



Perspective

Challenging (mis)conceptions of large carnivores

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Introduction

Large carnivores often evoke strong emotions—from fear to fascination. In recent decades, these animals have reemerged from wilderness documentaries in far-away lands into the everyday lives of European communities. Species absent from many regions for decades or even centuries are now returning to landscapes across the continent. Living alongside them presents genuine challenges which often lead to conflicts, creating fertile ground for the spread and persistence of misconceptions.

In today's information-rich world, we have unprecedented access to data with just a few clicks or swipes. Unfortunately, this includes not only reliable information but also misinformation: myths, fake news and hoaxes. While some misconceptions arise from harmless misunderstandings—like the outdated “tongue map” [1] still found in some school biology textbooks—others are more deeply entrenched, emotionally charged and resistant to correction. These persistent myths can resemble conspiracy theories, becoming lodged in public consciousness despite contrary evidence. But if trustworthy sources of information are readily available, why do misconceptions persist so stubbornly? In this article, I explore the causes and spread of misconceptions in relation to large carnivores.

Complexities of conflict

Historically, humans have hunted nearly all large carnivore species worldwide for a variety of reasons, including to protect themselves or their livestock. Widespread persecution, alongside habitat destruction and land-use changes, led to the disappearance of large carnivores from much of their original ranges. In Europe, native species were confined to remote, mountainous and less developed regions. Since their historical low point in the mid-20th century, populations have slowly recovered and in recent decades large carnivores have returned to areas from which they were absent for generations [2].

While their return is beneficial for biodiversity and ecosystems, it also poses serious challenges, particularly for livestock owners, who may suffer direct losses due to depredation. Other stakeholders, such as hunters and game managers, perceive large carnivores as competitors for game species. Some problems may seem to have straightforward solutions, such as installing electric fences to exclude predators. Indeed, such tools can be effective [3], particularly in communities with a high tolerance for wildlife. Yet practical solutions alone are often insufficient, as economic damage caused by large carnivores often represents only the visible surface of much deeper issues [4,5].

As humans and large carnivores share landscapes, they become part of the same socioecological system, where both human–wildlife and human–human relationships influence conflict dynamics. Thus, we must recognise that many conflicts related to wildlife are, at their core, conflicts between people with different values, interests and perceptions, or between local communities and policy-makers [6–8]. They are frequently shaped by social, cultural and emotional dimensions. When people feel their concerns are overlooked and recurring issues remain unresolved, they may perceive a threat to their social identity and values, which can lead to deep-rooted conflicts [4,5]. Frustration may evolve into resentment, not only toward wildlife but also toward those advocating for its conservation. Over time, this can escalate into entrenched “us versus them” dynamics, hampering cooperation, mitigation and long-term coexistence.

Conflicts tend to be most intense where they are exacerbated by broader societal challenges. Rural communities experiencing the return of large carnivores are often faced with economic hardship, depopulation, unemployment and the erosion of traditional ways of life. In such contexts, large carnivores may become convenient scapegoats and the issue may also become politically charged [9], further dividing people.

Cognitive biases

In everyday life, everyone encounters unfamiliar topics, situations and information. It is human nature and perfectly normal to attempt to fill gaps in our knowledge. In doing so, our brains are prone to simplify the processing of new information by assuming it is true without critical evaluation. This is a useful shortcut that helps protect us from being overwhelmed by trying to thoroughly question every new piece of information. However, when the information we receive is false, but we accept it on the basis of pre-existing beliefs and prior experience, it becomes extremely difficult to change our mind, even in the face of hard evidence [10]. This is not a conscious decision on our part, but a mechanism invisible to us, caused by cognitive biases: systematic errors in thinking or logic that affect reasoning and lead to erroneous conclusions¹. Social scientists, psychologists and researchers

have identified many types of cognitive biases. In the following paragraphs, I highlight a few of those that I have frequently encountered in relation to large carnivores and conflicts.

One of the most common biases is **confirmation bias** [11]: the tendency to favour information that appears to support our existing beliefs, while dismissing contrary evidence as unreliable. Emotions play a key role in confirmation bias, and large carnivores typically illicit strong emotional responses [12]. Some people admire them as charismatic symbols of wilderness—frequently used as flagship species in conservation—but others fear them as threats to lives and livelihoods. Attacks by large carnivores on humans are rare in Europe [13,14]. Nevertheless, rural inhabitants and hunters often display strong negative attitudes toward large carnivores [15,16], as they are among the groups most directly affected by their presence. We can assume that this makes them particularly susceptible to confirmation bias and more open toward reports and news that reaffirm their views.

Groupthink also contributes to the persistence of misconceptions. Evolution has made humans extremely social creatures, as our ancestors needed each other in order to survive. Different groups and tribes competed for resources and the most successful groups were those whose members cooperated the best and were most loyal to each other [17]. Therefore, throughout our evolutionary and cultural development, emotional, cognitive and behavioural mechanisms have persisted that primarily served the safety and advancement of the individual and the group. Over time, this tribal mentality extended to nations, interest groups etc., often defined by shared beliefs, common vocabulary and worldviews [18]. We tend to trust information from within our own social group and to reject ideas that contradict the group’s dominant narratives, even if they are factually accurate. Group identity and social cohesion often outweigh our openness to new information, preserving our connections and place in the group [19]. In polarised debates, including those surrounding large carnivores, group affiliations shape beliefs. Moreover, where there are diverse interest groups, each tends to accept information that reinforces negative perceptions of opposing groups.

