

# Who must adapt to whom? Contested discourses on human–wolf coexistence and their impact on policy in Spain

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## Abstract

1. Emerging nature restoration agendas are increasing the pressure on rural communities to coexist with expanding wildlife, including large carnivores. There are different interpretations of coexistence, stemming from divergent ways of conceptualising and relating to nature. Yet there is limited understanding of how and why certain interpretations become dominant, and how this influences conservation policy and practice.
2. This question is highly relevant for the management of wolves in Spain. Until recently, the national strategy allowed certain regional autonomy in creating and enacting coexistence policy, including through culling and sport hunting. However, in 2021, the national government declared wolves strictly protected throughout the country, despite strong contestations about whether and why it was necessary.
3. We studied the discursive processes that co-produced this policy shift. First, we explored interpretations among communities that share, or will share, space with wolves, using qualitative field data. Second, we triangulated local interpretations with framings in public media to identify prominent discourses about coexistence. Third, we traced how these discourses interacted with Spanish conservation policy: who was heard and why.
4. We highlight three prominent discourses: wolf protectionism, traditionalism and pragmatism, each proposing a distinct pathway to coexistence with wolves. Through our policy analysis, we illuminate a dominance of protectionism within national politics, which justified a centralised technocratic pathway while downplaying place-based approaches. The resulting coexistence policy was highly contested and appears to have increased social conflict over wolves.
5. Our findings reveal knowledge hierarchies within Spanish policy frameworks that promotes 'mainstream' conservationists' narrow interpretation of what nature and coexistence should be. This has perpetuated an apolitical approach that is

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focussed on mediating direct impacts from wolves, rather than conflicting world-views, and that undermines efforts to promote dialogue and local stewardship. While our research is centred on Spain, the findings are of broad relevance since they reveal structural barriers that constrain the incorporation of diverse knowledge systems into conservation policy, and subsequent transformations towards socially just and locally adapted coexistence programmes.

#### KEYWORDS

conservation status, discourse analysis, human–wolf interactions, nature's multiple values, pathways, pluralism

## 1 | INTRODUCTION

In 1995, David Mech, who at that point was chair of the Wolf Specialist Group at the International Union for Conservation of Nature (IUCN), observed that 'the question of the next decade will not be how to save the wolf, but rather how best to manage the animal' (1995, p. 271). Since then, wolves (*Canis lupus*), bears (*Ursus arctos*) and other large mammals have expanded their ranges throughout Europe and North America, while mobilising increasing numbers of supporters and antagonists (Chapron et al., 2014; Mech, 2017). Large carnivores are now established in areas significantly altered by human activities, including agricultural landscapes. Sharing these landscapes is especially challenging since they are the subject of multiple, often competing priorities, such as producing food, preserving cultural heritage, conserving biodiversity and promoting recreation (Lécuyer et al., 2022). However, carnivores are increasingly seen as catalysts of ecosystem restoration and climate change mitigation (Malhi et al., 2022; Ripple et al., 2014), and the EU has recently strengthened its resolve to foster 'a culture of coexistence' across Europe (The European Commission, 2021).

What coexistence means is an ongoing debate (see König et al., 2020; Pooley, 2021), wherein a unified understanding is unlikely and possibly undesirable (Glikman et al., 2021). To date, the approach to carnivore coexistence has been dominated by the 'mainstream' conservation model (Brockington et al., 2008; Hussain, 2019), which emphasises pre-established ecological targets and uses socio-economic interventions merely as a means to achieve them. This approach has repeatedly failed to resolve conservation conflicts, which are often rooted in competing worldviews and structural inequalities within political and economic systems (Madden & McQuinn, 2014; Zimmermann et al., 2020). In response, there is growing convergence around framings of coexistence that emphasise the flourishing of both humans and carnivores, based on fair, collaborative and locally grounded governance (Büscher & Fletcher, 2019; Carter & Linnell, 2016; IUCN HWCTF, 2022). This has led to calls for inter- and transdisciplinary approaches which accommodate; ontological pluralism (Hill et al., 2020; Pascual et al., 2021), animal agency (Barua, 2016; Edelblutte et al., 2023), practical and ethical policy trade-offs (Bruskotter et al., 2021) and the dynamics

of power and sociopolitical structures (Fletcher & Toncheva, 2021; Pooley et al., 2017). These calls illustrate a need for transformative change in how coexistence knowledge and policy are produced and operationalised (Fiasco & Massarella, 2022). Recent advances include principles for social learning, co-management and participation (e.g. Durant et al., 2022; Hovardas, 2020; Jiren et al., 2021), designed to aid practitioners in harmonising top-down, legally mandated conservation targets with the place-based approaches that are considered vital to foster local stewardship and adaptation to 'problematic' wildlife.

A pluralist ethos, which embraces diverse ways of relating with, knowing and valuing nature, has become a central tenet within international guidelines for environmental governance (see IPBES, 2022; IUCN HWCCSG, 2023). However, the application of such 'relational thinking' (West et al., 2020) in national policy remains poorly understood. This includes how national conservation institutions engage with different interpretations of coexistence, and the role of language and power in promoting certain interpretations over others. As wolves and other wildlife expand their range or are reintroduced, this understanding is crucial to anticipate conflicts between conservation policies and the values and needs of impacted communities. Our research contributes to this gap by identifying prevalent interpretations of coexistence in Spain and relating them to institutional conduct, understanding these interactions as a matter of discourse (Hajer, 2003). We focus on a recent shift in the wolf protection regime, implemented in September 2021, which reclassified wolves as strictly protected nationwide, and which underpinned a revised, more centralised and highly controversial coexistence strategy. We ask: How is coexistence envisaged in the case study sites and in the public debate; what pathways are proposed to realise this vision; and what understandings/visions underpin the new protection policy?

We begin by outlining the theoretical and methodological underpinnings of the research, followed by a brief introduction to the background and study sites. The results are presented in two sections: first, an overview of prevalent coexistence discourses in Spain: protectionism, traditionalism and pragmatism. Second, an in-depth analysis of the justifications for wolf protection and the new coexistence strategy. We conclude by discussing policy implications

and recommendations for ongoing efforts to transform coexistence governance.

## 2 | THEORETICAL APPROACH

### 2.1 | Living with wildlife: The role of values

This research builds on previous explorations of the meaning and components of resilient and convivial human–wildlife interactions (see Büscher & Fletcher, 2019; Pooley et al., 2022). This work demonstrates how values shape people's relations with nature and wildlife. Drawing from Anderson et al. (2022), we see values as a confluence of life goals, beliefs and guiding principles which inform how something is evaluated in a particular context. Human dimensions scholars (e.g. Manfredo et al., 2020) typically distinguish between anthropocentric orientations, which emphasise nature's instrumental value to people, and biocentric/ecocentric orientations, which emphasise nature's intrinsic value. In recent years, increasing attention had been paid to the values, ethics and practices of care that emerge from peoples' relations and coevolution with nature; including cultural identity, heritage and spirituality (e.g. IPBES, 2022; West et al., 2020). These relations are important since they underpin peoples' ideas of what is 'natural' and 'appropriate', and how to live a complete and meaningful life with their surrounding environment and their community, both human and non-human (Holmes et al., 2022; Mattijssen et al., 2020).

