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RESEARCH ARTICLE

Stakeholder perspectives on the prospect of lynx *Lynx lynx* reintroduction in Scotland

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Abstract

1. Conservation translocations are complex and challenging, but are frequently employed to tackle biodiversity decline. Large predator translocations can be particularly emotive and contentious, in part because they present actual or perceived risks to the safety and livelihoods of people. Understanding the social feasibility of conservation translocations is imperative, and provides opportunities to identify and address these risks.
2. In Britain, the Eurasian lynx *Lynx lynx* is the most frequently raised prospect for large carnivore reintroduction. We used Q-Methodology to explore stakeholder perspectives on the prospect of lynx reintroduction to Scotland.
3. We identified five perspectives: *Lynx for Change* was supportive of lynx reintroduction, feeling that lynx could facilitate ecosystem restoration. *Lynx for Economy* was also supportive, anticipating economic benefits to local communities. *No to Lynx* was strongly opposed, perceiving that humans were fulfilling the roles of absent large carnivores. *Scotland is not Ready* supported the conversation but perceived prohibitive socio-ecological barriers. *We are not Convinced* was not satisfied that an adequate case for biodiversity gain had been made, but was open to further exploration of the potential.
4. There were important areas of divergence among the perspectives over the potential impacts on sheep farming and the degree to which environments should be managed by people or encouraged to self-regulate. There was a consensus on a lack of trust between stakeholder groups, which was primarily rooted in participants' experiences of previous wildlife reintroductions and the contemporary management of recovering predators. However, there was also consensus that, should lynx reintroduction continue to be explored, a participatory, cross-sectoral approach could address these trust issues, help manage existing and emergent conflicts, and build knowledge collaboratively.
5. We provide a foundation for future dialogue between stakeholders over the prospective reintroduction of the lynx to Scotland and recommend a stakeholder-focused participatory process as the next step. Our findings have wider

relevance for wildlife reintroductions, species recovery and conservation conflicts elsewhere.

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KEYWORDS
conservation translocation, Lynx, Q method, reintroduction, social feasibility, stakeholder consultation

1 | INTRODUCTION

Large predators fulfil diverse ecological roles and enable processes that are integral to the functioning of ecosystems and maintenance of biodiversity (Estes et al., 2011; Ripple & Beschta, 2006; Terborgh et al., 2001). Reversing global declines in their populations (Ripple et al., 2014) is an important objective in conservation. Consequently, they are popular candidates for conservation translocations (Box 1; Seddon et al., 2005). Translocations are a human endeavour. The complexities associated with the practice are as much social and cultural as biological in origin (Arts et al., 2012; Batson et al., 2015; Berger-Tal et al., 2020). They invariably take place in complex socio-ecological contexts (Dickman & Hazzah, 2016), where the sustainability of translocated populations is contingent on their acceptance and tolerance by the people who experience the impacts of their daily coexistence (Dickman, 2010).

Fears associated with unfamiliar threats, and potential exposure to harm for people and livelihoods, are important components of conflicts among people about wildlife (Inskip & Zimmermann, 2009; Peterson et al., 2010; Skogen et al., 2008). This is especially the case when translocations are perceived to be imposed by an external human agency (Skogen et al., 2008). Translocations have the potential to become the focal point for disagreement over competing objectives, expression of existing grievances and broader clashes of ideology (Farrell, 2014; Madden & McQuinn, 2014; Wilson, 1997). Failure to address these issues can lead to contestation on ethical grounds, tense relations or outright conflict between opposing stakeholders. This can damage the credibility of conservationists and the translocation process (Coz & Young, 2020; Redpath et al., 2013; Thulin & Röcklinsberg, 2020). It can also lead to direct conflict between people and translocated animals, which can result in those animals being killed. This raises additional questions associated with ethics and animal welfare (Armstrong & Seddon, 2008; O'Rourke, 2014). Conflict, however, is not necessarily negative but can stimulate positive change by providing an indicator of contemporary challenges associated with the changing state of human relationships with nature (Hill, 2021; Young, Thompson, et al., 2016).

In Britain, there is increasing support for the recovery of wildlife and for attempts to reintroduce missing species (Loth & Newton, 2018; Pheby, 2020; Sampson et al., 2020). However, the reintroduction of large predators tends to be more challenging than with other taxa, in part because they present actual or perceived risks to the safety and livelihoods of people (König et al., 2020).

BOX 1 A brief summary of conservation translocations.

Conservation translocations involve the deliberate movement of organisms from one site to another by people, where the primary objective is a conservation benefit (IUCN/SSC, 2013). Reintroductions are among the most common types of translocation and comprise organisms being released into areas where the species previously existed but has since been extirpated (Berger-Tal et al., 2020). Reintroductions are undertaken to restore extirpated native species and to mitigate biodiversity loss, and are an increasingly important part of restoration ecology (IUCN/SSC, 2013; Seddon et al., 2012). Translocations have played a fundamental role in the recovery of some critically endangered species (see, e.g. Cade & Burnham, 2003; Kleiman & Mallison, 1998) and, given the current global biodiversity crisis, have become an important part of the conservation toolkit (Berger-Tal et al., 2020; Seddon et al., 2012). However, despite their growing popularity, the majority of translocations have failed to establish viable populations (Berger-Tal et al., 2020). They remain risky, high-cost endeavours, and in the past have been associated with low success rates (Berger-Tal et al., 2020; Letty et al., 2007; Seddon et al., 2007; Van Wieren, 2012). They are especially complex due to the continually changing nature of anthropogenic ecosystems, cultural diversity in human communities and climate change (Manfredo et al., 2017; Payne & Bro-Jørgensen, 2016). Landscapes that historically supported species that have been extirpated may no longer be suitable or appropriate for their reestablishment. In other places, natural regeneration, the restoration of ecosystems by humans, and cultural shifts in attitudes towards nature, particularly in western societies, make reintroduction of historically absent species increasingly possible (Armstrong & Seddon, 2008; Martínez-Abraín et al., 2020).

In Britain, the discussion and consideration of large predator reintroductions has become inextricably linked with rewilding, which is increasingly prominent in contemporary conservation discourse (Deary & Warren, 2019; Svenning et al., 2019; Thomas, 2021).

Rewilding emphasises the restoration of ecological processes, and in Britain, large predator reintroductions are primarily framed as providing ecosystem services such as herbivore control (see, e.g. Kirkland et al., 2021). Increased prominence of rewilding, the recovery of large carnivore populations in Europe (Chapron et al., 2014) and cultural changes in western attitudes towards wildlife (Manfredo et al., 2017) are providing new spaces and opportunities to explore the feasibility of large predator restoration in Britain.

In addressing whether people could once again live with large carnivores in Britain, Wilson (2004) concluded that the most feasible reintroduction would be that of Eurasian lynx *Lynx lynx*. This has been supported to some extent by ecological modelling focusing on habitat availability, connectivity and prey abundance (Hetherington et al., 2008; Johnson & Greenwood, 2020; Ovenden et al., 2019). However, a significant amount of time has passed from a human perspective since the lynx became extinct from the majority of Britain in the late Middle Ages (Hetherington et al., 2008). British culture and land use practices have developed without the need to accommodate large predators such as lynx, and remaining habitats classed as natural and seminatural in Britain often occur on private land within a fragmented, largely agricultural landscape (Oldfield et al., 2003).

Conflict with humans and illegal killing represent acute threats to large predators worldwide (Treves et al., 2017) and are significant threats to the survival of many European populations of lynx (Breitenmoser et al., 2000; Drouilly, 2019; Melovski et al., 2020). This has led Linnell et al. (2009) to state that the human dimension is the most important consideration for lynx restoration. Conflicts between people and lynx in Europe are primarily associated with predation of livestock, particularly sheep, and game species (Linnell et al., 2009). It has been anticipated that, in Britain, lynx reintroduction would be contested by livestock farming and game shooting communities, as well as by conservationists in relation to potential impacts on resident endangered species (Drouilly & O'Riain, 2021; Hetherington, 2006). For lynx in Britain, establishing only the ecological feasibility of reintroduction is, therefore, not sufficient and is arguably subordinate to thoroughly exploring the social feasibility (Breitenmoser, 1998; Dando et al., 2022; Drouilly & O'Riain, 2021; Gray et al., 2016; Hawkins et al., 2020).

To date, however, efforts to advance lynx reintroduction in Britain have failed to adequately incorporate human social dimensions into the exploration of feasibility (Convery et al., 2016; Drouilly & O'Riain, 2021; Gray et al., 2016). A proposal by the Lynx UK Trust (LUKT) for a trial reintroduction of lynx to Kielder Forest in northeast England in 2018 was rejected by the UK government for, among other reasons, insufficient engagement with key stakeholders and communities (Gove, 2018). A report by Convery et al. (2016) highlighted that consultation with local communities and key stakeholder groups had been insufficient, while media coverage during the consultation suggested tense relations between LUKT, local people and stakeholder organisations (Halliday & Parveen, 2017; Hexham Courant, 2018). As a result of this well-publicised experience, conversations around lynx and other predator reintroductions are expected to be fraught with difficulty.

Lynx reintroduction nevertheless continues to be discussed as a desirable component of rewilding and ecosystem restoration in Great Britain (Neilson, 2019; Weston, 2021). Public debates around wildlife reintroductions in Britain have, at the same time, become increasingly polarised, with advocates for and against species reintroductions making cases across media platforms (Crowley et al., 2017; Hodgson et al., 2018). In light of this ongoing discussion, we conducted a study using Q-Methodology to explore stakeholder perceptions of the prospect of lynx reintroduction to Scotland. Our objective was to disclose the range and dimensions of stakeholder perspectives to enable a constructive discourse among stakeholders and policymakers.

2 | METHODS

The study was carried out in the Cairngorms National Park in Scotland, which is Britain's largest national park. It covers an area of 4528 km^2, and is centred around the Cairngorm mountain range. It has a resident population of 18,000 people, and most of the land area is owned and managed by private individuals or businesses. The main land uses (in order of area of coverage) are managed moorland (upland grass/shrubland characterised by low growing vegetation on acidic soils), farming (predominantly livestock), conservation, forestry and recreation.

Q-methodology is a form of pattern analysis that combines quantitative and qualitative elements and was developed as a means of characterising human subjectivity (Stephenson, 1935; Zabala et al., 2018). It is increasingly used in conservation science (Bavin et al., 2020; Crowley et al., 2020; Dempsey, 2021; Newth et al., 2019; Webler et al., 2009). Q method employs a factor analysis of individual responses to explore patterns of commonality in perspectives across a topic, rather than generalising from a sample to a larger population. It typically involves a relatively small number of respondents (Watts & Stenner, 2012). The resulting clusters of commonality might represent value positions, belief systems, or mental models (McKeown & Thomas, 2013). The method also highlights areas of divergence and latent viewpoints, which are equally important in determining areas of agreement and disagreement. Q method involves some qualitative interpretation of its quantitative output, which is often guided by data from interviews and follow-up questions. This means that final interpretations have an element of subjectivity and researchers must be cognisant of this, it is not seen as a problem but as a strength of the method (Eden et al., 2005). Compared to other approaches, the methodology provides insight into more nuanced opinions (Kamal et al., 2014). It is also sensitive to minority voices, which may otherwise be marginalised and excluded, but which can have a disproportionately great impact on the outcome of conservation initiatives (Ockwell, 2008; O'Rourke, 2014; Redpath et al., 2013).

