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RESEARCH

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Landholder perceptions and attitudes towards the rewilding of private land: an analysis from Surrey, UK

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ABSTRACT

Rewilding is a conservation concept and practice which has gained traction over the past two decades, and is often perceived as a powerful tool to reverse anthropogenic ecological degradation. In the UK, Environmental Land Management Schemes (ELMS) have introduced the idea of 'public money for public goods', making some rewilding initiatives more viable for landholders. Many conservation organisations work with landholders to promote rewilding as part of local conservation strategies, but there remains a lack of understanding of landholder perceptions and attitudes towards rewilding. This research used semi-structured interviews based on the gaps identified in the literature to explore these aspects in a sample population of 8 landholders in Surrey, UK. Thematic analysis interpreted the importance of emergent patterns and implications in relation to existing literature. This research found that landholders associate many different meanings towards rewilding. These perceptions fall along two spectra, ranging from passive to active forms of rewilding and with different levels of impact on human activities. Landholder valuations of rewilding are profoundly influenced by their perceptions of its meaning, with more favourable attitudes expressed towards 'low-impact', active forms of rewilding. Concern was expressed about the need to balance rewilding goals with food security. This emphasises that understanding local views is essential to improve consideration of practical constraints, whilst helping to reduce polarisation and mistrust about rewilding. Conservation organisations should facilitate collaboration among landholders to kickstart the implementation of acceptable and context-specific forms of rewilding, playing a key role in achieving local and national nature recovery targets.

KEY POLICY HIGHLIGHTS

- Recognising and incorporating local perspectives, needs, and expertise into land management decision-making is crucial for positive relationships between practitioners and advocates of rewilding and thus scheme success.
- Encouraging dialogue and collaboration among landholders and local conservation organisations would foster joint rewilding efforts based on shared values and best practices, helping to prevent mistrust and unlock the ecosystem services associated with this conservation approach.
- Enhancing landholder awareness of funding sources, in collaboration with external organisations, provides an opportunity to implement rewilding whilst addressing economic constraints.
- Embracing the diverse nature of rewilding, adapting it to context, and including people in its implementation, are essential for effective delivery of rewilding actions by landholders and conservation organisations.

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1. Introduction

1.1. Origins and evolution of rewilding

Rewilding is a conservation concept and practice which has emerged and gained traction over the past two decades for its potential to improve biodiversity levels and restore ecosystems (Thomas 2022). The beginning of the widespread use of the term dates to the mid-1990s in the USA, referring to a concept consisting of three 'C's: connectivity, core areas, and carnivores (Soulé and Noss 1998; Jepson and Blythe 2020; Jones and Comfort 2020). The reinstatement of these three ecological factors within an ecosystem enhances its natural processes and capacity to regulate itself (Soulé and Noss 1998; Blewett 2016; Jepson and Blythe 2020; Cockburn 2021). An early, flagship example was the reintroduction of wolves in Yellowstone Park (Peterson 2020). This conception of rewilding continues to influence current rewilding efforts, with organisations such as the International

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Table 4. The number of landholders interviewed who expressed perspectives relating to the ecological barriers of rewilding.

Number of landholders	Perspectives relating to the ecological barriers of rewilding
3	Reintroducing large animals, including deer, beavers, bison, and wolves, can have a large, negative impact on ecosystems, exerting pressure on the land or threatening other species.
2	It is important to protect species that have evolved with historical land management – whether that is farmland or heathland – and that would be threatened by natural succession.
2	Low-intervention rewilding can threaten biodiversity, causing natural succession and spreading invasive species, specifically ragwort.

The effective implementation of rewilding therefore requires a holistic understanding of its practical difficulties. It also requires tackling the divide that exists between so-called 'armchair rewilders' and landholders, through methods including valuing on-the-ground, lay expertise, and 'participatory communication methods during stakeholder negotiations' (Jones-Walters and Çil 2011; Thomas 2022, p. 85).