Exploring human–wildlife interactions through a relational lens provides a deeper understanding, beyond the material impacts, of why coexistence is seen as positive/necessary by some and negative/unnecessary by others. Here, we see positive coexistence as a state characterised by legitimacy and stewardship, encompassing dimensions of respect, knowledge and agency (Bhatia, 2021; Pooley, 2021). Negative coexistence is characterised by vulnerability and perceived imposition or injustice, which may be passively endured or actively resisted (Holmes, 2007; von Essen et al., 2014). Legitimacy is understood as the extent to which institutions, policies and rules are considered socially acceptable and to be followed (Read et al., 2019), and can be engendered by positive material outcomes, such as protected livestock, and/or by incorporating local knowledge and values within decision-making (Cashore, 2002; Suchman, 1995).

### 2.2 | Values, discourse and policy

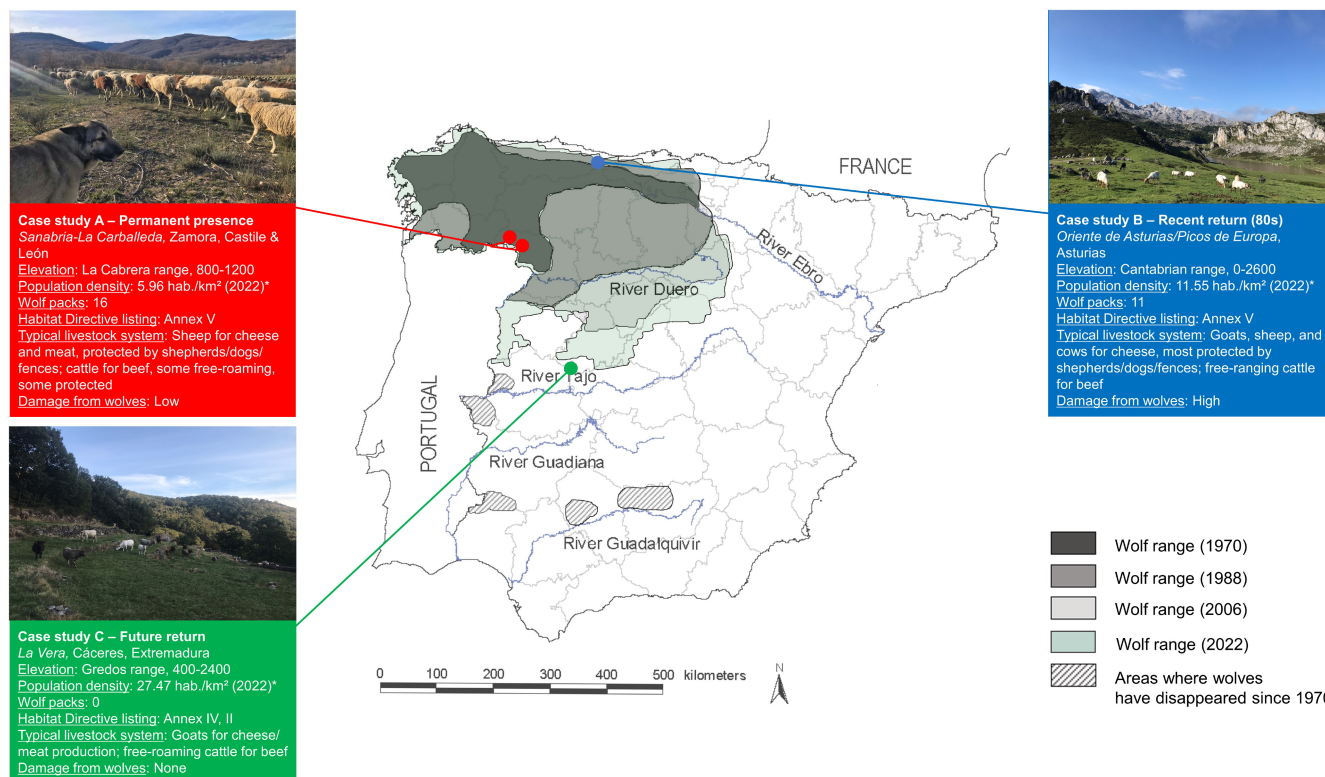
Conservation is a normative discipline wherein science, language and values co-produce how a place or animal is described and treated, for example, as 'threatened', 'invasive' or 'wild' (Latour, 2004; Maris, 2021). These dynamics can be investigated through discourse analysis, which illuminates how 'the truth' about nature is formed, and by whom (Bennett et al., 2017; Rutherford, 2007). Discourses

are an 'ensemble of ideas, concepts and categories' through which an environmental problem is constructed, and are 'produced and reproduced through an identifiable set of practices' (Hajer, 2003, p. 3). Since discourses determine what knowledge, resources and interventions are considered necessary to solve the problem, they are both a product and a medium of power (Biermann & Mansfield, 2014; Tadaki et al., 2017). The influence of a particular discourse can be understood by the degree to which it dominates how the public or policymakers conceptualise the world (*structuration*) and whether it solidifies into institutional arrangements (*institutionalisation*) (Hajer, 2006).

Here, we use argumentative discourse analysis (Hajer, 2006; Scott, 2017) to explore how certain coexistence discourses become institutionalised and how they legitimise particular forms of control, including laws and financial incentives. We focus on storylines: condensed statements within a discourse which summarise complex narratives (Hajer, 2006). Storylines provide normative orientation, prescriptions for action and serve as a nexus for discourse coalitions: groups of actors who share a worldview or way of interpreting an issue (Dryzek, 2013). Within environmental governance, coalitions increasingly take the form of public-private partnerships, in which NGOs, advocacy groups, corporations and the state collaborate, formally or spontaneously, to resolve an issue (Jepson, 2005; Rutherford, 2007). Within policy-making, storylines become adopted as tools of political strategy, allowing solutions to be 'rendered technical' (Li, 2019), that is, viewed as apolitical or common sense, rather than about contestable priorities, values and pathways.

