the emerging common findings with Grossmann et al. (2020) and Salvatori et al. (2020).

[1] "Ministries and administration for the environment, nature conservation, agriculture and/or forestry" Grossmann et al. (2020)

6.2 Livestock damage assessments and rangers' intermediation

Many interviewees pointed out that their role is the one of intermediary between local actors and the EMA. They claimed that rangers, in particular, being the staff on the frontline, are the ones having the closest relationship with rural actors, constituting the main point of connection between technicians and rural communities.

However, in this section it is important to highlight that within WMs, rangers find themselves playing this role much more frequently. Indeed, rangers are the first agency contact that local actors have and LC damage inspections are always carried out by them and not by technicians. It is particularly in these tasks that they interact the most with rural citizens, especially with livestock owners. During these operations study participants very frequently reported conflictual interactions and aggressive displays enacted by farmers. LC damage inspections can then be understood as arenas where many interactions take place and eventually escalate.

Imperfections of the compensation scheme were also pointed out by rangers themselves, by explaining that sometimes the set of logistics and predation dynamics do not allow to find good-enough evidence to prove LC predations, resulting in no damage compensation for livestock farmers. On the other hand, there are also livestock farmers that might try to get economical compensation for animals that were not predated by any wolf or bear but just died of natural causes. Overall, the technical challenge of the task, the imperfections of the compensation scheme, the attempts of deception and the easy escalation into aggressive confrontations, are all factors that come into play in LC damage assessments.

6.3 Relational strategies during livestock damage assessments

Aggressive displays mostly unfold as verbal aggressions and threats, with the consequent need for rangers to manage a complex situation. On one occasion it was reported that a ranger suffered a physical aggression because of a confrontation with a livestock farmer, but not during a damage inspection. The response to non-physically aggressive displays showed common relational strategies for defusing and de-escalating highly tense moments. A symptom is in the words of a ranger stating that their job sometimes resembles more the one of a psychologist, underlining how rangers are the ones that have to deal with the bad temper of local actors. Hence, one of the most frequently adopted strategies to navigate those moments is to calm things down by "letting people vent". In this way, intense feelings can be defused and the whole process has a chance to not escalate even more. It is reported that a lot of self-

control to “keep quiet” is needed to enact in that way. This finding highly correlates with Epstein and Haggerty (2022) definition of emotional labor, indeed, the strategy itself of “letting people vent” is adopted by WMs in their case study as well. This shows how frontline professionals like rangers are required to absorb the emotional shock that the challenges of suffering LC damages bring to the table. Rangers’ control over their own emotions is fundamental in facilitating LC damage assessment procedures.

Relational strategies, though, do not stop with emotional labor, another whole branch of relational measures are highlighted in this study. Indeed, high responsiveness, attentiveness and immediate availability are other forms of relational strategies that are reported by many respondents, especially when dealing with LC damage inspections. Although the EMA is required to go and perform those assessments within 48-72 hours after the damage claim, interviewees frequently reported that these tasks receive the highest priority, and rangers would go as soon as they can and, if possible, two people go together to carry out the inspections. Availability and collaboration are another aspect that was stressed as an important component for rangers. The ease of getting in contact with them through a simple phone call, the willingness to help in finding solutions for particular problems, staying in the field beyond their working hours to help setting up LC preventive measures, are instead other parts of their job that complement the adopted relational strategies. Overall, these measures are aligned with a line of work that aims to build connection and trust with the rural constituents of the study area. This set of intentional efforts highly resembles the affective labor described by Epstein and Haggerty (2022) applied in wildlife conflicts. In this study it is enacted through availability, collaboration and high responsiveness, similarly, WMs in Epstein and Haggerty (2022) adopted comparable affective strategies.

If on one side, emotional and affective labor help explain how rangers in the Cantabrian Mountains deal with conflicts, on the other, this lens alone fails to capture the whole set of strategies adopted by these frontline professionals in LC conflicts. Strategic tolerance, during law enforcement operations such as LC damage assessments, is, perhaps, one of the most remarkable findings. Indeed, it emerged independently and it clearly escapes the concepts outlined in the theoretical framework. This specific measure is taken by some rangers when dealing with particularly conflicting stakeholders. In these cases, an active effort of mediation is preferred. Instead of strictly complying with the law and filing a report that might lead to an additional confrontation, study participants stated that they tried other ways such as educating or generally having a conversation with local stakeholders. The risks that rangers feared, in case this kind of flexibility was not integrated into their practice, were deemed as catastrophic.