The stakeholders in this study comprised representatives of non-governmental organisations and independent individuals with a potential interest in lynx in relation to environmental use/

management. Stakeholders were identified through initial conversations with members of the Lynx Working Group (LWG), a subgroup of the National Species Reintroduction Forum (NSRF). The NSRF was established to consider strategic issues related to species reintroductions and other conservation translocations in Scotland and represents a range of stakeholders from the land use, conservation, and scientific sectors. Where it was perceived that there were gaps in the spectrum of interest, individuals or organisations who were not members of the NSRF were identified until it was deemed, with cross-checking from members of the LWG, that a full spectrum of stakeholder interests was likely represented.

For the first stage of the study, semi-structured interviews with 12 stakeholder representatives were conducted to build a concourse of verbatim statements from which a subset, the Q-set, was derived. The aim of the interviews was to disclose, as much as possible, the full spectrum of stakeholder views on lynx reintroduction. As a result of restrictions due to COVID-19, interviews were conducted online between April and June 2021. The interviews were orientated around four questions: (a) How do you feel about the potential for lynx reintroduction to the Cairngorms within the next five years? (b) Do you think there are opportunities associated with lynx reintroduction? (c) Do you think there will be negative impacts from lynx reintroduction? (d) What do you think are the challenges associated with a lynx reintroduction process? The interviewees were given the freedom to discuss and expand on issues they deemed relevant or related. Conversations were recorded and transcribed.

Initially, a concourse of 430 verbatim statements was selected from the interview transcripts, with the aim of achieving full representation of the interviewees' responses. These were refined to a set of 52 statements (Table 1) after consideration by a team comprising the authors and advice from four independent experts who had experience in the discourse about lynx ecology, reintroductions, and rural land use. Statements were selected by omission of those that were deemed ambiguous, had actual or potentially conflicting or contrasting interpretations, or were duplications (Watts & Stenner, 2012; Webler et al., 2009).

Thirty-four participants, not including any of the initial interviewees, undertook the second stage of the survey. These participants were identified through a mixed process of snowball sampling and targeting of specific organisations/individuals. Ideally, Q Method sorting exercises should be administered with participants in person, but due to the restrictions of the Covid-19 pandemic, the survey was hosted online using Q Method Software (www.qmethodsoftware.com). Participants were able to log into the survey with a code and password. Following introductory information and instructions, the first step of the survey involved sorting the 52 statements into three piles: statements with which the participants broadly agreed, disagreed, or felt neutral/ambiguous. The participants then sorted the statements into a forced choice array that approximates a normal distribution, where there was a space for each statement, and where +6 was 'most agree' and −6 'most disagree' (Figure 1). After populating the array, participants could refine and shuffle sorts until they were satisfied before submitting their response. The lead author was able to conduct the survey in person with three of the participants who encountered technical difficulties with the online software. The lead author followed up with all participants by telephone or email following their completion of the survey, recording any additional comments. This post-sort information, along with the initial twelve interviews with stakeholder representatives, was used to contextualise the data from the sorts.

The Q-sorts were analysed using principal component analysis with automated varimax rotation (Webler et al., 2009) in the R package QMETHOD (Zabala, 2014). The selection criteria for factor extraction were based on visual interpretation of the scree plot and the Kaiser-Guttman criteria (eigenvalues exceeding 1; Watts & Stenner, 2012). Additionally, the lead author conducted a preliminary inspection of the factors which judged them realistic, congruent, and distinctive (Zabala et al., 2018). Five factors were appropriate for extraction on this basis. The sorts that had a positive significant loading on each factor were identified from their factor loadings (the degree to which a sort was exemplified by a factor; Table 2) and factor loadings of 0.47 or greater were considered significant at $p < 0.01$ (Brown, 1993). These positive, significantly loading sorts were then used to derive factor arrays, effectively a single 'ideal-typical' sort for each factor. The statement scores for each array were automatically calculated by the QMETHOD package. The distinguishing statements for each factor are produced by the QMETHOD package. These represent statement scores that were significantly different for one factor compared to all other factors. Each array was inspected and cross-referenced with the other arrays to identify the perspective-defining features, areas of consensus, and of disagreement. Material from the interviews and the post-survey follow-up discussions was referred to and incorporated into interpretation at this stage. The perspective-defining features were identified from the distinguishing statements for each factor. These were augmented and contextualised with the authors' interpretation of the interviews and post-survey discussions. Two sorts positively loaded on Factor 5, which is the minimum required to constitute a factor (Webler et al., 2009). In this case, the authors made a judgement to retain this factor based on the percentage variance explained, the eigenvalue and that the factor was coherent and captured elements of the discourse distinct from the other four factors (Figure 2).

The project team considered the ethical implications of participants engaging in what is seen by many to be a contentious conversation, and were aware of the potential for the research project itself to become the focus of contention among stakeholders and wider publics. All participants were assured that they would not be identifiable in the published work and that they had the right to withdraw at any time. The interviewees provided their informed consent in writing and the Q Sort participants provided their consent upon admission to the online survey portal. The study was ethically reviewed and approved by the Vincent Wildlife Trust ethical review committee (Reference VWTREC/05/02/21).

TABLE 1 Summary of a Q-method analysis of stakeholders' perspectives towards prospective lynx reintroduction in Scotland. Thirty-four participants classified a Q set of 52 statements. The eigenvalues and percentage variance explained are provided for each of five perspectives. The *Z* scores give the weighted average of the scores of the Q sorts that significantly loaded on a given perspective, and indicate how much a perspective *agrees* with each statement. Perspective scores are integer approximations of the *Z* scores (Zabala et al., 2018) and indicate how a hypothetical person, representative of a given perspective, would rank the statements. The distinguishing statements for each perspective are denoted with an asterisk.

		Perspectives					*Z* scores				
	Statement	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
1	Some land managers would be quite pleased to share their deer management responsibilities with lynx	2	−3	3	1	−1	0.7	−1.1	0.9	0.4	−0.5
2	Deer control is an inappropriate argument to justify lynx reintroduction	−3	5*	0	−2	−1	−0.9	1.4	−0.0	−0.7	−0.5
3	I am particularly concerned about predation of lambs and sheep	−4	2	2	3	−4	−1.1	0.6	0.6	0.9	−1.3
4	Accepting predation of sheep will occur, and trying to devise management at an early stage, is important	4	3	5	5	0	1.2	0.8	1.4	1.6	0.3
5	Farming cannot adapt to accommodate a large carnivore	−5	2*	−4	−2	−4	−1.5	0.5	−1.3	−0.8	−1.4
6	Are farmers worried about one lamb? No, it's the cumulative pressure on farmers and crofters	0	0	1	−1	−2	−0.1	0.2	0.5	−0.2	−0.5
7	There's an emotional toll on farmers, seeing their animals being taken by predators	2	3	−1	6*	−2	0.6	0.9	−0.1	1.7	−0.7
8	The risk to sheep will only increase with widespread afforestation	−1	−1	−6*	3*	−3	−0.5	−0.2	−1.8	0.9	−0.8
9	The threat to gamebirds and traditional sporting activities is minimal	−1	−5	0	−5	3	−0.2	−1.5	0.2	−1.3	0.9
10	Gamekeepers are under a lot of pressure; this will be seen as just another problem	−2	5*	−3	−3	−5	−0.7	1.4	−0.8	−0.9	−1.5
11	Lynx would kill the remaining capercaillie	−4	1	−5	3	−4	−1.2	0.5	−1.5	0.8	−1.1
12	I think that lynx could and would kill wildcats if they came across them	−3	2	−1	−4	−4	−0.9	0.6	−0.3	−1.3	−1.1
13	They will disrupt and kill other predators e.g foxes	1	1	1	−5	−5	0.6	0.4	0.3	−1.3	−1.5
14	Lynx would restore a set of ecological processes which are completely absent at the moment	3	−4	−1	−6	3	0.8	−1.4	−0.1	−1.6	1.0
15	Lynx may contribute towards our objective of healthy, multi-functional woodlands	6*	−2	2	−1	3	1.7	−0.8	0.6	−0.4	0.90
16	It's naïve to think we can completely revert to non-interventive management of landscapes	−3*	4	5	3	0	−0.8	1.2	1.5	0.8	0.1
17	We do not have the habitat or landscape connectivity for lynx	−5*	−1	3	−2	1	−1.6	−0.1	0.9	−0.6	0.4

TABLE 1 (Continued)

		Perspectives					Z scores				
	Statement	1	2	3	4	5	1	2	3	4	5
18	Countries with much denser human populations than ours have got the full set of major predators; there is no reason we should not have lynx	5	−4	−1*	−4	4	1.4	−1.4	−0.3	−1.2	1.1
19	We can look at the evidence from Europe and make reasonable assumptions about what lynx will do	1	1	2	−3	2	0.6	0.2	0.7	−1.1	0.8
20	Lack of information is a barrier	2	0	0	0	4	0.7	0.1	0.1	−0.2	1.3
21	Community empowerment will make lynx reintroduction more feasible	4	−4	4	0*	−5	1.2	−1.3	1.0	−0.2	−1.4
22	The lynx is seen as part of a movement that is threatening people's belief systems, ways of life, culture and heritage	0	2*	−2	−2	−1	0.0	0.5	−0.7	−0.6	−0.2
23	The appetite for this is from those who do not have to bear the cost of reintroductions	−2	4*	−3	2*	−1	−0.7	1.3	−0.8	0.7	−0.3
24	There is a moral imperative to reintroduce lynx	−1*	−6	−5	−3	−3	−0.2	−2.0	−1.8	−1.0	−1.0
25	Reintroducing lynx will be symbolic of developing a better relationship with nature than we have currently	5	−4	−2*	−4	4	1.5	−1.2	−0.4	−1.2	1.1
26	We persist in spending obscenely large amounts of money on individual species which are attractive	−2	4	−3	2	6	−0.7	1.3	−1.2	0.7	1.6
27	There would have to be a long term, sustainable compensation scheme in place that is acceptable to everybody	2	3	2	4	1	0.7	0.8	0.8	1.3	0.6
28	I have no issue with private funding	−1	−1	0	1	5*	−0.2	−0.3	0.1	0.1	1.4
29	When sheep are fenced in they can be reasonably well protected from predation	1	−3	−3	−5	0	0.3	−1.0	−1.2	−1.4	−0.1
30	Managing problem animals can be incredibly unpopular with the public	0	2	6	4	0	0.1	0.6	1.6	1.4	−0.1
31	Farmers would potentially consider livestock protection animals	1	−2	−1	−1	−2	0.3	−0.7	−0.1	−0.3	−0.6
32	Lethal control needs to be in the mix of mitigations	−2	6	1*	6	−3	−0.6	1.9	0.3	2.1	−0.8
33	Lynx could be part of a natural capital set up, adding value to farming and estates	3	−1	1	−2	0	0.7	−0.2	0.4	−0.6	0.3
34	Coexistence incentives need to be imaginative and proactive	3	0	2	−1	2	1.0	0.1	0.7	−0.5	0.7
35	I would expect some level of illegal killing to occur	0	−3*	5	2	3	0.1	−1.2	1.2	0.6	0.9