## 3 | METHODS AND ANALYSIS

To explore prominent discourses and their interaction with Spanish wolf policy, we collected data in three phases before and after the 2021 change in protection regime. First, we examined coexistence interpretations and storylines among rural communities at different states of wolf presence—permanent presence, recent return, and imminent return, see Figure 1. We selected these states to provide a broad understanding of values, experiences and aspirations, thus revealing the diversity of possible adaptation pathways to Spain's expanding wolf population (see Pettersson, Quinn, Holmes, & Sait, 2021; Pettersson, Quinn, Holmes, Sait, & Lopez-Bao, 2021). We conducted key informant interviews with a wide range of stakeholders, including farmers, residents, civil servants, researchers and tourism operators. We also conducted participant observation in all sites. Prior to the interviews, all interviewees were provided with a study information sheet, the opportunity to ask follow-up questions and gave their written or oral consent to participate. Oral consent was favoured when there were cultural concerns related to signing contract-like documents. Detailed descriptions of the research materials and methods are provided in Tables S1–S5. Our research was approved by the Research Ethics Committee of the University of Leeds (AREA 19-018).



**FIGURE 1** The expansion of wolves in Spain from the 1970s to the present and its relation to the case study sites (A–C), and the Duero River, adapted from Blanco and Cortés (2009). Dark grey shows the wolf distribution in 1970; mid-grey shows the range increase from 1970 to 1988; and light green its distribution in 2022 (based on Blanco, unpublished data). Striped markings indicate areas where wolves have become locally extinct. \*Based on the average of the study communities; see Table S3.

In the second phase, we triangulated the storylines by exploring narratives in public debates. We analysed text and video content from various media and advocacy groups, produced before and after the protection listing, see Tables S1 and S6. In the third phase, we collected publicly available information which: (a) described the institutional framework for protected species in Spain, and (b) introduced, explained or justified the new wolf protection regime. This included official documents, such as legal opinions, reports and management plans, collected upon adoption of the regime in September 2021.

We analysed the data in two steps. First, we used thematic network analysis to examine transcripts, field notes and mediation documents, using the NVivo software. The initial coding structure consisted of three categories: What, how and why arguments which detailed stakeholders' interpretations of coexistence; proposed pathways; and the priorities, beliefs and values underpinning them. Through an inductive and iterative process, we populated the structure with data-driven codes of reoccurring claims within the datasets, subsequently grouped into themes (storylines) (Attride-Stirling, 2001; Hyatt, 2013), see Table S7. We analysed this final structure by theme and informant to collate prominent discourses and the coalitions reproducing them. Finally, we analysed the policy documents through our established coding structure, tracing the presence or absence of the identified storylines. We focussed on the modes of legitimation: the truth claims through which particular pathways were justified both publicly and within institutions (Hyatt, 2013).

## 4 | WOLVES IN SPAIN: FROM THREAT TO THREATENED

Spain is particularly useful for exploring the interactions between values, discourse and conservation policy. Until relatively recently, the country's large carnivores were generally treated as pests. This view was institutionalised in 1953 through the establishment of 'regional boards of extinction', which successfully coordinated efforts to rid Spain of 'harmful' species such as wolves (Márquez Cañas, 2015). This facilitated extensive livestock rearing, a system practised in Spain for millennia and which is particularly exposed to predation. Albeit in decline, this form of pastoralism persists in many marginal and alpine areas, where it maintains landscapes that are highly valued for their cultural, recreational and ecological features (Fuentes et al., 2011; San Miguel et al., 2016).

However, as urbanisation and industrialisation have decoupled most people from farming and rural landscapes, public values of nature have shifted. Similar to other western countries (Manfredo et al., 2020; Mech, 2017), engagement in wildlife conservation has increased, especially regarding the Iberian wolf population, shared between Spain and Portugal. A small and scattered population had survived in the sparsely populated north-west of Spain, including Sanabria/la Carballeda, Zamora (case study A), which has recently become a notable wolf observation destination (Pettersson, Quinn, Holmes, & Sait, 2021; Pettersson, Quinn, Holmes, Sait, &

Lopez-Bao, 2021), see Figure 1. The transformation of wolves from vermin to icon is widely attributed to Félix Rodríguez de La Fuente, a Spanish broadcaster whose nature documentaries were immensely popular in the 1960s and 1970s. His advocacy was instrumental in wolves' reclassification in 1971, from vermin species to partially protected game species (Vargas Yáñez, 2008). The protection regime was strengthened when Spain entered the EU and ratified the Bern Convention (1986) and the Habitat Directive (1992). In regions north of the Duero River, wolves were listed in Annex V of the Habitat Directive, which permits hunting provided a 'favourable population status' is ensured, while to the south, which harboured few wolves, they were listed in Annex II and IV (strictly protected) (Trouwborst, 2014), see Figure 1. The Habitat Directive also informs the national conservation framework of Spain (Law 42/2007 and BOE-A-2017-2977). It comprises the Spanish Catalogue for Threatened Species (CEEAA, henceforth 'the Catalogue'), including those considered 'Endangered' and 'Vulnerable' according to national estimates; and the List of Wild Species in Special Protection Regimes (LESRPE, henceforth 'the Protection List'). The latter includes those 'worthy of particular attention and protection based on their scientific, ecological, cultural value [...] as well as those listed as protected in the annexes of the directives and international conventions ratified by Spain' (including southern wolves). Both the Catalogue and the List imply strict protection of the included species.

Aided by these protection regimes, wolf populations have recovered and expanded across an increasingly depopulated Spanish countryside. This trend has followed in the wake of the declining profitability and status of farming, and a self-perpetuating cycle of sociopolitical marginalisation, further land abandonment and '(re)wilding' of rural areas (Pinilla & Sáez, 2016). This has been regarded by some as an opportunity for wildlife restoration (Palau, 2015). In the 1980s, wolves crossed the Cantabrian range into eastern Asturias (case study B), a region renowned for its cheese and pasture-fed cattle, for which coexistence has been a significant challenge (Llaneza, 2017). The latest national survey (2012-14) counted around 300 wolf packs, forming a continuous population from the north western coast to central Spain (MAGRAMA, 2016). In 2022, La Vera in Cáceres (case study C) marked its first confirmed wolf observation since the 1960s, causing concern among cattle farmers and the few remaining goat herders (Armero, 2022).

However, tracking wolves is notoriously difficult. Estimates of their numbers and range can vary considerably depending on methods, assumptions and sampling period (Blanco & Cortés, 2012; Marucco & Boitani, 2012). This has generated competing claims about the true size of both past and current wolf populations in Spain (cf. Clavero et al., 2022; Nores & López-Bao, 2022), and whether lethal control is detrimental to their conservation or not (Blanco, 2017). The disputes have been exacerbated by the country's decentralised governance, consisting of 17 autonomous communities, each with its own monitoring and management approach (Trouwborst, 2014). In September 2021, the Ministry for the Environment (MITECO) approved the inclusion of wolves north of the Duero on the Protection List (La Moncloa, 2021). Since the southern

population is already included, it implies a harmonised protection regime and a more centralised approach to management, an unusual imposition of power by the national government over the autonomous communities.