Finally, an important barrier raised by a majority of landholders was the *trade-off with food security* (5/8). Certain forms of rewilding, such as hedgerow planting and sustainable agriculture, were cited as reducing food production. The difficulty of balancing food production and security with rewilding, and the complexity of deciding which land should be dedicated to each goal, was also discussed extensively. The perception of rewilding as direct agricultural substitution contributes to this perceived barrier, as these landholders view rewilding as a threat to the goal of local or national food security.

This reflects current academic and practitioner debates within regenerative agriculture circles around how to ensure both the sustainability of food production alongside meeting environmental targets (Monbiot, 2022b; Godfray et al. 2010; Smith 2013; Mikołajczak et al. 2022). To achieve both goals simultaneously, some argue that rewilding goals should sit within agricultural practices through 'agricultural rewilding' (Corson et al. 2022). This view points to the breadth of evidence of such methods within organic or regenerative agriculture, such as agroforestry, biodynamic farming, or permaculture methods (Rey Benayas and Bullock 2015; Vanbergen et al. 2020; Vogt 2021; Corson et al. 2022). Conversely, controversy exists around a different position which posits that food security and environmental goals can be achieved if farmland is 'rewilded' (generally landscape-level 'high-impact' rewilding) while technological innovations are promoted, reducing the land currently needed for food production (Monbiot 2022a, 2022b; Sustainable Food Trust 2022; Smaje 2023). These contrasting positions fall along a spectrum of 'land sharing' to 'land sparing' (Rey Benayas and Bullock 2015). Additionally, many discuss the need for wider shifts in global food systems in order to achieve both goals, including managing food demand, reducing food waste, and improving 'food cultures' (Smith 2013; Briones Alonso et al. 2018). This debate is complex, and understanding the full scope of views would require more research; nevertheless, the perceived tension between food security and rewilding mentioned by landholders sheds light on this important issue.

3.4. Enabling factors for rewilding

The importance of having *precise definitions and goals* to deliver a clear understanding of rewilding was expressed by several landholders (3/8) (Figure 8). They explained that this would enable positive practical steps towards rewilding, even if people have different interpretations. They also

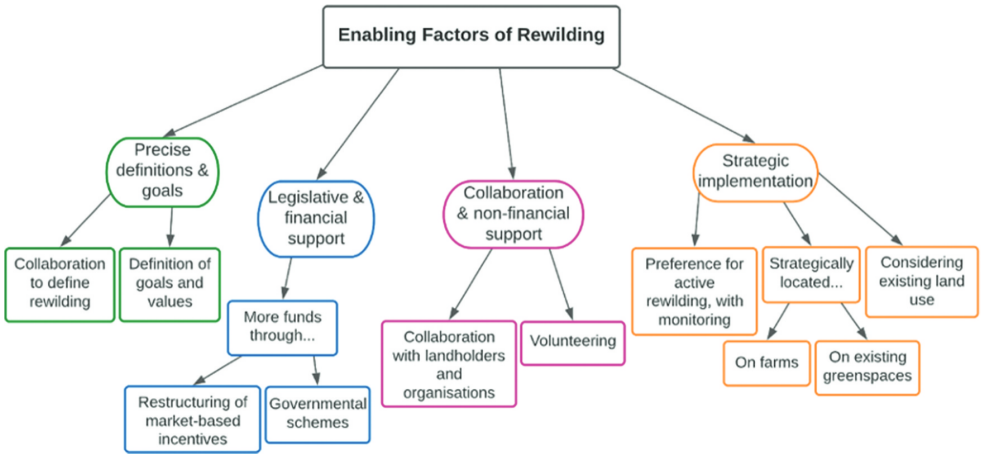

Figure 8. Thematic map of the perceived enabling factors of rewilding expressed by landholders in Surrey, UK.

expressed that stakeholders should communicate amongst themselves to add clarity and create a shared understanding of rewilding. Facilitated participatory conversation is an increasingly frequent recommendation (Jones-Walters and Çil 2011; Thomas 2022; Takacs 2020) and responds to the uncertainty expressed by some landholders about the meaning of rewilding and would allow fears based on false perceptions to be attenuated.