¹ <https://www.simplypsychology.org/cognitive-bias.html>

Another key phenomenon is the **illusory truth effect**, in which the more frequently people hear a claim, even if it is false, the more likely they are to believe it [20]. Repetition breeds familiarity, and familiarity often masquerades as truth. In close-knit communities, recurring exposure to the same misinformation through different sources can make it seem increasingly credible. **Availability bias** also plays a central role in this dynamic. It occurs when people estimate the likelihood of an event based on how easily examples of that event come to mind [21]. For example, most people learn about large carnivores from the media, which often prioritise sensational stories—such as bear attacks or livestock depredation—over neutral or positive stories. Peaceful interactions, such as hikers passing a bear without incident, rarely make the news. This trend is also evident on social media platforms, where negative headlines dominate, regardless of their credibility [22].

A general decline in trust toward science also contributes to the persistence of misconceptions [23]. Humans naturally seek comprehensible answers—what psychologists refer to as a **need for cognitive closure** [24]. Science, however, offers complex, conditional and uncertain answers that may not satisfy the public or politicians looking for simple solutions. As our understanding of nature becomes more nuanced, it also becomes less intuitive. Science often produces findings that are not easily applicable to everyday decision-making, and it rarely offers one-size-fits-all solutions that the public, stakeholders and policymakers usually want. Scientific uncertainty, though essential to honest inquiry, can seem vague, equivocal or even evasive, further fuelling public distrust. Besides, researchers may be perceived as members of an elite, disconnected from everyday life, especially when their findings challenge deeply held beliefs.

Multiple biases

It is important to note that, in most cases, two or more cognitive biases operate simultaneously, shaping the way we think. This is illustrated by the widespread belief across Europe—regardless of country—that conservation organisations or authorities have reintroduced wolves into conflict zones [25], despite the fact that no such reintroductions have actually taken place. Hunters and rural inhabitants often express negative attitudes and emotions toward wolves. At the same time, in many regions

these groups are embroiled in longstanding conflicts and disputes with conservationists. This makes them more inclined to accept as truth a falsehood, especially if it comes from within their own group, that portrays the opposing side as being responsible for their hardships (*confirmation bias and groupthink*). Even if it does not seem plausible initially, such a misconception can become reinforced as it is retold and spreads through the group (*illusory truth effect*), resulting in group members refusing to change their minds even when confronted with solid evidence to the contrary. It is worth noting that people who feel physically or economically unsafe are even less inclined to reconsider their assumptions and are more likely to cling to long-standing fears, which in turn reinforces their negative attitudes [26].

Another example concerns the influence of the media on perceptions. Most members of the general public ‘encounter’ large carnivores mainly through news coverage, where reports tend to portray them negatively. An analysis of Romanian media coverage across eight major online outlets between 2007 and 2021 found that 77% of articles focused on human–bear interactions [27]. Of these, nearly one-third reported sightings near human settlements, while another third focused on bear attacks causing injury or property damage. Overall, the tone was overwhelmingly negative, regardless of the actual outcome, and only 3% of articles addressed bear ecology. People who already fear or hold negative attitudes toward bears are therefore likely to continue viewing them as ferocious animals posing an immediate threat to humans as they are repeatedly exposed to such messages (*confirmation bias and availability bias*).

Untangling misconceptions and conflicts

To mitigate the effects of cognitive biases, the first step in the right direction is to recognise that we are all vulnerable to misconceptions, even researchers and other professionals working in wildlife conservation. Critical thinking and media literacy are essential tools in navigating today’s information landscape. Evaluating sources, questioning assumptions and seeking out diverse perspectives help us make more informed judgments. Equally important is fostering open, respectful dialogue between stakeholders including local communities and conservationists as well as policymakers and other interest groups.

Addressing conflict requires acknowledging not only ecological facts but also the social, cultural, historical and economic contexts in which people live. Every wildlife-related conflict is unique, shaped by its own social, economic and geographical realities, which are essential to take into account when seeking solutions. We should also understand that emotions and group dynamics play key roles, so rational arguments and data-driven approaches are often insufficient to mitigate conflicts, change opinions or dissolve misconceptions.

Instead of adopting confrontational positions that directly challenge people's beliefs, I have found that establishing respectful, personal relationships and collaborating with stakeholders in hands-on work on large carnivores (e.g. monitoring), sharing findings, building a common understanding and providing practical help (e.g. installing and maintaining electric fences) are much more successful in winning hearts and minds. It is also essential to gain a better understanding, through psychology and other social sciences, of people's motives and needs, which must be addressed if lasting coexistence with Europe's recovering large carnivores is to be achieved.

Acknowledgments

This article was written within the Interreg LECA (CE0100170) project, co-funded by ERDF in the framework of the Interreg Central Europe programme. The views and opinions expressed are entirely those of the author and do not necessarily reflect the views of the European Union, which cannot be held responsible for them. I thank Boldizsár Megyesi (HUN-REN Centre for Social Sciences), Bálint Novák and colleagues at WWF-Hungary for their helpful insights.

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