## 5 | HERE, THERE OR EVERYWHERE? THREE INTERPRETATIONS OF COEXISTENCE

The following section presents three prominent coexistence discourses identified from the data, contextualised by how they relate to wider discourses within environmental policy. They were selected because they were widely reproduced within public, policy and academic debates in Spain and because they propose three distinct solutions to the 'human-wildlife coexistence equation' (Pooley, 2021). Our analysis is neither exhaustive nor representative of the whole population, but it does demonstrate the plurality of ways by which people understand and relate to nature and wildlife.

### 5.1 | The wolf protectionist discourse

The first set of storylines (1a and 1b in Table 1) represents a bio-centric, 'mainstream conservation' interpretation of coexistence, focusing on wilderness preservation and flagship species. An overarching theme, detected in both interview data and public debates, was a framing of people as separate from nature, with agriculture and hunting as disturbances to 'natural' states, referring to historical baselines where people had little ecological influence. *'In Asturias, the mountains should be covered by forests, but it is all meadows. Green, very pretty, but it should be forests. And it [the forest] isn't there because of the farmers'* (Local resident, case C). Coexistence was often used as a metaphor for a (re)wilding of rural landscapes, with more space for wildlife and nature-led processes. It established a normative orientation wherein rural communities should divert to activities with a smaller environmental footprint, such as wildlife tourism. Wolf watching in Sierra de La Culebra (case A) was frequently cited as proof of concept (Pettersson, Quinn, Holmes, & Sait, 2021). To achieve this vision, the *human* in the coexistence equation should be restricted and controlled, while wolves should be afforded maximum autonomy. This was based on a conviction that wolves were threatened and that they were crucial to restoring 'balance' in nature. These storylines strongly opposed any form of lethal control, which provided a purpose (achieving strict protection of wolves) and a common adversary (those who authorise or undertake killing), which united discourse participants. The storylines were often couched in ecological terminology, referring to 'the science' in making truth claims (e.g. WWF Spain, 2021). For instance, many participants referred to the transformation of predator-prey dynamics and plant communities by wolves in Yellowstone as evidence for storyline 1b (see Ripple & Beschta, 2012), while omitting contradictory evidence (e.g. Fleming, 2019) see Table 1, 2a.



**TABLE 1** Summary of values and beliefs that underpin prominent storylines about nature and coexistence in Spain (case study A–C and public debates).

Category	1. The wolf protectionist discourse	2. The traditional/sustainable use discourse	3. Pragmatic/dynamic coexistence discourse
Restoration focus	'Wild' nature	'Traditional' landscapes	Systems/relations
<b>Storyline a</b>			
Coexistence means ...	that people respect, protect and adapt to wolves	that wolves do not harm peoples' interests	different things in different places
achieved by...	→ controlling people to ensure the flourishing of wolves	→ controlling wolves to ensure the flourishing of traditional farming cultures	→ controlling and protecting both wolves and local ways of life according to the context
Moral standpoint about wolf conservation	Killing and restricting wolves' autonomy is wrong Wolves should be restored to previous ranges to restore wild nature and reverse human wrongdoing	Valuing wolves over people and livestock is wrong Traditional farming should be prioritised (over wolves) to safeguard cultural and natural heritage	Letting one set of values dominate will never work Both wolves and rural livelihoods must be preserved, but not necessarily in the same place
Beliefs about the Iberian wolf's conservation status	Threatened because: High rates of unreported mortality (e.g. 'poaching') They are genetically and spatially isolated There are fewer than officially claimed, numbers are overestimated to enable hunting	Of no concern because: They are generalists, adaptable and reproduce quickly They have survived despite centuries of persecution There are more than officially claimed, and numbers are underestimated to prevent hunting	In a favourable state because: The population is stable/increasing They are resilient and can recover if we let them Official figures are robust, but additional monitoring is needed to address knowledge gaps
Knowledge systems considered valid	Coexistence issues should be managed according to ecological criteria established by (natural) scientists	Coexistence issues are best understood and managed by local experts (e.g. farmers)	Conservation science must consider/ incorporate local knowledge to sustain biological and cultural values
Proposed policy pathway	Harmonising and enforcing wolf protection and damage prevention nationally (top-down)	Letting local communities determine where and how wolves could be conserved (bottom-up)	Facilitating collaboration (at all scales) to reconcile conservation and rural development goals
achieved by...	'command and control' to ensure compliance	relaxing regulation to enhance local autonomy	establishing participatory processes and platforms
Beliefs about (economic) responsibility	Preventing wolf attacks on livestock is part of a farmer's job Livestock protection should be/is already a condition of receiving EU agricultural subsidies	Costs from urban priorities (incl. wolf conservation) should not be imposed on rural communities Any coexistence funding should be in addition to/ separate from EU agricultural subsidies	Some rural communities must adapt to wolves, aided by public funds Funding streams should be tailored to support and benefit those who live in areas with wolves
<b>Storyline b</b>			
'Nature' and landscape function is restored by...	<b>rewilding: protecting and reintroducing wolves to restore 'natural' ecosystem dynamics</b>	<b>de-wilding: maintaining/restoring traditional practices to maintain natural and cultural heritage</b>	<b>zoning: maintaining biodiversity-friendly agriculture while conserving/restoring wildlife where possible</b>
Beliefs about wolves' ecological function	Wolf presence enhances healthy, self-sustaining and CO <sub>2</sub> -rich (afforested) ecosystems Ungulate overpopulation and zoonotic disease are caused by the lack of a top predator (wolves) Wolves prefer wild prey over domestic livestock and natural over human-dominated areas	Wolf presence impedes grazing, thus exacerbating scrub expansion, wildfires and ecosystem deterioration There are more ungulates and diseases than ever, despite increasing wolf populations Wolves are opportunists and will go for the easiest prey, that is, livestock	The presence of people and livestock impacts wolves' behaviour and diet in unpredictable ways Wolves will not solve the ungulate issue, but may help mediate it More research is needed to understand the role of large predators within human-dominated systems
Beliefs about wolf population dynamics and control	Wolves are self-regulating (adapt according to the availability of natural prey) → Control is not needed/natural	Wolves take advantage of human food sources and have no natural predators → Control is crucial to prevent artificially high wolf populations and 'unnatural' behaviour	Wolves can adapt to and flourish within human-dominated/modified systems, often despite hunting → Control may be needed in some contexts

TABLE 1 (Continued)

Category	1. The wolf protectionist discourse	2. The traditional/sustainable use discourse	3. Pragmatic/dynamic coexistence discourse
Restoration focus	'Wild' nature	'Traditional' landscapes	Systems/relations
Beliefs about the role of lethal control in wolf management	It is counterproductive since it disrupts pack dynamics, forcing wolves to go for easy prey (e.g. sheep)	It is the most effective tool to prevent and/or decrease damage: fewer/no wolves = less/no damage	It is a necessary tool... a. but only through restricted culling (case B and C) b. through both culling and sport hunting (case A)
	It is a threat to wolf populations, thus preventing coexistence	It is crucial to maintain wolves' fear/respect of humans, thus enabling coexistence	It appeases livestock owners and does not harm the wolf population, thus facilitating coexistence
Beliefs about livestock protection and damage compensation measures...	They are applicable across Spain. Remaining damage indicates that farmers are doing it wrong	They are often ineffective and always resource intensive, making their imposition deeply unfair	They are context dependent and should be tailored to local conditions. One hundred per cent effectiveness is impossible
	Damage is exaggerated (farmers cheat). It should be verified and compensated according to a set quota	Damage is underestimated (most kills are not found/verified). Compensation never reflects true costs	Damage is difficult to measure. Compensation is necessary but should be seen as a complement

Note: While the table represents three distinct discourses, informants often had overlapping views and so should be seen as a simplification.