Additionally, some landholders expressed the importance of imagining their goals (2/8). In fact, 'imagin[ing] what our landscape was like before and what it could be like again' (L8) and wondering 'what do we actually value?' (L3) were cited as enabling factors of change. Rewilding Britain supports this idea, writing that 'imagination and coordinated local action' are needed to achieve the benefits of rewilding (Wright 2022).

Most landholders stated that *legislative and financial support* including greater funding opportunities should be provided to implement rewilding. The majority argued that the government should provide these incentives (6/8), whilst some emphasised that market incentives should be structured to promote rewilding (2/8).

Landholders in favour of public funding shared instances where environmental schemes have enabled them to conduct environmental initiatives. The governmental funding that landholders were positive about included subsidies, Biodiversity Net Gain, and protected area legislation. The absence of discussion around the recent ELM schemes illustrates that there might still be a lack of clarity and potential confusion among landholders around how these work, suggesting that additional support for landholders to understand and gain funding would make this policy more useful. The landholders in favour of market-based funding considered that market incentives have greater long-term reliability than governmental subsidies and philanthropy. They were, however, not satisfied with the level or structure of private funding, arguing that current market incentives drive land exploitation. Their suggestions included promotion of carbon offsetting, natural asset credit schemes, and ecotourism.

Collaboration and non-financial support, including relationships with other landholders and local conservation organisations, were cited by half of the landholders as an enabling factor (4/8), due to the ability to share advice, reduce costs of shared initiatives, and the greater ease of accessing funds through collaboration.

Half of the landholders expressed that volunteering could support the implementation of rewilding initiatives, through research or practical support (4/8). Several rewilding projects have been supported by volunteers (Jones and Comfort 2020), and there is growing interest in citizen science (Piesing 2020; The Wildlife Trusts 2022). While these are common in nature reserves, these results suggest there is an opportunity for these tools to also be utilised on private land.

Finally, a common theme was that successful rewilding needs to be strategically implemented, with careful consideration of its form, location, and trade-offs.

Half of the landholders agreed that rewilding should be actively managed, to avoid invasive species and ensure the reestablishment of base ecosystem functions (4/8). This is consistent with landholder preferences for ecological rewilding. Monitoring of indicator species to provide progress metrics was mentioned as a useful tool for active management (3/8).

Landholders disagreed about where rewilding should be prioritised, with preferences for farmland (2/8), existing greenspaces (1/8), and at all scales by everyone (1/8). These preferences were influenced by landholder beliefs of which location would have the largest impact and the least cost and were shaped by whether they understood rewilding to be a multifaceted conservation strategy.

The need to consider existing land uses was emphasised by most landholders, who argued that rewilding should be adapted to its land type, soil structure, and local infrastructure.

3.5. Rewilding and public access

Understanding perceptions of the relationship between rewilding and public access is important as there are barriers and opportunities for their simultaneous implementation. Large private landowners are under pressure to open their land to public access (Macauley 2021; Safi et al. 2022), whilst trespassing during the 2020–2021 Covid Pandemic has led some landholders to resist this. As rewilding is an increasingly popular practice, its implementation on private land is frequently being conflated with public access (Haines 2020). Simultaneously, the ELMS have created access-conditional economic incentives for landholders to promote nature connection and health benefits brought by public access to land (Defra 2022a, 2022b). Public access, however, may hinder rewilding goals, due to visitor pressure and some forms of rewilding, such as large predator reintroductions, may be dangerous or contentious if implemented alongside public access. Thus, while the cultural, policy and economic context mean that there is an opportunity for rewilding and public access to be achieved simultaneously on private land, a better understanding of landholder views on the intersection between the two is essential to favour both.

To determine the relationship between landholders' valuation of public access and their

valuation of rewilding, landholder views of public access to land were categorised into its advantages, barriers, and enabling factors, and compared to the coinciding views of rewilding. Synthetic Venn diagrams (Figure 9) illustrate these thematic overlaps. A fuller exploration of landholder views on public access, unrelated to rewilding, would shed light on the drivers and barriers of implementing public access.