TABLE 1 (Continued)

		Perspectives					Z scores				
	Statement	1	2	3	4	5	1	2	3	4	5
36	My worry is those who want it to happen will get frustrated by the necessary slowness of the process and just go ahead and do it anyway	−2	1	1	−1	5*	−0.7	0.3	0.3	−0.5	1.4
37	Problems with these things do not arise straight away and certainly do not go away at the end of a project	1	5*	3*	0	0	0.2	1.7	1.0	−0.1	0.0
38	There is a lot of mistrust built up between groups in this country	2	4	4	5	2	0.7	1.1	1.1	1.6	0.7
39	It is one step away from wolves	−4	−2	−4	−6	−4	−0.9	−0.7	−1.3	−1.6	−1.4
40	Lynx are a threat to people's pets	−5	−2	−4	1	−1	−1.7	−0.7	−1.5	0.2	−0.2
41	There needs to be a cross-sectoral working group on lynx to direct research and work through conflicts	6	3	6	5	1	1.7	0.8	2.2	1.6	0.6
42	It is not clear what people hope to achieve by lynx reintroduction	−4	−1	−2	0	−3	−1.4	−0.2	−0.5	−0.1	−0.8
43	There would need to be a clear exit strategy if things went horribly wrong	0	6*	3	1	0	0.2	1.8	1.0	0.3	−0.0
44	Lynx reintroduction in five years' time is possible	0	−6	−4	0	2	−0.1	−1.6	−1.4	−0.1	0.7
45	Lynx will be seen as an additional burden for landowners and estate managers	−1	1	0	4*	−6*	−0.4	0.5	0.2	1.3	−1.9
46	Some estates will consider it an attractive marketing bonus to say they have lynx	3	0	4	2	5	0.8	0.1	1.2	0.8	1.4
47	I would feel threatened, walking in a landscape with lynx	−6	−5	−6	−3	−6	−2.3	−1.5	−1.9	−1.1	−1.9
48	Tourists will like the idea that lynx are in the landscape, even if they never see them	4	0	4	2	1	1.2	−0.00	1.0	0.8	0.5
49	There is a bit of me that would really like to see that kind of wildlife in Scotland, but our recent experiences of reintroductions have not been helpful	−3	0	−2	4	6	−0.8	0.2	−0.5	1.2	1.9
50	I cannot see local economies benefitting from lynx reintroduction	−6	−3	−5	0	−2	−1.8	−0.8	−1.5	−0.0	−0.7
51	Lynx should be reintroduced to Scotland	5	−5	−2	1	4	1.6	−1.5	−0.5	0.1	1.1
52	We are in a climate change and biodiversity crisis, so it is reasonable to be having this conversation	4	−2	0	−4	1	1.1	−0.4	−0.0	−1.2	0.5
	Eigenvalue	7.3	6.3	3.4	2.4	2.1					
	% explained variance	21.4	18.5	10	7.1	6.3					
	Cumulative % explained variance	21.4	39.9	49.9	57	63.3					

						44						
				36	45	43	37	38				
		42	49	32	28	35	31	27	46	52		
	40	39	16	26	24	30	29	20	34	48	51	
50	17	11	12	23	9	22	19	7	33	21	25	15
47	5	3	2	10	8	6	13	1	14	4	18	41
-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6

Most disagree Neutral Most agree

FIGURE 1 Example of a completed Q-sort from a study of stakeholder perspectives towards the prospect of lynx (*Lynx lynx*) reintroduction in Scotland. The numbers in each cell represent a single statement from the Q-set of 52 statements derived from interviews, listed in Table 1. The sort shown here is the exemplar factor array for Perspective 1 *Lynx for Change*.

3 | RESULTS

Thirty-four participants completed the Q sort exercise. Thirty sorts significantly loaded on five factors, which explained a total of 63% of the variance within the data (Tables 1 and 2). Factors 1–5, hereafter referred to as 'perspectives' and by their descriptive names, are presented as concise summaries of their key characteristics, with illustrative quotes from participants associated with each perspective and from interviewees of stage 1. The statement numbers from which the themes within the perspectives are derived are presented in brackets in bold, followed by their corresponding score from the factor array. Statements that were distinguishing are denoted with an asterisk.

3.1 | Perspective 1: Lynx for Change

Twelve sorts loaded significantly onto this perspective (Table 2).

Lynx for Change strongly supports the potential for lynx reintroduction in Scotland (**51**, +5) and perceives that it represents an opportunity to develop a better relationship with nature than society currently has (**25**, +5). A strong characteristic of *Lynx for Change* is the belief that lynx reintroduction could and should be an important part of increasingly self-regulated ecosystems (**13**, +1; **14**, +3; **15**, +6*; **16**, −3). This is an important step in Scotland's efforts to contribute to global efforts to stem biodiversity loss and mitigate climate change (**52**, +4).

European countries with more dense human populations than rural Scotland have top predators, so there is no reason Scotland could not (**17**, −5*; **18**, +5). *Lynx for Change* does not anticipate that lynx would negatively impact protected species populations (**11**, −4; **12**, −3), but that lynx will play an important role in their trophic interactions with other species, particularly woodland deer (**1**, +2; **2**, −3). The lynx will contribute to healthier forests (**15**, + 6 *), while providing economic benefits through the creation of tourism opportunities and associated products (**46**, +3; **48**, +4; **50**, −6).

Farmers will be able to adapt to living alongside lynx (**5**, −5), and lynx will not have a major impact on sheep or other livestock (**3**, −4; **8**, −1). However, there will likely be some level of sheep predation, so a mitigation strategy and compensation scheme should be developed early (**4**, +4; **27**, +2). Licensed lethal control is not desirable (**32**, −2), but "*If you do not have lethal control as an option, then it simply will not happen'* (interview, Lynx Specialist).

Lynx for Change perceives that conflict between stakeholder groups associated with the implementation and management of wildlife reintroductions in Scotland has damaged trust (**38**, +2), but believes that these experiences can be learned from and the reintroduction process improved (**49**, −3; "*Conservationists should own up to the fact that in the past we've not done these things as well as we should have*", interview, Environmental Policy Advisor). Proactive and innovative solutions to promote co-existence between people and lynx should be developed (**33**, 3; **34**, 3). *Lynx for Change* strongly supports the establishment of a cross-sectoral working group to explore the feasibility of lynx reintroduction (**41**, 6).

3.2 | Perspective 2: No to Lynx

Ten sorts loaded significantly onto this perspective. *No to Lynx* strongly disagrees that lynx should be reintroduced to Scotland (**51**, −5; **18**, −4) and believes that reintroduction within the next five years is not possible (**44**, −6). The stated justifications provided to support reintroduction are disputed or perceived as weak (**2**, −5*; **15**, −2; **17**, −1; **25**, −4; **52**, −2; **24**, −6), and it was thought that conservationists spend "obscene" amounts of money on attractive species (**26**, +4).

A strong theme for *No to Lynx* is a feeling of injustice that external agencies implement change that directly affects the lives of locals but do not themselves take on any personal risk or experience the negative impacts of their actions (**23**, +4*; **37**, +5*). Compared to the other four perspectives who disagreed, *No to Lynx* perceives that lynx reintroduction is part of a wider environmental movement that threatens people's belief systems, ways of life, culture and heritage (**22**; +2*).

From this perspective, the ecosystem processes that are apparently missing with the absence of a top predator are in fact implemented by people (**14**, −4; **15**, −2), and the idea of non-interventive management of landscapes is considered naïve (**16**, +4). Deer can be adequately controlled by stalking and culling (**2**, +5*), and for some estates, lynx predation of deer was expected to negatively impact commercial stalking opportunities (**10**, +5*, **45**, +1; **1**, −3). Lynx were

TABLE 2 Rotated factor loadings for 34 sorts in a Q-methodology study of stakeholder perspectives on proposed lynx (*Lynx lynx*) reintroduction in Scotland. The 30 sorts that loaded positively and significantly on a factor are denoted with *. The flagging process was automated and conducted in the R package QMETHOD. Sorts 11, 17 and 28 loaded significantly onto more than one factor but were flagged to a single factor during the automated flagging process.

	Perspectives				
Sort (participant)	1	2	3	4	5
1 Countryside Ranger ♂	0.71*	0.01	0.32	0.13	0.08
2 Public Servant ♂	0.46	−0.04	0.28	0.12	0.57*
3 Estate Factor ♂	0.19	0.52	0.52	0.22	0.00
4 Estate Manager ♀	−0.39	0.61*	0.29	0.04	0.04
5 Environmental Justice Campaigner ♂	0.55*	−0.30	0.14	0.18	−0.22
6 Uplands Scientist ♀	0.515	0.67*	−0.01	0.01	0.15
7 Forestry Consultant ♂	−0.06	0.28	0.37	0.38	−0.02
8 Forester/Wildlife Ranger ♂	0.40	0.42	0.46	0.06	0.09
9 Rewilding Advocate ♂	0.87*	−0.14	0.03	−0.14	0.05
10 Forester/Estate Manager ♂	−0.24	0.25	0.46	0.21	0.35
11 Gamekeeper ♂	−0.05	0.51	0.22	0.68*	0.20
12 Animal Welfare Campaigner ♀	0.77*	−0.31	0.01	−0.25	0.17
13 Conservation Ecologist ♀	0.79*	−0.21	0.11	0.19	0.02
14 Research Ecologist ♂	0.77*	−0.09	0.15	−0.09	0.27
15 Field Sports Representative ♂	−0.12	0.64*	0.26	0.38	−0.30
16 Nature Reserve Manager ♂	0.71*	−0.12	0.15	0.25	0.28
17 Conservation Woodland Manager ♂	0.56 *	−0.14	0.47	0.14	0.14
18 Conservation Practitioner ♀	0.35	0.07	0.59*	−0.04	0.02
19 Environmental Policy Researcher ♂	0.59*	0.04	−0.02	0.22	0.08
20 Community Woodlands Advocate ♀	0.39	0.13	0.59*	0.32	0.24
21 Sporting Operations Manager ♂	−0.07	0.36	0.20	0.67*	0.12
22 Farmer (cattle & sheep) ♂	0.25	−0.05	−0.03	0.65*	0.28
23 Rural Policy Advisor ♂	0.02	0.77*	−0.02	0.29	0.04
24 Estate Owner ♂	0.33	0.23	0.66*	0.11	−0.01
25 Wildlife Veterinarian ♀	0.56*	0.01	0.31	0.20	0.21
26 Gamekeeper ♂	0.03	0.69*	0.03	0.14	−0.46
27 Head Gamekeeper ♂	−0.19	0.77*	0.12	0.06	0.08
28 Farmer (sheep) ♂	−0.13	0.60*	0.56	−0.04	0.08
29 Estate Biodiversity Manager ♂	−0.11	0.72*	0.41	0.06	−0.14
30 Estate Manager ♂	0.25	−0.07	0.05	0.09	0.76*
31 Deer Manager ♂	−0.09	0.84*	0.08	0.14	0.07
32 Outdoor Recreation Representative ♀	0.74*	0.16	−0.02	0.03	−0.12
33 Estate Factor ♂	0.57*	0.27	0.18	0.29	0.17
34 Sheep Farming Representative ♀	−0.03	0.59*	0.20	−0.12	−0.41

believed to threaten gamebirds and protected wildlife such as the wildcat *Felis silvestris* (**12**, +2*; **9**; −5).