Farmers were often portrayed as incapable of grasping this 'truth', and untrustworthy as custodians of nature and wildlife: *'The shepherds don't understand anything about the biology of the wolf. They don't have any biological or scientific education, and they are very susceptible to believing myths and legends'* (civil servant, case B). In line with mainstream conservation ideas, a top-down and technocratic governance approach was favoured, including prescriptive livestock protection measures. Farmers unwilling or unable to comply were considered 'unprofessional' who would inevitably, and necessarily, disappear from the landscape.

These storylines were encountered among village residents (mainly those who had recently moved in from the city), tourism businesses and civil servants in case study areas, but were not dominant. On a national level, however, they featured prominently in outreach by pro-wolf organisations (ASCEL, 2021; Lobo Marley, n.d.; WWF Spain, 2021), in published articles (e.g. Krause, 2021; Quevedo et al., 2019) and in agendas of left-leaning political parties (PODEMOS, 2016). These actors constituted a discourse coalition engaged in repeated lawsuits against regional wolf hunting (ASCEL, 2018; Camazón, 2020), lobbying of politicians (Díaz, 2020) and publications of scientific (e.g. Prieto et al., 2022; Quevedo et al., 2019) and grey literature (e.g. Fernández-Gil et al., 2010). The latter category includes an 'alternative evaluation' of nonnatural wolf mortality (Sánchez et al., 2017), which was crowd-sourced from volunteers and coordinated by wolf protectionists.

### 5.2 | The traditional use discourse

While the second set of storylines (2a and 2b) provided a more anthropocentric interpretation of coexistence (i.e. 'wise-use'), it was also strongly imbued with moralities of care for land and heritage. In Spain, this has been reinforced by the growing commitment to

'high nature value farmland' and to practices that sustain their ecological, aesthetic and cultural values (MAPAMA, 2016; San Miguel et al., 2016). This discourse inverted the 'mainstream' logic of landscape management. It saw people as integral parts of nature, with shepherds and free-roaming livestock, not wolves, as its most valuable keystone species: *'On top of the trophic pyramid is cheese, because it is thousands of years old [and represents] the inhabitants of the area, who remain here with their stories. [...] that is more important than the number of [wolf] packs'* (Civil servant, case B). Rewilding was seen as green-cloaked colonialism, driven by misanthropic environmentalists with a naïve 'Disneyfied' view of wildlife. Wolves were seen as intelligent opportunists, incompatible with traditional uses. Wolf protection was considered misguided, rendering 'artificially high' populations that would infringe on human territory and attack livestock (2b). The presence of wolves in rural areas was thereby associated with the same ecological 'imbalance' as in protectionist discourse, but for opposite reasons: embodying the drivers of land abandonment, 'untidiness' (i.e. scrub encroachment) and institutional neglect. *'It [the wolf] has more rights than us [...] people have to come first'* (Shepherds, case B).

Coexistence was understood as a state in which wolf populations (i.e. the wildlife in the equation) were conditioned by local resource systems. This called for continuous lethal control and instant retaliation to depredation events to discipline wolves: *'If we hit it hard every time it attacks, they will stop attacking. [...] The ecosystem tells us the truth, and within the ecosystem, you have to include us [the people]'* (Farmer, case B). The storylines promoted local autonomy in wildlife governance, since managing effectively 'from an office in a city' was deemed impossible (see 2a and GCG, 2022).

Within our case study sites, these storylines were found primarily among farmers and long-term village residents. They were most notable where wolves had returned (case study B) and their reappearance had caused significant damage to farmers and

pastoralists (see also Marino, 2019; Pettersson, Quinn, Holmes, Sait, & Lopez-Bao, 2021). On a national level, the storylines were represented by agricultural organisations (e.g. UPA, 2020) and political parties targeting rural constituents (e.g. VOX, 2021). To counter the protectionist discourse, they emphasised the benefits provided by free-roaming livestock, particularly wildfire prevention and supporting rural communities. They shared stories in the media of trauma and economic strife caused by wolves (totaling 47 articles in 2022; Fundación Entretantos, 2022), including graphic images of injured and dead livestock (e.g. El Fielato y el Nora, 2019). In institutional and academic domains, observations underpinning these storylines tended to be treated as anecdotal or opinions, which participants interpreted as a systemic disregard for rural knowledge: *'Our problem is that when these theories [about wolves' role in nature] are supported by someone who has studied, they become more credible. Ours aren't written anywhere, so they cannot be defended'* (Shepherd, case B).

### 5.3 | The 'pragmatic' discourse

The third set of storylines (3a and 3b) were characterised by pragmatism and were constructed as the middle ground between the other discourses. This stemmed from disillusionment with current management approaches and their failure to halt polarisation among social groups. The storylines were primarily characterised by a morality of care for the community and local interconnections between natural and cultural heritage, while acknowledging changing public views of wildlife and the need to update policies (e.g. Arrebola, 2021). For the pragmatists, wolves symbolised neither a cause nor a solution to environmental problems, but rather a political lightning rod: *'we live in a country where everything becomes radicalised. [...] there are people who want to kill them and people who see the wolf as [if] from Eden. They say that it plays a role in the food chain. I don't think so. The food chain in the wild is very altered. [...] Wolves come close to the villages, they eat from the trash'* (Civil servant, case A, see also García Hernández et al. (2019)).

Pragmatists generally described coexistence as a state or process that balances conservation and local priorities, with fair distribution of the costs and benefits of living with wolves. The prescribed pathway usually contained some version of conservation zoning and economic benefits for stewardship and/or wolf presence (e.g. the 'Pro-biodiversity lamb' certification; FQH, 2020), controlling both humans and wolves. This approach was justified by growing wolf populations: *'I think that from now on we have reached a state of maximum [...] There is no need for there to be wolves in all of Spain as there was 200 years ago. [...] it is farmers that we need to maintain 'content', so they can accept that they have to live with wolves indefinitely'* (Wolf biologist, case A).