The coinciding advantages of public access and rewilding focus on their mutually reinforcing environmental benefits. Half of landholders believe that visitors of rewilded areas come out having a better appreciation of nature, thereby

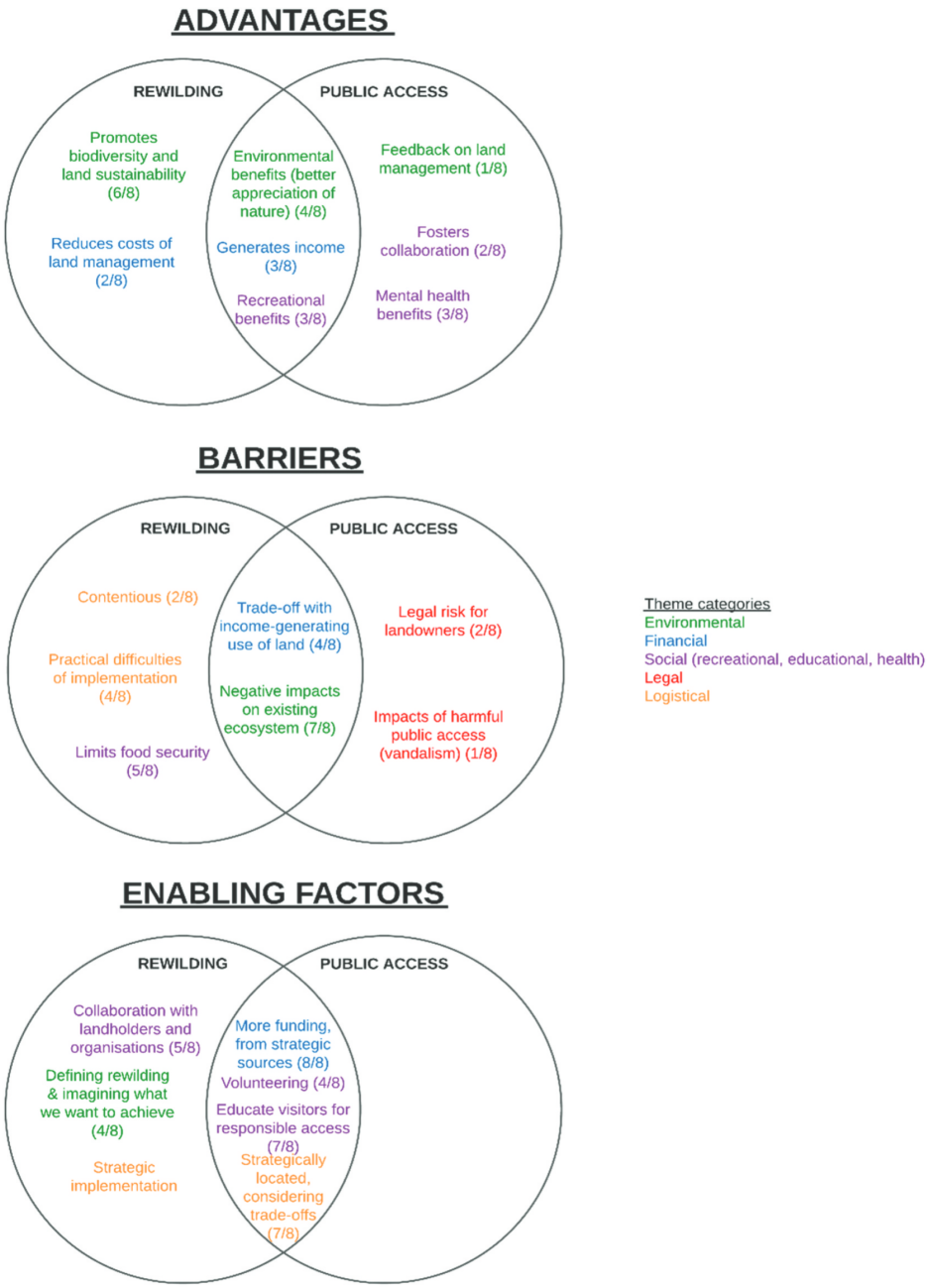

Figure 9. Thematic overlaps of landholder views on the advantages, barriers, and enabling factors of public access and rewilding in Surrey, UK. Colours represent themes, text describes sub-themes, numbers indicate how many landholders expressed each view.

reinforcing the environmental advantages of rewilding (4/8). Overlapping advantages also include the provision of income for landholders and outdoor recreational spaces for visitors, enhanced if they are rewilded.