The predation of sheep and the emotional impact on farmers will be a problem (**3**, +2; **7**, +3). Farmers have not had to shepherd with large carnivores for many generations and have limited ability to adapt to living alongside lynx (**5**, +2*; **29**, −3; **31**, −2). Establishing mitigation for the potential impact on farmers and livestock is important (**4**, +3), and this should include a sustainable compensation mechanism (**27**, +3). Unlike the other perspectives, *No to Lynx* considers it unlikely that there would be illegal killing of reintroduced lynx (**35**, −3*).

The experience of issues associated with previous reintroductions has undermined trust in the competency of conservation professionals (**36**, +1; **37**, +5*; **38**, +4; "*Farmers were not listened to by the office dwellers in Edinburgh*", participant 34, Sheep Farming Representative), while gamekeepers and sporting land managers

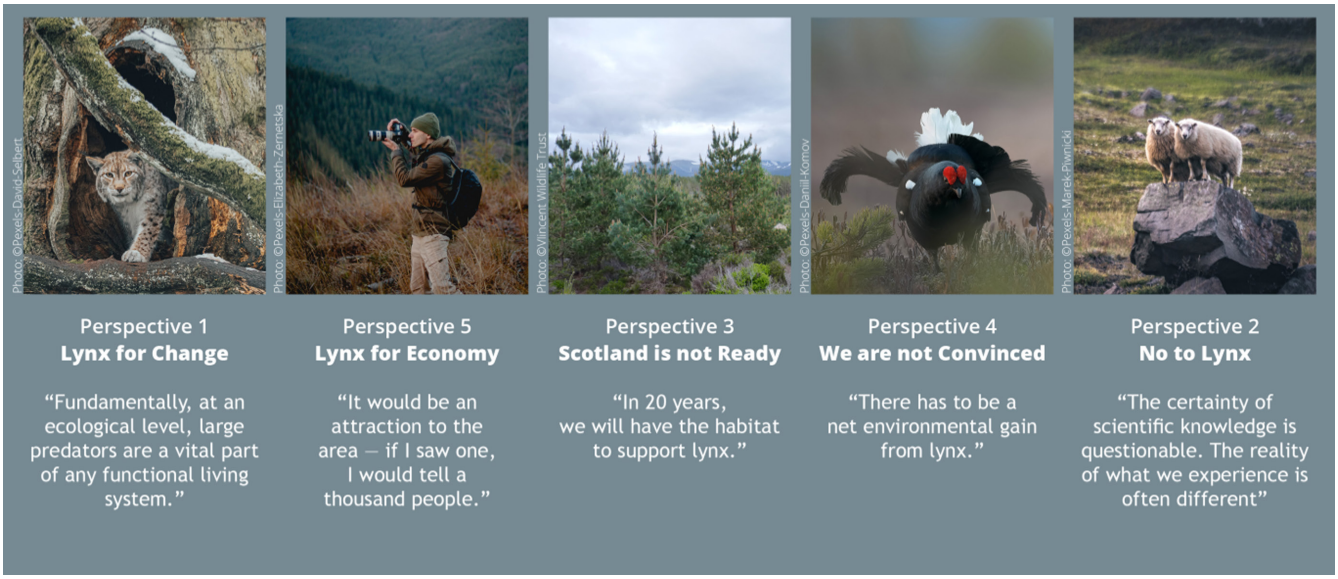

FIGURE 2 Summary of perspectives based on factors from a Q-Method investigation of the perspectives of stakeholders towards prospective lynx (*Lynx lynx*) reintroduction to Scotland. The five perspectives vary in their support of lynx reintroduction and are positioned, from left to right, in order of their level of support for lynx reintroduction, with a participant quote that characterises each perspective. Photo credits: Perspective 1; Pexels, David Selbert. Perspective 5; Pexels, Marek Piwnicki. Perspective 3; Vincent Wildlife Trust. Perspective 4; Pexels, Danil Komov. Perspective 2; Pexels, Elizabeth Zernetska.

already feel "*under pressure to deliver as a results based sporting enterprise*" (participant 29, Estate Biodiversity Manager). Practitioners must be accountable in the long term (**37**, +5*). Recourse to licensed lethal control is an absolute necessity (**32**, +6), as is a robust exit strategy that ensures reversibility (**43**, +6*).

3.3 | Perspective 3: Scotland is not Ready

Three sorts loaded significantly onto this perspective. *Scotland is not Ready* supports the conversation exploring lynx reintroduction, but does not feel Scotland is ready to proceed at this time (**51**, −2). The environment in Cairngorms is perceived as a high risk for lynx; the available habitat is not of sufficient quality (**17**, +3), there is too much disturbance ("*There are horse riders, hikers, and bikers everywhere*", participant 20, Community Woodlands Advocate), and there is a significant risk to lynx from illegal killing (**35**, +5; "*Lynx would wander into hostile environments. There is co-ordinated persecution over hundreds of square kilometers*", participant 18, Conservation Practitioner).

It is desirable to aim for more self-regulated ecosystems as part of a holistic approach to the management of the environment, and a top predator could be part of that (**1**, +3; **15**, +2; "*We are all about a holistic approach on our estate, encouraging natural processes where we can*", participant 24, Estate Owner). It is unrealistic, however, to think that a contemporary Scottish landscape can be wholly self-regulating without human management (**14**, −1*; **16**, +5).

Scotland is not Ready considers that farmers are able to adapt to coexist with lynx (**5**, −4), and an anticipated increase in woodland cover was expected to significantly reduce the risk of livestock predation (**8**, −6*). However, developing a mitigation strategy for livestock predation should be a priority (**4**, +5). Community buy-in "*is essential*" (participant 20, Community Woodlands Advocate), and increasing community empowerment is expected to make lynx reintroduction more feasible (**21**, +4). Tourism associated with lynx reintroduction would strongly benefit local economies (**50**, −5; **48**, +4; **46**, +4).

Given the potential for conflict, the establishment of a cross-sectoral working group to direct research and work through conflicts was considered the top priority (**41**, +6). Problems can take time to emerge, so long-term investment is necessary (**37**, +3*); lynx reintroduction in the next five years is not thought possible (**44**, −4). Licensed lethal control is not very palatable, but could potentially be included in mitigations (**32**, +1*). However, public opposition to lethal control is expected to be a major barrier to its implementation (**30**, +6).

3.4 | Perspective 4: We are not Convinced

Three sorts loaded significantly onto this perspective. *We are not Convinced* is a perspective open to discussing lynx reintroduction (**44**, 0; **51**, + 1), but believe it needs better justification than has been provided to date (**24**, −3; **26**, +2; **52**, −4; "*the reality is that no one has put forward data to substantiate what the broader impact of lynx will be in woodland and upland ecosystems.*", interview, Deer Ecologist). The landscape and land use context in Scotland is different from European countries with lynx (**18**, −4; **19**, −3). Scotland is perceived to be a highly managed landscape (**16**, 3), and it is strongly rejected that the ecosystem processes associated with lynx as a top predator are currently absent (**14**, −6).

There is concern about the potential cultural and economic impact on shepherding, which is intimately entwined with the management of grouse moors (**3**, +3; **5**, −2; "*If we lose the sheep, we lose the grouse, and if we lose the grouse we lose the sheep*", participant 11, Gamekeeper). A projected increase in woodland cover will only increase the risk to sheep, which is informed by the experiences of farmers in Norway (**8**, +3*; "*Small Norwegian farms that are near woodland can't keep their sheep outside anymore*", participant 21, Sporting Operations Manager). Some farmers could potentially adapt to accommodating lynx (**5**, −2) if they are supported to do so, both societally, by valuing the role of shepherds, and practically with compensation of losses and funding of resources (**27**, +4; **4**, +5; "*It would be a positive if funding for extra labour and training was provided*", participant 22, Farmer).

Estate managers must balance the conservation requirements of protected species with sporting and resource production objectives, and it is not clear how lynx could fit into this mix (**9**, −5; **11**, +3; **13**, −5; **45**, +4*; "*Lynx* might *prevent the use of snares and hounds to control foxes, which is already difficult enough around capercaillie and black grouse*", participant 21, Sporting Operations Manager).

We are not Convinced feels that there *"would be impacts on other land uses, and strong potential for conflict"* (participant 21, Sporting Operations Manager) should reintroduction be pursued without the right assurances and mitigations (**23**, +2*; **49**, +4). It is not thought fair that external agencies should impose change on people (**23**, +2*; **7**, +6*). The exploration of lynx reintroduction requires a transparent collaborative process to address contested areas of knowledge (**38**, +5; **41**, +5; *"it needs to be a slow, step by step approach. The issues need to be able to be addressed*", participant 21, Sporting Operations Manager). An important reassurance would be recourse to licensed lethal control (**32**, +6), as other mitigation options do not appear feasible (**29**, −5, **31**, −1). For *We are not Convinced*, "*there has to be a net environmental gain from lynx reintroduction*" (interview, Field Sports Policy Officer).

3.5 | Perspective 5: Lynx for Economy

Two sorts loaded significantly onto this perspective. *Lynx for Economy* supports the reintroduction of lynx and efforts to restore missing species generally (**15**, +3; **18**, +4; **20**, +4; **42**, −3; **51**, +4; **52**, +1). Access to scientific information from a trusted source with knowledge and experience of lynx in Europe has been important in shaping the views of Lynx for Economy (**18**, +4; **19**, +2; "*We are informed by X, and respect X's solid scientific voice*", participant 30, Estate Manager).

Aspirations for lynx are perceived to be in line with a change in the land use trajectory in the Cairngorms (**25**, 4; *"If you look back twenty years, almost all the estates were sporting. Now it's many fewer*", participant 2, Public Servant). This change is perceived as positive and driven primarily by private enterprise (**22**, −+ 1; **28**, +5*; "*Y now owns a huge amount of land, but he's not trying to make a profit, he's restoring nature*", participant 2, Public Servant). It is strongly agreed that 'obscenely large amounts of money' are spent on attractive species (**26**, 6). However, this is primarily in reference to the perceived doomed efforts to conserve capercaillie in Scotland ("*Massive amounts of money have gone into caper, even though it seems terminal*", Participant 2, Public Servant).

Lynx for Economy perceives that the threat to gamebirds and other traditional sporting activities is minimal (**10**, −5; **9**, +3), and it is not anticipated that there would be any appreciable impact on livestock (**3**, −4; **5**, −4; **6**, −2; **7**, −2; **8**, −3). *Lynx for Economy* perceives tourism to be *"the biggest industry in the Cairngorms"* (participant 2, Public Servant), on which many people rely; "*Most small farmers can't exist without additional income from tourism"* (participant 2, Public Servant). There is strong marketing potential for lynx, and although elusive, lynx will contribute to local and estate economies by making the area more attractive to tourists (**46**, 5; **48**, 1; **50**, −2; "*We offer 70,000 bed nights a year). Lynx will be an additional attraction*" (participant 30, Estate Manager). It is strongly disagreed that lynx will be seen by some estates as an additional burden (**45**, −6*).