Storylines 3a and 3b were common in interviews with residents (including shepherds) from case A, who were used to living with wolves, and among academics and civil servants working in situ in all case study sites. Case A informants tended to accept both culling and continued sport hunting, while case B and C

informants tended to favour culling only (see 2c). Pragmatism was often attributable to informants' exposure to the complexities of coexistence and commitment to the local community: *'I try to not remove wolves. They fulfil a function, but in farming areas, if there is pressure, I remove wolves because the farmer is a citizen who needs to be protected. And secondly, the wolf, even though you extract some of the population, it doesn't really affect it'* (Civil servant, case B). This sentiment was expressed in the regional wolf management plans of Asturias and Castile and León (GPA, 2019; JCyL, 2016), although most farmers felt it was 'talk with no action' (Pettersson, Quinn, Holmes, Sait, & Lopez-Bao, 2021). This discourse was manifested in various initiatives to mediate in wolf conflicts. Such efforts, including dialogue platforms established by NGOs and the EU, have increased in recent decades, primarily at the regional level (GCG, 2018; Salvatori et al., 2021).

## 6 | THE INSTITUTIONALISATION OF WOLF PROTECTIONISM

The previous section illustrates divergent views on what is considered natural, who should be the target of regulation and control (wolves vs. people), at what scale (i.e. physical barriers around individual flocks vs. enforcement of 'wolf-free' areas regionally) and who gets to decide. Until 2021, the national management plan (Ministerio de Medio Ambiente, 2006) allowed autonomous governments flexibility according to regional priorities. The inclusion of wolves on the Protection List in 2021 limited this by imposing a nationwide policy of strict protection. The following section explores the institutional structures and discursive processes that co-produced this policy change.

### 6.1 | The construction of a protected species

A central point of disagreement between the discourses was whether the wolf was threatened and whether there were more or less than there 'should be' in Spain. The answer has both legal and practical implications since it determines the perceived need and urgency for protection and the tools available to manage wolves. Conservation categorisations, which guide policymakers, can therefore become crucial assets for advocacy groups. The most widely accepted is provided by the IUCN Red List, which in its 2018 assessment described 'the Iberian population is large, about 2,500 individuals (2024–2990), and rather stable, slowly expanding towards the south and east.' However, its 'Near Threatened' status was maintained due to fragmented management regimes and uncertain levels of illicit killing (Boitani, 2018). While the Red List status is mainly informative, the categorisation in the Habitat Directive has legal implications. The Directive requires member states to ensure 'favourable conservation status'<sup>1</sup> for species in-

<sup>1</sup>Meaning a 'situation in which a species is prospering in terms of both quality and quantity, and is likely to continue to do so in the future' (discussed in depth in Epstein, 2016).



cluded in its annexes (Article 1), which are re-assessed every 6 years (Article 17). An unfavourable status mandates states to ban exploitation and to address threats to the population (The European Commission, 2021). The Spanish wolf population has been categorised as favourable (EIONET, 2013), enabling Castile and León (including case A) to maintain sport hunting (JCyL, 2016), and Asturias (including case B) to regulate wolf presence through zoning and culling (GPA, 2015). However, the most recent report, covering 2013–2018, recategorised the overall status of wolves as 'unfavourable-inadequate'. This was justified by poor genetic diversity and high levels of non-natural mortality, based on 'improved knowledge/more accurate data'. The report, authored by staff at MITECO, stated that 500–650 wolves were killed in 2017, which risked 'surpassing the population recruitment rate' (EIONET, 2019). These data came from the 'alternative evaluation' by Sánchez et al. (2017, described in section 5.1), which was not peer-reviewed, significantly exceeded official data on wolf mortality (Menéndez, 2018), and was conducted by stakeholders with a well-known agenda (strict protection). The new assessment report strengthened their discourse, but its scientific rigour and impartiality have been strongly challenged by the northern regions (Europa Press, 2023).

The protectionist agenda also benefitted from Spain's idiosyncratic framework for species protection (BOE-A-2017-2977). While its Threatened Species Catalogue largely aligns with the Red List and Habitat Directive categorisations, the Protection List explicitly invites value-based motivations for protecting a species, that is, because of its 'scientific, ecological, [and] cultural value [...]'. Anyone can nominate a species for inclusion, irrespective of its conservation status, which is evaluated by a scientific committee appointed by MITECO. An equivalent list for important practices, such as pastoralism, does not exist. In October 2019, the pro-wolf group ASCEL nominated wolves for inclusion in the Catalogue as 'vulnerable' and, failing that, inclusion on the Protection List. In February 2020, the scientific committee rejected the Catalogue nomination since the wolf did not meet any inclusion criteria, that is, it could not be considered threatened (Comité Científico, 2020). However, while acknowledging the subjective nature of its criteria, the committee recommended wolves' inclusion on the Protection List since their scientific, ecological and cultural value was considered indisputable (Comité Científico, 2020).

Based on this verdict, MITECO, governed by a left-leaning coalition since 2020, endorsed ASCEL's nomination (La Moncloa, 2021). This triggered procedures to approve the listing, including votes among the autonomous governments, which were won with the smallest possible margin. It was opposed by Asturias, Cantabria, Castile and León and Galicia, the northern regions that harbour 95% of Spain's wolves (Navarro, 2021). Their appeals were considered and disregarded in a legal opinion (MITECO, 2021). This document indicates a structuration of the protectionist discourse. It cites the EU status assessment (EIONET, 2019) as evidence that the northern regions' management approach are 'not offering the desired results', even though wolves have increased and expanded from these very

regions. It further states that northern hunting and culling practices 'entails the de-structuring of the packs, the reduction of their chances of survival and even the increase of [livestock] damages' (p. 9, cf. Table 1, 1b).

Thus, opposition notwithstanding, the listing was formally approved and came into force in September 2021 with decree BOE TED/980/2021. In connection with this, a new Wolf Coexistence Strategy<sup>2</sup> was produced, authored by 'MITECO's experts' (MITECO, 2022a, p. 5). It sets out a pathway aligned to mainstream conservation models, including payment schemes which 'force farm owners to establish protection measures against predators' (p. 38); promotes wolf-related tourism, wolf translocations to improve ecosystem health and increased enforcement to deter illicit killing (2022a). While the strategy ostensibly commits to increasing public participation (p. 45), it is mainly intended to inform and increase transparency given the new policy. It also states that 'eco-social expertise' may be needed but that they will be external to the wolf expert group, indicating that knowledge hierarchies will be maintained. Various drafts of the strategy were voted down until MITECO agreed to transfer 20 million euros to autonomous communities for compensation and prevention measures, leading to approval of the strategy on 28 July 2022 (MITECO, 2022a). The northern regions remain discontented, but most have reluctantly accepted it in order to access the funds (Medina, 2022).