These advantages were cautioned by their respective barriers. The negative impacts that rewilding can have on existing ecosystems were said to be reinforced by the pressure exerted by visitors, occasionally having a counterproductive effect on rewilding goals. Landholders also expressed that public access, like rewilding, can undermine the land's productive use and associated income. These barriers were accentuated if public access is *harmful*, referring to visitors who, due to a lack of understanding, education, or good will, cause increased damage to the land.

All enabling factors of public access overlapped with those of rewilding. Landholders expressed the importance of more funding, but similarly to rewilding, their opinions about the source of funding varied, with diverging opinions on the necessity of government funding. Some misunderstanding about the ELMS was displayed, believing these do not provide funds for public access.

Educating visitors to promote responsible access of rewilded land was also a prominent factor discussed by most landholders, enabling the recreational and environmental benefits of both rewilding and public access.

> The education and experience of being outside and what's happening around you is such an important part of [public access]. Just allowing large numbers of people to access freely [...] can cause more damage than any benefit. But the benefits [arise] once they've had their eyes opened and understand a little bit about [the land]. (L2)

Having designated spaces for public access, such as footpaths or sacrificial areas, was expressed as a strategy to limit the environmental and financial cost of human pressure on land.

When asked about the potential for visitors to be engaged with land management beyond access, most landholders referred to the benefits of volunteering, which can accentuate the social and environmental benefits of public access whilst helping with land management. The potential for volunteering and citizen science to be effective tools for rewilding and public access on private land has yet to be tested and may be a subject for future research.

4. General discussion

In this case study, the landholder perspectives of rewilding were revealed as diverse, reflecting the multifaceted nature of the term and the plasticity rewilding has taken on in public discourse in the UK (Tanasescu 2017). The differentiation between active and passive rewilding was a prominent theme among landholders and the literature, and this was complemented by a comparison between 'high-impact' and 'low-impact' forms of rewilding among landholders. Landholders' understanding of rewilding either fit within the two spectral sections or recognised the existence of spectra.

Landholder attitudes of rewilding were significantly influenced by their perceptions of the meaning of the term. Perceptions of rewilding as replacing agriculture and large-scale action with minimal human intervention ('high-impact') influenced subsequent reticent or negative attitudes about the implementation of rewilding. In contrast, perceptions of rewilding as sustainable land management ('low-impact') formed the basis for more favourable attitudes about the ecological, social, and financial benefits of rewilding. Landholders tended to favour lower-impact, manageable actions that would make their land more sustainable, which is reflective of their position as custodians, viewing the practical implications of rewilding (Yorke 2016; Wynne-Jones et al. 2018; Perino et al. 2019; Thomas 2022).

This research has also highlighted that there still exists much uncertainty among landholders about how to define rewilding. This uncertainty is reflective of the term as a contentious, polarising 'buzzword' in the UK, whereby values are attached to the term before there is a holistic understanding of its practice. The lack of a clear, commonly understood definition is illustrated by some environmental policy which favours the use of 'environmental land management' or making 'space for nature' instead of 'rewilding', most likely due to the latter's contentiousness (Defra 2022a). This vagueness within public discourse and policy has its knock-off effects on practical actions, as it has caused rewilding actions to either be avoided or delayed among some landholders.