The perceived mismanagement of a population of beavers (*Castor fibre*) on the river Tay by a cross-sectoral stakeholder group—specifically the feeling that the use of lethal control was overzealous—has damaged trust in wildlife management (**35**, +3; **38**, +2; **49**, +6; "*There was that disgusting carry on with the slaughter of beavers last year*", participant 2, Public Servant). The initial illicit release of Tay beavers also informs the perception that if proponents of lynx reintroduction become frustrated by slow progress, they will continue to release lynx regardless (**36**, +5*).

There were three points of consensus that are not included in the summaries of the distinguishing characteristics of the perspectives. All five perspectives strongly disagreed that they would feel threatened by lynx (statement 47), while only *We are not Convinced* perceived a small threat to people's pets (statement 40). None of the perspectives perceived lynx reintroduction to be 'one step away from wolves' (statement 39).

4 | DISCUSSION

We identified five distinct stakeholder perspectives on the prospect of lynx reintroduction in Scotland. *Lynx for Change* and *Lynx for Economy* support lynx reintroduction, *No to Lynx* strongly opposes it, while *Scotland is not Ready* and *We are not Convinced* have distinct reservations but are open to discussing the future potential. *Lynx for Change* and *No to Lynx* accounted for the majority of the variance (40% of a total of 63%) explained by the five perspectives. Their opposing positions over the prospect of lynx reintroduction arguably reflects the dominant competing environmental narratives in Scotland and, more generally, in Britain. Importantly, however, we disclose three further perspectives that highlight a greater level of diversity and nuance among stakeholder views towards lynx reintroduction than the binary 'for and against' discourse typical of public and media debate (see, e.g. Weston, 2021).

4.1 | Lynx, landscape and rewilding

The degree to which wildlife and the environment should be managed by people or allowed to self-regulate with minimal human intervention provides an important theme around which the views of the five perspectives orient in relation to lynx reintroduction. Supporting perspectives perceive that a transition towards increasingly self-regulating ecosystems is necessary for the restoration of biodiversity in Scotland. They feel that lynx reintroduction could and should facilitate this shift by virtue of their trophic interactions with other species. This is a prominent component of narratives supporting conservation translocations (Arts et al., 2012; Svenning et al., 2019). *No to Lynx*, *Scotland is not Ready* and *We are not Convinced* assert that because the contemporary Scottish landscape is highly anthropogenic in nature, aspirations for self-regulating ecosystems in such a landscape are unrealistic. They do not perceive the Cairngorms as a wild landscape, but one that is intensively managed for natural resource use, farming, sporting interests, and tourism. Previous research into the discourse around beaver reintroduction and exploration of local people's perceptions of the Cairngorms landscape revealed this same divergence in people's views on the extent to which Scotland can be considered 'wild', and the appropriateness of the landscape for wildlife reintroductions (Coz & Young, 2020; Fischer & Young, 2007). *Scotland is not Ready* represents a position of compromise since this view looks beyond the nature/culture duality. They are sceptical of entirely transitioning towards non-intervention, but supports developing a more holistic approach towards managing land, in which lynx could play a role in future.

Translocations have the potential to exacerbate existing and emerging tensions between landowners with divergent aspirations for land use and management. This is particularly the case if such interventions are framed within a rewilding context (Drenthen, 2018). The increased investment in land for carbon offsetting and rewilding in Scotland by private businesses and individuals (characterised by Scottish media as the 'green laird' phenomenon; Ross, 2021) is perceived by some as threatening, which is reflected in *No to Lynx*'s feeling that lynx reintroduction is part of a broader rewilding movement that threatens the culture, livelihoods and ways of life of rural people. *We are not Convinced* does not necessarily perceive lynx reintroduction as being part of a broader cultural threat in the same way as *No to Lynx*. They do, however, feel under pressure from what they feel to be a burgeoning environmentalism within public discourse and pro-environment media, which challenges the relevance and necessity of their ways of life.

Whilet translocations can create excitement, optimism, and a sense of proactive action for some, they can represent controversy and conflict for those who perceive a clash with aesthetic, social justice, socio-economic and environmental preservationist values (Deary & Warren, 2017; Drenthen, 2018). Neilson postulates that in reintroduction efforts, especially for charismatic species, "the animal and its wild nature can be seen as the bringer of wilderness, juxtaposed against humans, who are often seen as the destroyers of wilderness" (Neilson, 2019, p. 3). This dynamic appears to be reflected within the perspectives. For the supportive perspectives, the restoration of lynx as a top predator is linked to, and symbolic of,

BOX 2 Historical and existing conflicts.

There are underlying conflicts associated with wildlife reintroductions and recovery that underpin the perspective's consensus that there is a lack of trust between groups in Scotland. Interviewees and participants frequently mentioned the following conflicts as most relevant to the reintroduction of the lynx.

There is a perceived conflict related to the management of protected wildlife, particularly predators that were historically rare but are recovering following legal protection (Sainsbury et al., 2019). *No to Lynx* and *We are not Convinced* believe that land managers require greater autonomy in being able to manage what they perceive as adverse impacts on vulnerable species from existing, in situ predators which, in their view, have become overabundant by virtue of their protected status.

There is also a conflict revolving around reintroduced white-tailed eagles and the (now legally protected) beavers on the Tay catchment following initial illicit releases (Coz & Young, 2020; Young, Searle, et al., 2016). *No to Lynx* and *We are not Convinced* believe that white-tailed eagles were reintroduced without sufficient consultation or the equitable resolution of negative impacts, while perceived inaction by statutory bodies in dealing with the presence of illicitly released beavers has led to *No to Lynx* feeling that there is one set of rules for conservationists, and another set for everyone else. These underlying conflicts led an adherent to *No to Lynx* to ask, "*how can we think about reintroducing lynx when we have so many unresolved issues with the predators we have?*" (participant 28, Sheep Farmer).

With the exception of *No to Lynx*, all perspectives felt that currently illegal killing of Lynx is likely. This perception is informed by the highly contentious ongoing conflict over the frequent illegal killing of protected raptors on moorland managed for grouse shooting in Scotland (Thirgood & Redpath, 2008). It also relates to the illegal killing of beavers in the Tay catchment (Coz & Young, 2020), an interviewee stating that "*There's been efforts by some people to adopt mitigation for beavers, but the default has been to try and kill them off*" (Interview, Environmental Campaigner). *Lynx for Economy*'s trust in statutory bodies has been damaged because they perceived them as unable to uphold beaver protection in the face of lobbying from agricultural stakeholders. They do not trust that lethal control of the lynx could be effectively managed without being influenced by powerful stakeholder interests.

aspirations for reduced human control of nature in favour of restoring natural processes. But for *No to Lynx*, and to a lesser extent *We are not Convinced*, the 'bringing of wilderness' as symbolised by lynx is perceived as an existential threat. Currently, the level of ideological alignment of stakeholders towards the principles of rewilding has a strong influence on their support or opposition of proposed lynx reintroduction, compared to species-specific considerations. This was also apparent in Wales when a rural community was engaged over a proposed pine marten *Martes martes* translocation; the same divergent ideological alignment to rewilding provided the lens through which a strongly supportive and an oppositional voice diverged over the proposal (Bavin et al., 2020).

4.2 | The perceived impacts of the lynx on rural livelihoods

Socioeconomic considerations are an important determinant of people's attitudes towards large carnivores. These considerations underpin the divergence among the perspectives over the potential for lynx reintroduction to be a source of conflict between stakeholders. The predation of sheep (and the consequent impact on farmers' livelihoods and well-being) is a key point of tension associated with human/lynx coexistence in sheep-rearing countries (Odden et al., 2016; Stahl et al., 2001), and was the predominant area of challenge discussed by the interviewees for this study. Risk perception is an important aspect of wildlife conflict, and there is often a mismatch between perceptions of risk and the actual degree of risk (Dickman, 2010). Although there was consensus that mitigation of sheep predation would be necessary, perspectives diverged in their interpretation of what constitutes 'significant' risk or impact for sheep and sheep farming in the Cairngorms. *Lynx for Change* and *Lynx for Economy* generally interpreted risk analytically (Slovic & Peters, 2006), citing scientific research and expert opinion (e.g. Hetherington, 2006) as their sources of information. They anticipate minimal impact and envisage compensation payments. In contrast, *No to Lynx* and *We are not Convinced* perceived risk to be high, and that "*the issues go beyond livestock. It's not just the financial implications, but the emotional impact*" (participant 34, Sheep Farming Representative). They were primarily influenced by peer-to-peer information exchange, both within Scotland and with peers in Europe who live alongside the lynx, and anticipated significant levels of sheep predation (Odden et al., 2016; Taylor, 2021). They perceived that the loss of even small numbers of sheep would potentially constitute a significant impact on the livelihoods of individual farmers and estate owners.

Fear of loss of control is a recurring theme in discourses opposing wildlife reintroductions (Delfour, 2010; Dickman, 2010). For the supportive perspectives, a relinquishment of control is in alignment with a sympathetic leaning towards rewilding objectives. Conversely, *No to Lynx* and *We are not Convinced* feel a strong need for greater agency to be able to respond to events and mitigate perceived risk from recovering wildlife (Box 2). The discrepancy in the views of conservationists and affected farmers about their assessment of the impacts of livestock predation was apparent in the livestock-puma *Puma concolor* conflict in Argentina (Guerisoli et al., 2017), and specifically commented on by Swan et al. (2020) in relation to livestock predation by birds of prey in Patagonia (Ballejo et al., 2020). For *No to Lynx* and *We are not Convinced*, sheep predation would not simply represent economic loss and a welfare issue for livestock, but a ratcheting up of pressure on a marginally subsisting culture that is currently facing multiple challenges and an uncertain future.

No to Lynx and *We are not Convinced* were influenced by the experience of their peers in Scotland (Box 2), and by Norwegian farmers who have been reported to suffer psychological distress from incurring livestock loss to large predators (Zahl-Thanem et al., 2020). Consequently, *No to Lynx* in particular assessed risk by feeling rather than analytically, and from a position of fear, which can amplify risk estimates (Lerner et al., 2003; Slovic & Peters, 2006). The perspectives in support of lynx reintroduction are cognisant of these concerns but feel that lynx reintroduction represents part of the necessary ecosystem rehabilitation to which farmers should adapt. One contributor highlighted their frustration that "*nature is being suppressed in Scotland, it could be so much more*" (participant 9, Rewilding Advocate).There is an aspect of conservation triage in the views of supportive perspectives, where there is an acceptance that some negative socioeconomic impacts are justifiable for the imperative, or 'greater good', of environmental rehabilitation (Wilson & Law, 2016).

4.3 | The issue of trust

Trust and confidence play a positive role in mitigating risk perception and conflict, facilitating collaboration, and improving support for reintroductions (Stern & Coleman, 2015; Watkins et al., 2021). Conversely, distrust can limit dialogue and meaningful negotiation (Pruitt & Carnevale, 1993). Trust has been conceptualised in the literature in multiple ways (Stern & Coleman, 2015), but most definitions orient around the idea that trust is a psychological state in which trustors, despite inherent uncertainty, accept a level of vulnerability in anticipation of positive intentions or behaviour on the part of trustees (Stern & Coleman, 2015).