## 6.2 | Policy implications

Together with the 'unfavourable' status evaluation (EIONET, 2019), the new protection policy implies a nationwide hunting ban and makes gaining approval for culling more difficult and bureaucratic. Restricting this management tool sparked anger and defiance in northern areas and among rural stakeholders and further raised social disputes over wolves (Fundación Entretantos, 2022). It also created legal and financial paralysis for practitioners, for instance, regarding culling derogations, since these depend on the outcomes of various ongoing lawsuits (Rubio, 2023). The lethal control of flagship species is controversial and its role in improving tolerance and decreasing damage is contested (c.f. Chapron & Treves, 2015; Hill et al., 2022; Pepin et al., 2017). However, it is important to consider decreased tolerance if hunting is banned where it has always been allowed. There are such concerns in parts of northern Spain, where hunting and culling have been constant and highly valued by local communities and managers (Marino, 2019; Pettersson, Quinn, Holmes, & Sait, 2021). This raises the question of how comparatively positive states of coexistence (as in case study A) and recent advances in conflict mediation may persist given these changes. For example, an agreement between hunters, farmers and conservationists on wolf management in Cantabria, which took over a decade to negotiate (EFeverde, 2015), was completely annulled by the

<sup>2</sup>Titled 'Strategy for the conservation and management of the wolf (*Canis lupus*) and its coexistence with activities in rural areas' (translated by the author).

new policy. There are also fears of a backlash from certain groups as a reaction to the perceived extremism of protectionist groups, including protests and illicit killing, as recorded in a recent documentary from Asturias (<https://www.nunatakproducciones.es/salvajes-2021/>). Such acts of resistance can result from the imposition of external priorities, threats to local ways of life and disillusionment with environmental institutions (Cortes-Vazquez, 2020; Skogen & Krange, 2020).

## 7 | DISCUSSION

The sociopolitical aftermath of the 2021 decision suggests that current policies have failed to tackle the underlying causes of the wolf conflict, namely conflicting worldviews and values of nature in Spain. In the following section, we discuss causes and possible solutions to the issue, and how it relates to wider debates about nature restoration.

### 7.1 | The long shadow of the 'extinction spectre'

Even though there is disagreement about its exact size, it is well-established that the Iberian wolf population is large and expanding, and that they are successfully adapting to a wide range of habitat types (Blanco, 2017; Boitani et al., 2022). While past human persecution caused a genetic bottleneck in the Iberian population (Sastre et al., 2011), like in most European populations (Hindrikson et al., 2017), there is no conclusive evidence that it is negatively affecting the general health of the population. Yet paradoxically, perceptions that the wolf is threatened and that drastic measures (including strict protection) are urgently needed appear to have increased in Spain. This sentiment has been nurtured by the protectionist coalition through accounts of mistreatment and 'slaughter' of wolves (e.g. FAPAS, 2018; Huisman, 2018), and by the 'unfavourable' status assessment. Despite the contested evidence that underpinned this assessment, it was called upon to justify strict protection and the hasty process of the decision (MITECO, 2021), which critics claim has foreclosed on due political process (El Español, 2021).

Conjuring a spectre of extinction (real or imagined) is a well-established strategy to mobilise support for conservation, particularly for charismatic species (Campbell, 2012; Jepson & Barua, 2015). As Hussain (2019, pp. 40–58) observes for Snow Leopards in Pakistan: while conservation institutions need flagship species to survive in the wild, they also need them to remain threatened. Threat and urgency maintain funding for conservation, justifies centralised control over nature and the privileged position of the biological sciences in decision-making. In Spain, the wolf protection proposal was evaluated by a committee consisting exclusively of biologists and ecologists, which is problematic given the highly subjective inclusion criteria of the Protection List, including cultural values (MITECO, 2022b). These knowledge hierarchies are exacerbated by

the siloed structures of policy institutions within Spain and the EU (Hartel et al., 2019; Papp et al., 2022). As our results show, the wolf issue is indivisibly entangled with other socio-environmental issues (such as rural marginalisation and wildfires), yet in Spain, coexistence policy is negotiated through structures designed first and foremost for conservation. This favoured the protectionist discourse. For instance, in the new coexistence strategy (MITECO, 2022a), participation is proposed post hoc rather than included in policy design, as favoured by the pragmatic discourse. The outcome is a strategy that focuses strongly on conservation outcomes, such as wolf expansion, and weakly on convivial outcomes, such as stewardship and mutual adaptation.

Interestingly, proposals in line with the traditionalist discourse, that is, to lower the protection category and increase culling of wolves, are gaining traction elsewhere in Europe, including Sweden and Norway (European Parliament, 2022). Their population is significantly smaller (around 550 wolves, compared to the estimated 2500 in Spain and Portugal) and suffers from inbreeding and low genetic diversity (Boitani et al., 2022). Yet the Swedish government aims to reduce numbers by around 50% and lower the established limit for favourable status (Laikre et al., 2022). The contrasting decisions of Sweden and Spain illustrate how information can be selected or interpreted to shift categorisations according to political priorities. Campbell (2012) found similar experiences with IUCN Red List categorisation of marine turtles, as did Wilhere (2008) regarding Minimum Viable Population estimates. Due to the lack of procedural transparency, it is difficult to hold institutions accountable if and when assessments are skewed. Given their significant influence on legislation, policy and public attitudes, they can become a serious impediment to effective and socially just governance (Karieva et al., 2017).

### 7.2 | The restoration of nature in a changing world

The debate about carnivore coexistence in Spain occurs within a larger discussion about nature recovery in the face of the coupled ecological and climate crisis. In 2022, the European Union proposed a new nature restoration law that aims to reverse nature degradation both within and outside protected areas (European Commission, 2022). The member states will interpret and operationalise the law, bringing to a head the question of what 'nature' means and for whom.

Within the protectionist discourse, a strong motivation for protecting wolves is the belief that their presence as a top predator can contribute to a 'wilder', more self-sustaining form of nature. The scientific committee cited this argument, referring to (Ripple & Beschta, 2012; Ripple et al., 2014), to justify the inclusion of the wolf on the Protection List (Comité Científico, 2020). There is often an accompanying belief that wolves prefer 'natural' prey, and that attacks on livestock can be attributed to some form of human disturbance, such as hunting. However, recent scholarship has shown that the narrative of carnivore-driven recovery may be misplaced when people have so

fundamentally influenced ecosystem dynamics (Ausilio et al., 2021; Kuijper et al., 2016). It also downplays the agency of wolves themselves, including their ability to learn and adapt to human systems (Edelblutte et al., 2023). Wolf predation on livestock is a common occurrence also where wild prey is abundant (Ciucci et al., 2020; Recio et al., 2020), the problem is on the rise across Europe (European Parliament, 2022) and there are areas where livestock constitutes the majority of wolves' diet (Llaneza et al., 2012; Torres et al., 2015). These perspectives challenge the view of the wolf as a 'wilderness predator' and the notion that attacks can be blamed on farmers' negligence (Blossey & Hare, 2022; Hussain, 2019; Mech, 2012). It also explains the pragmatism we identified among emplaced practitioners regarding culling and wolf presence: they have experienced this complexity first-hand (see Table 1, 3a,b). It poses the question: what if instead of systems becoming wilder because of the wolf, the wolf becomes less wild because of the system?