Rewilding's potential impact on food security commonly creates a reticence among landholders and aligns with the existing literature on farmer perspectives of rewilding as well as with the urban-rural divide in views (Jones and Comfort 2020; Mikołajczak et al. 2022). This concern fits within the current political and environmental context, in which the issue of food self-sufficiency is rife (Scandrett 2018; Haines 2020; Helm 2022; Mikołajczak et al. 2022; Haslett 2022) due to crises such as the Ukraine war and climate change influencing the stability of food imports (Harvey 2022; Hammond and Gadanakis 2022). This tension therefore poses a theoretical question about what public money should prioritise. Food security is dependent on healthy ecosystems, with the UK government recognising that 'biodiversity loss', 'climate change'

and the 'overexploitation of natural capital resources' threaten food availability in their recent Food Security report (Defra 2021c). There is also significant evidence of methods to make environmental goals and food production simultaneous, with varying perspectives (Godfray et al. 2010; Smith 2013; Scandrett 2018; Vogt 2021; Monbiot 2022b; Corson et al. 2022; Smaje 2023). However, a lack of landholder understanding of ELMS funding for such approaches and false perceptions about the impact of rewilding on food security may hinder the implementation of sustainable forms of agriculture in the UK.

Despite this, most landholders expressed favourable attitudes towards rewilding. This was enhanced by a better understanding of its practical implementation and clarity on trade-offs including income and food production. A minority expressed assured distaste for rewilding, questioning its ecological soundness and impact on other human activities. This range of opinion among landholders on the benefits and constraints of rewilding illustrate the polarised nature of the practice in the UK.

Landholder value-perceptions of rewilding also influenced their acceptance of public access. The reticence relating to 'high-impact' rewilding was displayed through descriptions of instances where rewilding and public access might be incompatible. Instead, as with rewilding, landholders generally favoured smaller-scale, controlled forms of public access, managed in parallel with 'lower-impact' forms of rewilding. These attitudes may be associated with a lack of understanding of public access as a potential revenue stream (Defra 2022b).

4.1. Emergent recommendations

For better communication and implementation of rewilding projects, this work suggests:

(1) **Promote more effective communication of existing funding sources to landholders**. Some misinformation and confusion about ELM schemes were found. Some landholders cited collaboration with SWT as a method for easier access to scheme funds. Facilitating a better understanding of such schemes and other opportunities to gain funds collaboratively with external organisations would be an opportunity to implement rewilding actions whilst responding to landholder economic constraints.

(2) **Facilitate conversation and collaboration among landholders and local conservation organisations**. Communication and collaboration were cited by landholders as important to create joint rewilding efforts based on a common understanding of the term and best practices for implementation. Such conversations can be facilitated by conservation organisations or self-organised landholder groups, but it is important that they remain bottom-up, participatory conversations in which values and concerns are taken on board to prevent mistrust and negative attitudes.

(3) **Embrace rewilding, whilst adapting it to context**. Landholders and conservation organisations should embrace the multi-faceted nature of rewilding, instead of shying away from the buzzword. This requires facilitating a more widespread understanding of rewilding that includes people, with the end goal of promoting accessible and context-specific forms of rewilding.

(4) **Include and monitor local views to reduce polarisation and create better policy**. Understanding and valuing local views, needs and expertise, and incorporating these to decision-making and land management plans, is essential for the successful delivery of rewilding projects. 'Lay knowledge' of the land, including knowledge of any practical constraints, is vital to success. Monitoring local stakeholder views can thus enhance rewilding projects, and by placing emphasis on local needs and sentiments, may help to reduce polarisation between the practitioners and far-off advocates of rewilding.

(5) **Conduct further research to delve deeper into stakeholder views of rewilding**. Landholders are not the only stakeholders and including others such as practitioners in conservation organisations, rewilded area visitors, and anti-rewilding proponents would enable the incorporation of wider views. Different analysis methods, such as the exploration of behaviour change models, may reveal further valuable trends of stakeholder views towards rewilding.

5. Conclusion

Overall, it is clear that expanding our understanding of the views of landholders in a range of contexts will support and enable rewilding implementation. The insights gained here from landholder perspectives demonstrate the benefits of understanding local views, to better understand the nuanced politico-socio-ecological context of rewilding projects and to construct effective land management strategies. The landholders in this study appreciated the chance of expressing their perspectives on this topic and this

then illustrates the potential for further consensus-building surrounding rewilding projects.

Wherever rewilding schemes are proposed, conservation organisations should continue to involve and facilitate collaboration among these key stakeholders; this can then kickstart the implementation of acceptable and context-specific forms of rewilding, and thus unlock the ecosystem services associated with this local conservation strategy.