All perspectives felt that there is currently a lack of trust between groups in Scotland. Previous experiences of protected species management and recovery of historically rare or extirpated species in Scotland have led to distrust between stakeholders (Box 2). The issues have caused *No to Lynx* and, to a lesser extent, *We are not Convinced*, to question the competence and trustworthiness of conservation organisations and statutory bodies. They feel it an injustice that conservation objectives are, in their view, imposed on local communities by external agencies who do not show due consideration for affected people, do not fully understand the long-term implications of their actions and policies, and who do not have to bear any of the direct costs. Similar feelings of alienation over perceived power imbalance led Maasai to kill lions *Panthera leo* as a political statement in Tanzania and Kenya (Goldman et al., 2013),

and for farmers to kill reintroduced white-tailed eagles in Ireland (O'Rourke, 2014). In France, feelings of disenfranchisement among farmers and hunters after the reintroduction of lynx into the Vosges mountains resulted in a conflict that was also ultimately expressed in the illegal killing of lynx (Drouilly, 2019). With the exception of *No to Lynx*, the perspectives felt that illegal killing of lynx reintroduced to the Cairngorms is currently probable (Box 2). Given that illegal killing is a significant threat to the survival of many European populations of lynx (Breitenmoser et al., 2000; Drouilly, 2019; Melovski et al., 2020), this is a serious consideration in Scotland.

4.4 | A consensus for collaboration

The apparent trust issues between groups in Scotland led to the consensus that, should lynx reintroduction continue to be explored, it would be desirable to establish a participatory approach with multi-stakeholder collaboration. The objective of collaboration should be to identify knowledge gaps, discuss contested areas of knowledge, address existing and emerging areas of conflict, and crucially, build trust between stakeholders. This could be a delicate and lengthy process since, while there is a divergence over technical aspects of the feasibility of lynx reintroduction, there is a deeper divergence over its desirability rooted in values, which are often complex and resistant to change (Hiroyasu et al., 2019; Manfredo et al., 2017).

The discussion surrounding lynx reintroduction involves disputes around knowledge (e.g. likely impacts of lynx), values (e.g. of managed vs. unmanaged landscapes) and ideology (e.g. around the principles of rewilding). Recognising the importance of divergent knowledge, our interview questions and the subsequent set of statements focus mainly on the beliefs of the participants with respect to a range of propositions and factual claims, with some statements speaking to participants' ideologies (e.g. there is a moral imperative to reintroduce lynx). Although we were able to uncover some value orientations within and between the perspectives, this was perhaps limited by the choice of interview questions. A growing body of research highlights that relational values may have more relevance for understanding people's views than a traditional focus on biophysical impacts (Chan et al., 2016; Klain et al., 2017). Relational values encompass eudaimonic values—"values associated with living a good life, as well as reflection about how preferences and societal choices relate to notions of justice, reciprocity, care and virtue" (Klain et al., 2017, p. 21). Relational values can help frame or facilitate discussions about wildlife translocations in a way that connects and relates proposals to a person's deeper sense of what it means to live a good life. This is important, as cost–benefit analyses for large carnivores are typically weighted towards instrumental values, negative biophysical impacts, and risk (Rode et al., 2021). This can increase fear and amplify the perceived risk of large carnivores, while overlooking the importance of emotional, spiritual and relational connections of people with the natural world.

In situations where values and/or interests conflict, transparency, knowledge integration, independence (where no one party imposes their interests over another), and influence (where the parties involved can input in a way that genuinely influences the outcome of a participatory process) can increase trust through the perceived fairness and acceptability of a process (Gilkman et al., 2022; Klein & Arts, 2022; Young, Thompson, et al., 2016). Any continuing lynx reintroduction consultation will need to be inclusive of the range of stakeholder interests, or risk the disaffection of marginalised voices and further damage to trust between stakeholder organisations (Gilkman et al., 2022). 'Further process' should not be interpreted as an inexorable trajectory towards lynx reintroduction or as a proxy for indefinite delay, which could alienate some stakeholders. It must be a participatory, deliberative process that embraces uncertainty, shares power, and demonstrates equity in elucidating contested aspects of the case (Arts et al., 2012; Gilkman et al., 2022; Reed, 2008; Young, Thompson, et al., 2016). It would perhaps be informative to look to the global south for insights, where more informal, community-driven approaches typically provide the context for human-wildlife co-existence (König et al., 2020). We acknowledge a male bias across the participants in this study (Table 2), and feel the role of gender within social-ecological systems should be explicitly considered. Human-wildlife co-existence has different implications for men and women, regarding their attitudes towards co-existence, and how they are affected by wildlife (Almuna et al., 2022), while collaborations between female stakeholders can lead to more creative and democratic management decisions (Almuna et al., 2022; Gore & Kahler, 2012).

4.5 | Moving forward

Translocations must be embedded in social-ecological systems to be successful (Pettorelli et al., 2019; Svenning et al., 2019), and social-ecological systems (SES) approaches aim to achieve this. Lischka et al. (2018) describe SES as 'systems of biophysical and social factors that interact at multiple spatial, temporal, and organisational scales and whose flow is regulated in dynamic and complex ways.' SES frameworks are rapidly gaining traction in informing debates around wildlife reintroductions and coexistence between people and wildlife (Dressel & Sandström, 2018; Lischka et al., 2018; Pooley et al., 2016; Srivathsa et al., 2019). Lischka et al. (2018) applied an SES model to human-black bear *Ursus americanus* conflicts, identifying relationships and feedback mechanisms previously unexplored, whilst an SES framework has been recommended by Drouilly and O'Riain (2021) as offering a pathway for integrating the social and ecological feasibility of lynx reintroduction in Britain.

An example of how a further process could be structured was demonstrated by Scotland's Moorland Forum, a partnership of 27 organisations that engage in matters influencing the uplands of Scotland (Ainsworth et al., 2020). Within the Moorland Forum, Ainsworth et al. used a mixed-methods approach, based on theories of community science, knowledge coproduction, knowledge integration, and conflict transformation to address contestation over the management of predators and protected species on grouse

moors. By gathering stakeholder perceptions to identify where local and scientific knowledge converged and diverged, the group mutually prioritised knowledge gaps and identified future collaborative actions. The framework and governing principles employed by the Moorland Forum could be applied to create a structured and independently facilitated space for the discussion of lynx reintroduction by diverse stakeholders with opposing views. Such a framework may be necessary for dialogue to progress in a situation where trust between stakeholders is currently low and where there is contestation over knowledge, risk, and the conservation rationale of lynx reintroduction.

4.6 | Conclusions

Carnivore reintroductions are ambitious conservation interventions, but are often perceived as presenting a radical change to the *status quo*, provoking controversy. Gaining a deeper understanding of the social dynamics among individuals and groups engaged with and affected by translocations is the first step in facilitating the long-term sustainability of conservation projects (Dando et al., 2022; Gilkman et al., 2022). Regardless of whether there is a clear conservation imperative, the findings of this study reinforce our understanding and others that wildlife translocations cannot be approached in isolation of wider socioeconomic and ideological influences. In line with other authors, we recommend that the sociocultural considerations of translocations be given equal weighting with ecological and biological aspects of feasibility. We have found Q Method to be a useful tool for establishing a knowledge base derived directly from affected stakeholders. From here, dialogue between stakeholders can progress and further process can be designed that is sensitive to the needs of stakeholders. The findings from this study primarily relate to a large carnivore translocation but have broader relevance for wildlife translocations, species recovery, and conservation conflicts elsewhere.

AUTHOR CONTRIBUTIONS

David Bavin planned the Q Method study with guidance and advice from Jenny MacPherson, Sarah L. Crowley, and Robbie A. McDonald. David Bavin undertook the survey with the support of Jenny MacPherson and advice from Sarah L. Crowley. David Bavin analysed the data and wrote the results up as a paper. Jenny MacPherson, Sarah L. Crowley, and Robbie A. McDonald contributed significantly to the editing and revision of the manuscript.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest. Sarah Crowley is an Associate Editor for People and Nature, but was not involved in the peer review or decision making process.

DATA AVAILABILITY STATEMENT

The data used for this study are publicly available on Dryad https://doi.org/10.5061/dryad.4qrfj6qfc.

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REFERENCES

Ainsworth, G. B., Redpath, S. M., Wilson, M., Wernham, C., & Young, J. C. (2020). Integrating scientific and local knowledge to address conservation conflicts: Towards a practical framework based on lessons learned from a Scottish case study. *Environmental Science and Policy*, *107*, 46–55.

Almuna, R., Cortés, J., Medina, M. d. l. Á., & Vargas, S. P. (2022). We are silently paving the way toward human-wildlife coexistence: the role of women in the rural landscapes of southern Andes. *Frontiers*, *3*. https://doi.org/10.3389/fcosc.2022.1006006

Armstrong, D. P., & Seddon, P. (2008). Directions in reintroduction biology. *Trends in Ecology & Evolution*, *23*, 20–25.

Arts, K., Fischer, A., & van der Wal, R. (2012). Common stories of reintroduction: A discourse analysis of documents supporting animal reintroductions to Scotland. *Land Use Policy*, *29*, 911–920.

Ballejo, F., Plaza, P., & Lambertucci, S. A. (2020). The productive, ecological, and perception problems of the "unacceptable" livestock losses due to scavenger birds. *Biological Conservation*, *8*, 1–2.

Batson, W. G., Gordon, I. J., Fletcher, D. B., & Manning, A. D. (2015). Translocation tactics: A framework to support the IUCN guidelines for wildlife translocations and improve the quality of applied methods. *Journal of Applied Ecology*, *52*, 1598–1607.

Bavin, D., Denman, H., MacPherson, J., Crowley, S. L., & McDonald, R. A. (2020). Using Q-methodology to understand stakeholder perspectives of a carnivore translocation. *People & Nature*, *2*, 1117–1130.

Berger-Tal, O., Blumstein, S., & Swaisgood, R. (2020). Conservation translocations: A review of common difficulties and promising directions. *Animal Conservation*, *23*, 121–131.

Breitenmoser, U. (1998). Large predators in the Alps: The fall and rise of man's competitors. *Biological Conservation*, *83*, 279–289.

Breitenmoser, U., Breitenmoser-Würsten, C., & Okarma, H. (2000). *Action plan for the conservation of the lynx Lynx lynx in Europe*. Council of Europe Publishing.

Brown, S. R. (1993). A primer on Q methodology. *Operant Subjectivity*, *16*, 91–138.

Cade, T. J., & Burnham, W. (2003). *Return of the peregrine*. The Peregrine Fund.

Chan, K. M. A., Balvanera, P., Bennessaiah, K., Chapman, M., Díaz, S., Gómez-Baggethun, E., Gould, R., Hannahs, N., Jax, K., Klain, S., Luck, G. W., Martín-López, B., Muraca, B., Norton, B., Ott, K., Pascual, U., Satterfield, T., Tadaki, M., Taggart, J., & Turner, N. (2016). Why protect nature? Rethinking values and the environment. *Proceedings of the National Academy of Sciences of the United States of America*, *113*, 1462–1465.

Chapron, G., Kaczensky, P., Linnell, J. D. C., von Arx, M., Huber, D., Andren, H., López-Bao, J. V., Adamec, M., Álvares, F., Anders,

O., Balčiauskas, L., Balys, V., Bedő, P., Bego, F., Blanco, J. C., Breitenmoser, U., Brøseth, H., Bufka, L., Bunikyte, R., … Boitani, L. (2014). Recovery of large carnivores in Europe's modern human-dominated landscapes. *Science*, *346*, 1517–1519.