Fear for retaliatory actions, such as arson and illegal poisoning, sometimes lead rangers to opt for an alternative. Arson, in particular, in the same study area has been described as a tool to express social protest for top-down conservation models and territorial dispossession, both in the last decades or in the last century during Franquism (Marino, 2019). So, in specific cases, rangers adopted strategic tolerance during law enforcement as an act of prevention for these so-called “bigger problems”. This choice reflects a wider awareness of a fragile social-ecological equilibrium that needs careful consideration. Study participants saw this choice of active mediation as a prevention mechanism for the detrimental consequences of a social conflict sparking between them and a local stakeholder. SP9, in particular, referred to this as a central part of his professional practice.

However, the attempts of deception emerged during LC damage inspections and instances of verbal aggression were also followed by different types of responses, other than relational strategies or active mediation. Many interviewees highlighted that sometimes, especially when livestock farmers tried to deceive them, they needed to apply the law and be firm in order to not let people play the system. These instances put emphasis on how WMs need to learn when to be firm and when to be tolerant according to the circumstances. As a matter of fact, rangers bring into their practice a wide array of strategies involving emotional and affective labor, strategic tolerance or a more rigid law enforcement according to the contextual circumstances.

These results are aligned with Epstein and Haggerty (2022) who respectively refer to WMs as intermediaries in wildlife conflicts and position of rangers as in-between local communities and natural environmental management (Singh et al., 2021). All the strategies and measures, however, are used adaptively. This reflects awareness of how the management of negative social confrontations could result in negative impacts also for the local ecosystems. In doing so, rangers fulfil the need of both enforcing the law and helping in the preservation of local ecosystems. Within these dynamic, functional and working relationships between local actors and frontline professionals are fundamental to ensure a local social-ecological balance.

Emotional labor, affective labor and strategic tolerance are relational strategies that seemed to have emerged as a response of rangers to LC conflict, but not as a solution to it:

> "But they can't see me as part of the solution because there is no solution at present. The only solution available is to pay a reimbursement, and that has never solved any problem." - SP7

Emotional and affective labor, along with strategic tolerance appeared to be necessary measures to build or maintain a working relationship that at a first glance is just between rangers and local actors. However, as many of them claimed that they are the visible face of the EMA, it seems like this relationship holds a larger symbolic meaning which is the relationship between local actors and the EMA as whole.

6.4 WMs' perceptions of Eurasian lynx reintroduction

WMs' assessments on the viability of Eurasian lynx reintroduction in the Cantabrian mountains show that three respondents either did not have an opinion or did not want to share it because of a lack of data. Two different respondents claimed that the project should not be pursued or that it would have been difficult to achieve. The last two, though, were also not aware of the recent fossil records found in the study area.

Among the remaining four interviewees, one defined the project as viable but highlighting that consistent preliminary social efforts involving the local communities must be carried out in advance. The remaining three, instead, deemed it either a terrible mistake or not a conservation priority. Evidence from Alba-Patiño et al. (2026) shows how environmental rangers can be key informants for high-quality biodiversity information. However, while analysing feedback on the reintroduction of a locally extinct species, it is important to note that their judgments might not equally translate into the same high-quality information. Indeed, on one side two respondents connected the presence of Eurasian lynx to a different ecological era (when glaciations were still taking place) and on the other, three participants explicitly preferred to not share their opinion on the matter because of a lack of data. Overall, they make up for 56% of the respondents of individual interviews. Even if this sample has no statistical relevance, surely it can still bring a useful insight. Indeed, this could be a symptom that when WMs are expressing their opinions on wildlife species that are not part of their daily job, they might have a lower reliability compared to their usual areas of expertise such as wildfires, poaching and range expansion of native fauna (Alba-Patiño et al. 2026).

Some respondents, on the other hand, brought up very relevant ecological concerns such as a possible hybridization between Eurasian and the Iberian lynx, possible detrimental impacts on the capercaillie conservation, and highlighted a potential mesopredator control exerted by the Eurasian lynx.