In the last 10 years, the range of wolves has increased by 25% across Europe, and recent assessments indicate that it could increase by 30% annually (Boitani, 2018; European Parliament, 2022). At the same time, a 2018 State of Nature assessment concluded that 81% of habitats within Europe's protected areas were degraded, with grasslands and associated species among the worst affected, and that 'the current approach [to conservation] is not working' (EEA, 2020, p. 3). This is reflected in Spain, where grasslands of high natural value are declining with increasing abandonment, scrub encroachment and wildfires (Armas-Herrera et al., 2020; Fuentes et al., 2011). These systems have coevolved with humans for up to 7000 years (Antolín & Saña, 2022), sustained by the knowledge and practices of generations of pastoralists and farmers. For those who live in, with and from these systems, maintaining this reciprocal relationship is considered key to ecosystem health, resilience and a good life (Chapman et al., 2019; Scoones, 2023). This explains the frustration among traditionalists, and their unwillingness/inability to tolerate additional pressures, such as wolf presence. When carnivore recolonisation is coupled with social marginalisation and economic precarity, it could result not only in increased costs to and suffering of humans and domestic animals, but also exacerbate deterioration of these systems and a wider rejection of the idea of coexistence (Meuret et al., 2021; Pooley et al., 2020).

The perpetuation of dominant knowledge production is a well-known cause of misaligned sustainability programmes (Leach et al., 2010; Li, 2007), and a 'blind spot' within conservation governance (Madden & McQuinn, 2014). As phrased by Pascual et al. (2021, p. 571) 'As long as policymakers see only [...] conservationists as "the" voice of conservation, and uncritically accept their particular understanding and values about biodiversity as the only ones that are valid, they will continue to rely on a narrow set of policy approaches [...] while turning a blind eye to the ravaging of the rest of living nature in the name of economic growth'.

Our findings support calls for a transformation in the way environmental policy is negotiated and decided, going beyond expert-driven and monetary assessments. Relational approaches, such as

dialogue platforms and deliberative workshops, are increasingly seen as key leverage points by producing holistic accounts of human-nature interactions and illuminating local dimensions of stewardship and care (Tadaki et al., 2017; West et al., 2020). Positive examples include an initiative in the autonomous community of La Rioja, where a roundtable of stakeholders, including the regional government, have agreed on a regional wolf coexistence approach (de La Rioja, 2022); and the Wolf Dialogue Project, which is informing the national wolf management plan of Denmark (Hansen et al., 2022). The EU 2030 biodiversity strategy explicitly supports the use of dialogue to produce policy 'suitable for our European multi-functional landscapes' (European Commission, 2021). This can be harnessed to integrate rural adaptation, carnivore conservation and conflict transformation within the same funding programmes and management plans, and to redesign institutional structures accordingly (Hartel et al., 2019). This work could help prevent the political cycle of protection and persecution that has tended to afflict large carnivore management (Clemm & Hohenberg, 2022; Mech, 1995, 2017), and address perverse incentives within legal and financial structures such as the European Common Agricultural Policy (Lécuyer et al., 2022; Scoones, 2023).

## 8 | CONCLUSIONS

There is a broad consensus that conservation policy can be more rigorous, effective and just by recognising and adapting to the diversity of ways in which people relate to nature (IPBES, 2022; IUCN HWCCSG, 2023). Yet, this research reveals that institutional silos, knowledge hierarchies and politicisation of the wolf issue currently hamper this relational turn in Spanish coexistence policy. Similar to other countries within wolves' current and possible future range (Sands, 2022; Skogen & Krange, 2020), disputes over wolves in Spain act as a proxy for deep-rooted disagreement over the role of people and wildlife in creating and maintaining desired forms of nature. The discourses illuminated here; protectionism, traditionalism and pragmatism; represent competing priorities for how and what should be restored, such as human-managed grasslands or predator-driven 'natural' systems. These options are not necessarily mutually exclusive, but the question of scale is important. Achieving both within a region such as Asturias (case B), in a socially just and durable way, is contingent on the stewardship and adaptive capacity of local land users and practitioners. The decision to harmonise wolf protection across Spain, notwithstanding faltering political, social and scientific support, could undermine such stewardship. It speaks to the persistence of mainstream conservation (i.e. top-down, technocratic approaches), despite mounting evidence of its failure to deliver solutions that 'make sense' in local contexts (Pooley et al., 2022; Zimmermann et al., 2020).

Our findings thereby support calls to strengthen institutional structures for deliberation and reconciliation of different worldviews, priorities and trade-offs, and to increase transparency around the process through which associated policy pathways are selected and implemented (Leach et al., 2010; von Essen & Allen, 2019).

Relational approaches are crucial levers to reveal misalignments and transform conflicts towards productive change. They are also more conducive to the endeavour of restoration in the Anthropocene, where the agency of people and wildlife will continue to blur the boundaries between human and natural spaces. As phrased by Lorimer (2015, p. 2), 'Futures will not be like the past and will be shaped by human actions. Multiple natures are possible [...] and [it] is political'. Our findings can inform researchers and practitioners about the procedural considerations that are crucial to 'open up' decision-making in ways that promote convivial relationships between people and wildlife, as well as between different worldviews.

## AUTHOR CONTRIBUTIONS

Hanna L. Petterson was responsible for conception, study design, data collection, data analysis and drafting of the manuscript. Juan Carlos Blanco provided access to data (policy documents) and input on the Spanish context. George Holmes, Claire H. Quinn and Steve M. Sait provided supervision through the course of the research project. All authors assisted in review and editing of the manuscript and approved of the final version.

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## CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

## DATA AVAILABILITY STATEMENT

The datasets presented in this article are not publicly available. In order to protect the anonymity of study participants according to the terms of our ethics approval, we cannot share the raw data, since it may contain identifiable information. Requests to access the datasets should be directed to Hanna Petterson, [hanna.petterson@york.ac.uk](mailto:hanna.petterson@york.ac.uk).

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

**Table S1.** Data collected and analysed for the research.

**Table S2.** Case study selection criteria.

**Table S3.** Relevant socio-environmental characteristics of each case study site.

**Table S4.** (A–D) Key informants interviewed for the study (case study A–C and independent stakeholders), Jan–Oct 2020.

**Table S5.** Observation highlights: Events of particular interest in the case study sites (A–C) during the fieldwork period, Jan–Oct 2020.

**Table S6.** Documentaries and programmes on human-carnivore interactions and rural development in Spain

**Table S7.** NVivo codebook produced through thematic and discourse analysis.

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