Convery, I., Smith, D., Brady, D., Hawkins, S., Iversen, S., Mayhew, M., & Eagle, A. (2016). Lynx UK Trust consultation brief: Kielder. http://insight.cumbria.ac.uk/id/eprint/3453

Coz, D., & Young, J. (2020). Conflicts over wildlife conservation: Learning from the reintroduction of beavers in Scotland. *People & Nature*, *2*, 406–419.

Crowley, S. L., Cecchetti, M., & McDonald, R. A. (2020). Diverse perspectives of cat owners indicate barriers to and opportunities for managing cat predation of wildlife. *Frontiers in Ecology and the Environment*, *18*, 544–549.

Crowley, S. L., Hinchcliffe, S., & McDonald, R. A. (2017). Nonhuman citizens on trial: The ecological politics of beaver reintroduction. *Environment and Planning A*, *49*, 1846–1866.

Dando, T. R., Crowley, S. L., Young, R. P., Carter, S. P., & McDonald, R. A. (2022). Social feasibility assessments in conservation translocations. *Trends in Ecology & Evolution*. https://doi.org/10.1016/j.tree.2022.11.013

Deary, H., & Warren, C. (2017). Divergent visions of wildness and naturalness in a storied landscape: Practices and discourses of rewilding in Scotland's wild places. *Journal of Rural Studies*, *54*, 211–222.

Deary, H., & Warren, C. (2019). Trajectories of rewilding: A taxonomy of wildlife management. *Journal of Environmental Planning and Management*, *62*, 466–491.

Delfour, J. (2010). La notion d'animal "nuisible" ou comment mettre de l'ordre en instituant la marginalité. In J.-M. Moriceau & P. Madeline (Eds.), *Repenser le sauvage grâce au retour du loup: les sciences humaines interpellées* (pp. 171–186). Presses universitaires de Caen.

Dempsey, B. (2021). Understanding conflicting views in conservation: An analysis of England. *Land Use Policy*, *104*, 1054362.

Dickman, A. (2010). Complexities of conflict: The importance of considering social factors for effectively resolving human-wildlife conflict. *Animal Conservation*, *13*, 458–466.

Dickman, A., & Hazzah, I. (2016). Money, myths, and man-eaters: Complexities of human wildlife conflict. In F. M. Angelici (Ed.), *Problematic wildlife* (pp. 339–356). Springer.

Drenthen, M. (2018). Rewilding in layered landscapes as a challenge to place identity. *Environmental Values*, *27*, 405–425.

Dressel, S., & Sandström, C. (2018). Mapping social-ecological systems to understand the challenges underlying wildlife management. *Environmental Science and Policy*, *84*, 105–112.

Drouilly, M. (2019). *Plan d'actions pour la conservation du Lynx boréal (Lynx lynx) en France*. Propositions à mettre en oeuvre par l'État dans le cadre d'un PNA.

Drouilly, M., & O'Riain, M. J. (2021). Rewilding the worlds carnivores without neglecting the human dimension. A response to reintroducing the Eurasian lynx to southern Scotland, England and Wales. *Biodiversity and Conservation*, *30*, 917–923.

Eden, S., Donaldson, A., & Walker, G. (2005). Structuring subjectives? Using Q methodology in human geography. *Area*, *37*, 413–422.

Estes, J. A., Terborgh, J., Brashares, J. S., Power, M. E., Berger, J., Bond, W. J., Carpenter, S. R., Essington, T. E., Holt, R. D., Jackson, J. B. C., Marquis, R. J., Oksanen, L., Oksanen, T., Paine, R. T., Pikitch, P. K., Ripple, W. J., Sandin, S. A., Scheffer, M., Schoener, T. W., … Wardle, D. E. (2011). Trophic downgrading of planet earth. *Science*, *333*, 301–306.

Farrell, J. (2014). *The battle for Yellowstone: Morality and the sacred roots of environmental conflict*. Princeton University Press.

Fischer, A., & Young, J. (2007). Understanding mental constructs of biodiversity: Implications for biodiversity management and conservation. *Biological Conservation*, *136*, 271–282.

Gilkman, J. A., Frank, B., Bogardus, M., Meysohn, S., Sandström, C., Zimmerman, A., & Madden, F. (2022). Evolving our understanding and practice in addressing social conflict and stakeholder engagement around conservation translocations. *Frontiers in Conservation Science*, *3*, 1–6.

Goldman, M. J., de Pinho, J. R., & Perry, J. (2013). Beyond ritual and economics: Maasai lion hunting and conservation politics. *Oryx*, *47*, 490–500.

Gore, M. L., & Kahler, J. S. (2012). Gendered risk perceptions associated with human-wildlife conflict: Implications for participatory conservation. *PLoS ONE*, *7*(3), e32901. https://doi.org/10.1371/journal.pone.0032901

Gove, M. (2018). Letter from the secretary of state for environment, food, and rural affairs to Dr Paul O'Donoghue, Lynx Trust UK. https://www.gov.uk/government/publications/lynx-reintroduction-in-kielder-forest

Gray, J., Brockington, J., Hayward, M., & Walmsley, J. D. (2016). How the proposed reintroduction of Eurasian lynx to Britain illustrates competing values and contrasting views associated with humans and the natural world. *Country-Side Magazine*, *36*(2), 18–25.

Guerisoli, M. L. M., Vidal, E. L., Franchini, M., Caruso, N., Casanave, E. B., & Lucherini, M. (2017). Characterisation of puma-livestock conflicts in rangelands of Central Argentina. *Royal Society Open Science*, *4*, 170852. https://doi.org/10.1098/rsos.170852

Halliday, J., & Parveen, N. (2017). *Plan to return the lynx splits friends and families in Kielder Forest community*. The Guardian Newspaper. https://www.theguardian.com/uk-news/2017/feb/03/plan-to-introduce-lynx-to-kielder-forest-angers-farmers

Hawkins, S., Brady, D., Mayhew, M., Smith, D., Lipscombe, S., White, C., Eagle, A., & Convery, I. (2020). Community perspectives on the reintroduction of the Eurasian lynx *Lynx lynx* to the UK. *Restoration Ecology*, *28*, 1408–1418.

Hetherington, D. (2006). The lynx in Britain's past, present, and future. *ECOS*, *27*, 66–74.

Hetherington, D. A., Miller, D. R., Macleod, C. D., & Gorman, M. L. (2008). A potential habitat network for the Eurasian lynx *Lynx lynx* in Scotland. *Mammal Review*, *38*, 285–303.

Hexham Courant. (2018). New Argument erupts over lynx reintroduction to Kielder Forest. https://www.hexham-courant.co.uk/news/16612888.new-argument-erupts-lynx-reintroduction-kielder-forest/

Hill, C. (2021). Conflict is integral to human-wildlife coexistence. *Frontiers in Conservation Science*, *2*, 1–4.

Hiroyasu, E., Miljanich, C., & Anderson, S. (2019). Drivers of support: The case of species reintroductions with an ill-informed public. *Human Dimensions of Wildlife*, *24*, 401–417.

Hodgson, I., Redpath, S. M., Fischer, A., & Young, J. (2018). Fighting talk: Organisational discourses of the conflict over raptors and grouse moor management in Scotland. *Land Use Policy*, *77*, 332–343.

Inskip, C., & Zimmermann, A. (2009). Human-felid conflict: A review of patterns and priorities worldwide. *Oryx*, *43*, 18–34.

IUCN/SSC. (2013). *Guidelines for reintroductions and other conservation translocations*. IUCN Species Survival Commission.

Johnson, R., & Greenwood, S. (2020). Assessing the ecological feasibility of reintroducing the Eurasian lynx (*Lynx lynx*) to southern Scotland, England and Wales. *Biodiversity and Conservation*, *29*, 771–797.

Kamal, S., Kocór, M., & Grodzinska-Jurczak, M. (2014). Quantifying human subjectivity using Q method: When quality meets quantity. *Qualitative Sociology Review*, *10*, 60–79.

Kirkland, H., Daniels, M., Rao, S., Krofel, M., Blossey, B., Chapman, T., & Hare, D. (2021). Successful deer management in Scotland requires less conflict not more. *Frontiers in Conversation Science*, *2*, 1–6.

Klain, S., Olmsted, P., Chan, K. M. A., & Satterfield, T. (2017). Relational values resonate broadly and differently than intrinsic or instrumental values, or the new ecological paradigm. *PLoS ONE*, *12*, 1–21.

Kleiman, D. G., & Mallison, J. J. C. (1998). Recovery and management committees for golden lion tamarins: Partnerships in conservation planning and implementation. *Conservation Biology*, *12*, 27–38.

Klein, L., & Arts, K. (2022). Public participation in decision making on conservation translocations: The importance and limitations of a legislative framework. *Restoration Ecology*, *30*, 1–11.

König, H. J., Kiffner, C., Kramer-Schadt, S., Furst, C., Keuling, O., & Ford, A. T. (2020). Human-wildlife coexistence in a changing world. *Conservation Biology*, *34*, 786–794.

Lerner, J. S., Gonzalez, R. M., Small, D. A., & Fischhoff, B. (2003). Effects of fear and anger on perceived risks of terrorism: A national field experiment. *Psychological Science*, *14*, 144–150.

Letty, J., Marchandeau, S., & Aubineau, J. (2007). Problems encountered by individuals in animal translocations: Lessons from field studies. *Ecoscience*, *14*, 420–431.

Linnell, J. D. C., Breitenmoser, U., Breitenmoser-Würsten, C., Odden, J., & von Arx, M. (2009). Recovery of Eurasian lynx in Europe: What part has reintroduction played? In M. W. Hayward, & M. Somers (Eds.), *Reintroduction of top order predators*. Wiley Blackwell.

Lischka, S. A., Teel, T. L., Johnson, H. E., Reed, S. E., Breck, S., Don Carlos, A., & Crooks, K. R. (2018). A conceptual model for the integration of social and ecological information to understand human-wildlife interactions. *Biological Conservation*, *225*, 80–87.

Loth, A. F., & Newton, A. C. (2018). Rewilding as a restoration strategy for lowland agricultural landscapes: Stakeholder-assisted multi-criteria analysis in Dorset, UK. *Journal for Nature Conservation*, *46*, 110–120.

Madden, F., & McQuinn, B. (2014). Conservation's blind spot: The case for conflict transformation in wildlife conservation. *Biological Conservation*, *178*, 97–106.

Manfredo, M. J., Teel, T., Sullivan, L., & Dietsch, A. M. (2017). Values, trust, and cultural backlash in conservation governance: The case of wildlife management in the United States. *Biological Conservation*, *214*, 303–311.

Martínez-Abraín, A., Jiménez, J., Jiménez, I., Ferrer, X., Llaneza, L., Ferrer, M., Palomero, G., Ballesteros, F., Galán, P., & Oro, D. (2020). Ecological consequences of human depopulation of rural areas on wildlife: A unifying perspective. *Biological Conservation*, *252*, 108860.

McKeown, B., & Thomas, D. (2013). *Q-methodology*. Sage.