However, it was about social aspects of the reintroduction that WMs' were mostly aligning. Concerns about how the project could be met by the local communities, their acceptance and

the potential for intense social turmoil were pointed out by most of WMs. Most of the recommendations given by WMs before embarking on such a project had to do with the same social aspects of community involvement and acceptance. This awareness demonstrated by study participants correlates with Ferraro & Whitehead (2026) rewilding relational framework that puts emphasis on communities' consent and values as key elements to consider before pursuing reintroduction projects. When these aspects are not carefully considered the consequences can have repercussions both as social conflicts and jeopardized rewilding objectives (Ferraro & Whitehead, 2026). Reintroductions can elicit transformations in existing relationships or build new ones. These relationships include the ones between the reintroduced animals and the environment, the ones between humans and nature but also the ones between different individuals or social groups (Ferraro & Whitehead, 2026). SP6 described reintroductions as bold projects that require the preparation of both “ecological and social habitats”, proving that in his perspective reintroduced animals affect the whole social-ecological systems in which they take place. Concurrently, in Ferraro & Whitehead (2026) reintroduced animals are understood as driving forces in the creation of relationships between humans, animals and ecosystems, not only as a tool for ecological restoration.

7. Conclusion

The purpose of this study is to explore how WMs in the Cantabrian Mountains deal with LC conflict and their relationship with the actors they interact with. The data is used to further understand how they could play a part in a potential LC reintroduction, in this case of the Eurasian Lynx. The results deepen the understanding of WMs as key actors holding high-quality social-ecological knowledge, situated in-between EMA and local actors. Their position, particularly the one of rangers, makes them act as intermediaries at the crossfire of the conflict, especially over wolves. Both emotional labor and affective labor are relational strategies adopted by rangers involved in the study. However, these strategies do not allow to explain the whole picture described by study participants. Strategic tolerance as an attempt to prevent potential dramatic damages like illegal poisoning or arson, was an unexpected result that complements the set of applied strategies. Potential attempts of deception correlate with a stricter law enforcement response. Their situated and adaptive practice is currently adopted to contribute to maintaining a very delicate social-ecological equilibrium in the areas experiencing LC conflict. This frontline position in the current LC conflict makes them an ideal source to gather key preliminary social-ecological information for LC reintroductions.

If on one side more research needs to be done to assess WMs' knowledge on species that are not currently present in their working area, as of today WMs demonstrated to be particularly relevant in highlighting the local thresholds of social acceptance for reintroduction projects, such as the one of the Eurasian lynx.

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Appendix 1: Summary in a scientific poster

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Eurasian lynx *back* to Spain?

The *role of wildlife managers* in a possible reintroduction

BACKGROUND

Recent fossil records of Eurasian lynx (*Lynx lynx*), trace the presence of this species in the Cantabrian Mountains until the 19th century, opening a discussion on its potential reintroduction. Populations of wolves (*Canis lupus*) and brown bears (*Ursus arctos*), distributed in the same area, are already creating intense **coexistence challenges**. Damages caused by both species are inspected by wildlife managers (WMs), hence closely interacting with rural communities.

AIM

Interviewing WMs to explore how their role in the current conflict over large carnivores (LC) could be relevant in a possible reintroduction of Eurasian lynx.





RESULTS

WMs act as intermediaries in the current LC conflict, adopting a wide array of strategies. Among them emerge affective and emotional labor, enacted to handle confrontations with local actors. Also, strategic tolerance during law enforcement was another measure deployed by some WMs as an attempt to prevent catastrophic retaliatory actions such as arson and illegal poisonings.
Most of WMs did not see the proposed reintroduction as either viable or a priority project. The most relevant arguments brought up by WMs highlighted a deep understandings of locally relevant social dynamics

CONCLUSIONS

WMs' **interpersonal capacities** and **mediation** are fundamental to balance *conservation goals* and *social tensions*. Their unique position and profound knowledge of the social-ecological landscape would valuably contribute in posssible implementations of reintroduction projects, such as the one of the Eurasian lynx in the Cantabrian Mountains.



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Appendix 2: AI disclosure

This study has been carried out with the help of Nvivo and notebook.lm. The first one is the software used for the automated transcriptions of interviews that were manually corrected afterwards. The second one is instead an AI tool that I used for the preliminary study of the literature material. Overall, the use I made of AI tools falls under Level 2 of the ECM AI policy.