Melovski, D., Von Arx, M., & Avukatov, V. (2020). Using questionnaire surveys and occupancy modelling to identify conservation priorities for the critically endangered Balkan lynx *Lynx lynx balcanicus*. *Oryx*, *54*, 706–714.

Neilson, A. (2019). *Disenchanted natures: A critical analysis of the contested plan to reintroduce the Eurasian lynx into the Lake District National Park* (pp. 1–19). Capitalism, Nature, Socialism.

Newth, J. L., Lawrence, A., Cromie, R. L., Swift, J. A., Rees, E. C., Wood, K. A., Strong, E. A., Reeves, J., & McDonald, R. A. (2019). Perspectives of ammunition users on the use of lead ammunition and its potential impacts on wildlife and humans. *People and Nature*, *1*, 347–361.

Ockwell, D. G. (2008). "Opening up" policy to reflexive appraisal: A role for Q methodology? A case study of fire management in in Cape York, Australia. *Policy Sciences*, *41*, 263–292.

Odden, J., Linnell, J. D. C., Moa, P. F., Herfindal, I., Kvam, T., & Andersen, R. (2016). Lynx depredation on domestic sheep in Norway. *Journal of Wildlife Management*, *66*, 98–105.

Oldfield, T. E. E., Smith, R. J., Harrop, S. R., & Leader-Williams, N. (2003). Field sports and conservation in the United Kingdom. *Nature*, *423*, 531–533.

O'Rourke, E. (2014). The reintroduction of the white-tailed sea eagle to Ireland: People and wildlife. *Land Use Policy*, *38*, 129–137.

Ovenden, T. S., Palmer, S. C. F., Travis, J. M. J., & Healey, J. R. (2019). Improving reintroduction success in large carnivores through individual-based modelling: How to reintroduce Eurasian lynx (*Lynx lynx*) to Scotland. *Biological Conservation*, *234*, 140–153.

Payne, B. L., & Bro-Jørgensen, J. (2016). A framework for prioritizing conservations translocations to mimic natural ecological processes under climate change: A case study with African antelopes. *Biological Conservation*, *201*, 230–236.

Peterson, N. M., Birckhead, J. L., Leong, K., Peterson, M. J., & Peterson, T. R. (2010). Rearticulating the myth of human-wildlife conflict. *Conservation Letters*, *3*, 74–82.

Pettorelli, N., Durrant, S. M., & du Toit, J. T. (2019). Rewilding: A captivating, controversial, twenty-first century concept to address ecological degradation in a changing world. In J. T. du Toit, N. Pettorelli, & S. M. Durrant (Eds.), *Rewilding* (pp. 1–111). Cambridge University Press.

Pheby. (2020). Which animals do Britons support reintroducing to the UK? YouGov survey results of 2083 adults in GB. https://yougov.co.uk/topics/science/articles-reports/2020/01/28/third-brits-would-reintroduce-wolves-and-lynxes-uk

Pooley, S., Barua, M., Beinart, W., Dickman, A., Holmes, G., Lorimer, J., Loveridge, J. A., Macdonald, D. W., Marvin, G., Redpath, S. M., & Zimmermman, A. (2016). An interdisciplinary review of current and future approaches to improving human–predator relations. *Conservation Biology*, *31*, 513–523.

Pruitt, D. G., & Carnevale, P. J. (1993). *Negotiation in social conflict*. Brooks/Cole.

Redpath, S., Young, J., Evely, A., Adams, M. W., Sutherland, W. J., Whitehouse, A. A., Amar, A., Lambert, R. A., Linnell, J. D. C., Watt, A., & Gutiérrez, R. J. (2013). Understanding and managing conservation conflicts. *Trends in Ecology & Evolution*, *28*, 100–109.

Reed, M. (2008). Stakeholder participation for environmental management: A literature review. *Biological Conservation*, *141*, 2417–2431.

Ripple, W., & Beschta, R. L. (2006). Linking a cougar decline, trophic cascade, and catastrophic regime shift in Zion National Park. *Biological Conservation*, *133*, 397–408.

Ripple, W., Estes, J. A., Beschta, R. L., Wilmers, C. C., Ritchie, E. G., Hebblewhite, M., Berger, J., Elmhagen, B., Letnic, M., Nelson, M. P., Schmitz, O. J., Smith, D. W., Wallach, A. D., & Wirsing, A. J. (2014). Status and ecological effects of the world's largest carnivores. *Science*, *343*, 1241484.

Rode, J., Flinzberger, L., Karutz, R., Berghöfer, J., & Schröter-Schlaack, C. (2021). Why so negative? Exploring the socio-economic impacts of large carnivores from a European perspective. *Biological Conservation*, *255*, 108918.

Ross, C. (2021). *Call for Holyrood to halt rise of 'green lairds'*. The Press and Journal. https://www.pressandjournal.co.uk/fp/politics/scottish-politics/3100564/peter-peacock-green-lairds/

Sainsbury, K. A., Shore, R. F., Schofield, H., Croose, E., Campbell, R. D., & McDonald, R. A. (2019). Recent history, current status, conservation and management of native mammalian carnivore species in Great Britain. *Mammal Review*, *49*, 171–188.

Sampson, L., Riley, J. V., & Carpenter, A. I. (2020). Applying IUCN reintroduction guidelines: An effective medium for raising public support prior to conducting a reintroduction project. *Journal for Nature Conservation*, *58*, 125914. https://doi.org/10.1016/j.jnc.2020.125914

Seddon, P. J., Armstrong, D., & Maloney, R. (2007). Developing the science of reintroduction biology. *Conservation Biology*, *21*, 303–312.

Seddon, P. J., Soorae, P. S., & Launay, F. (2005). Taxonomic bias in reintroduction projects. *Animal Conservation*, *8*, 51–58.

Seddon, P. J., Strauss, W. M., & Innes, J. (2012). Animal translocations: What are they and why do we do them? In *Reintroduction biology: Integrating science and management* (pp. 1–32). Blackwell Publishing Ltd.

Skogen, K., Mauz, I., & Krange, O. (2008). Cry wolf! Narratives of wolf recovery in France and Norway. *Rural Sociology*, *73*, 105–123.

Slovic, P., & Peters, E. (2006). Risk perception and affect. *Current Directions in Psychological Science*, *15*, 322–325.

Srivathsa, A., Puri, M., Karanth, K. K., Patel, I., & Samba, K. N. (2019). Examining human - carnivore interactions using a socio-ecological

framework: Sympatric wild canids in India as a case study. *Royal Society Open Science*, *37*, 2–10.
Stahl, P., Vandel, J. M., Herrenschmidt, V., & Migot, P. (2001). Predation on livestock by an expanding reintroduced lynx population: Long-term trend and spatial variability. *Journal of Applied Ecology*, *38*, 674–687.
Stephenson, W. (1935). Technique of factor analysis. *Nature*, *136*, 297.
Stern, M., & Coleman, K. (2015). The multidimensionality of trust: Applications in collaborative natural resource management. *Society and Natural Resources*, *28*, 117–132.
Svenning, J., Munk, M., & Schweiger, A. (2019). Trophic rewilding: Ecological restoration of top-down trophic interactions to promote self-regulating biodiverse ecosystems. In J. T. du Toit, N. Pettorelli, & S. M. Durrant (Eds.), *Rewilding (73-9873-98)*. Cambridge University Press.
Swan, G. J. F., Silva-Rodríguez, E. A., Márquez-Garciá, M., & Crowley, S. L. (2020). For livestock losses, a conservation scientist's 'exceptional' may be a farmer's 'unacceptable': A commentary to Ballejo *et al*. (2020). *Biological Conservation*, *250*, 108723.
Taylor, C. (2021). *Lynx reintroduction study shunned by farming representatives*. The Scottish Farmer. https://www.thescottishfarmer.co.uk/news/19062346.lynx-reintroduction-study-shunned-farming-representatives/
Terborgh, J., Lopez, L., Nuñez, P. V., Rao, M., Shahabuddin, G., Oriheula, G., Riveros, M., Ascanio, R., Adler, G. H., Lambert, T. D., & Balbas, L. (2001). Ecological meltdown in predator-free forest fragments. *Science*, *294*, 1923–1925.
Thirgood, S., & Redpath, S. M. (2008). Hen harriers and red grouse: Science, politics, and human-wildlife conflict. *Journal of Applied Ecology*, *45*, 1550–1554.
Thomas, V. (2021). *Domesticating rewilding: Interpreting rewilding in England's green and pleasant land*. Environmental Values. https://doi.org/10.3197/096327121X16328186623841
Thulin, C.-G., & Röcklinsberg, H. (2020). Ethical considerations for wildlife reintroductions and rewilding. *Frontiers in Veterinary Science*, *7*, 163.
Treves, A., Chapron, G., López-Bao, J. V., Shoemaker, C., Goeckner, A. R., & Bruskotter, J. T. (2017). Predators and the public trust. *Biological Reviews*, *92*, 248–270.
Van Wieren, S. (2012). Reintroductions: Learning from successes and failures. In J. V. Andel, & J. Aronson (Eds.), *Restoration ecology: The new frontier* (2nd ed.). Wiley & Blackwell.
Watkins, C. E., Poudyal, N. C., Jones, R. E., Muller, L. I., & Hodges, D. G. (2021). Risk perception, trust, and support for wildlife reintroduction and conservation. *Environmental Conservation*, *48*, 1–9. https://doi.org/10.1017/S0376892921000011
Watts, S., & Stenner, P. (2012). *Doing Q methodological research*. Sage Publications Ltd.
Webler, T., Danielson, S., & Tuler, S. (2009). *Using Q method to reveal social perspectives in environmental research*. Social and Environmental Research Institute.
Weston, P. (2021). *Rewilding: Should we bring the lynx back to Britain?* The Guardian. https://www.theguardian.com/environment/2021/aug/16/rewilding-should-we-bring-the-lynx-back-to-britain-aoe
Wilson, C. J. (2004). Could we live with reintroduced large carnivores in the UK? *Mammal Review*, *34*, 211–232.
Wilson, K. A., & Law, E. A. (2016). Ethics of conservation triage. *Frontiers in Ecology & Evolution*, *4*, 1–8.
Wilson, M. (1997). The wolf in Yellowstone: Science, symbol, or politics? Deconstructing the conflict between environmentalism and wise use. *Society & Natural Resources*, *10*, 453–468.
Young, J. C., Searle, K., Butler, A., Simmons, P., Watt., A. D., & Jordan, A. (2016). The role of trust in the resolution of conflicts. *Biological Conservation*, *195*, 196–202.
Young, J. C., Thompson, D. B. A., Moore, P., Macgugan, A., Watt, A., & Redpath, S. M. (2016). A conflict management tool for conservation agencies. *Journal of Applied Ecology*, *195*, 44. https://doi.org/10.1111/1365-2664.12612
Zabala, A. (2014). Qmethod: A package to explore human perspectives using Q methodology. *R Journal*, *6*, 163–173.
Zabala, A., Sandbrook, C., & Mukherjee, N. (2018). When and how to use Q methodology to understand perspectives in conservation research. *Conservation Biology*, *32*, 1185–1194.
Zahl-Thanem, A., Burton, R. J. F., Blekesaune, A., Haugen, M. S., & Ronningen, K. (2020). The impact of wolves on psychological distress among farmers in Norway. *Journal of Rural Studies*, *78*, 1–11.

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