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Ethics declaration

The work was granted ethical approval by departmental derogation from ICREC to the Centre for Environmental Policy as low risk research on Monday, June 6, 2022.

Data availability statement

The participants of this study did not give written consent for their data to be shared publicly, so due to the nature of the research supporting data is not available.

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Union for Conservation of Nature (IUCN) and Rewilding Britain highlighting the importance of creating 'core rewilded areas' with connections (IUCN 2021; Wright 2022). Carnivore reintroduction itself is more controversial and less emphasised or pursued by conservation organisations (Blewett 2016). The definition of rewilding has evolved beyond its initial conception of the three 'C's, developing into a variety of more nuanced forms both in discourse and in practice.

Rewilding has now become a prominent movement and practice in the UK, with 81% of Britons found to be supporting the rewilding of land in the UK (Rewilding Britain 2022). The Knepp Estate, a flagship rewilding initiative in the UK, has helped to shape public perception and inspire further projects (Tree 2016; Root-Bernstein 2019; Thomas 2022). Other extensive projects such as the Carrifan Wildwood in Scotland, the Cambrian Wildwood in West Wales, Wild Ennerdale in the Lake District, and Wilder Blean in Kent have incorporated aspects of rewilding to their land management, and provide practical evidence of the positive ecological, economic, and social impacts rewilding can achieve (Jones and Comfort 2020; Egoh et al. 2021; Wilkinson 2022).

In Europe and beyond, many conservation projects are also overtly being referred to as 'rewilding', illustrating the spread and influence of this approach within conservation research and practice (Pettorelli et al. 2019). The progressive abandonment of farmland and the social and environmental value created by the reinstatement of wildlife and wild spaces in Europe is seen by some academics as an opportunity for rewilding to become an ever-more prominent conservation strategy on the continent (Helmer et al. 2015). The organisation Rewilding Europe, which was founded in 2011, helps to facilitate forms of major rewilding projects across different regions in Europe, including several notable pioneering examples in The Netherlands (Jepson et al. 2018). Rewilding is now seen by conservation organisations, environmentalists, and academics as a powerful tool addressing the interlinked crises of biodiversity collapse, climate change, and ecosystem degradation, and providing a diverse and cost-effective array of ecosystem services (Soulé and Noss 1998; Zu Ermgassen et al. 2018; Torres et al. 2018; IUCN 2021; Driver 2022; The Wildlife Trusts 2023).

1.2. Different forms of rewilding

Rewilding is now generally perceived as an 'umbrella' term, grouping a range of conservation and land management practices (Lorimer et al. 2015; Jepson and Blythe 2020; Thomas 2022). The degree of human intervention in land management is the main axis of distinction, as there is differentiation between active and passive forms. In active management, human-led and implemented measures aim to achieve rewilding goals and in passive management, human activity is discontinued to 'allow nature to be self-determining' (Yorke 2016; Thomas 2022, p. 84). In many circumstances, these approaches can be sequential with initial high human intervention followed by a decline in management as natural processes are allowed to determine future trajectories (Driver 2022). Several authors have referred to this process as 'ecological rewilding', which is understood as incorporating characteristics of both active and passive rewilding (Corlett 2016; Pettorelli et al. 2019) and consists of the 'limited active management [of land] to facilitate natural processes and allow them to regain dominance' (Pettorelli et al. 2019, p. 9). It views nature as capable of self-regulating, whilst recognising that human actions have caused the dysregulation of natural processes, and seeks to reverse these through specific management actions (Cockburn 2021; Thomas 2022).

Most definitions of rewilding refer to 'restoration' (Lorimer et al. 2015; Torres et al. 2018; Rewilding Britain 2022), which poses the question 'to what are we returning?'. Lorimer et al. (2015) argue that the different forms of rewilding are not differentiated by their level of human involvement, but by their reference historical baselines. Defining a baseline as a restoration goal is complex, as large-scale ecological changes undulate through history (Lorimer et al. 2015), and a 'shifting baseline syndrome' imposes changing human perceptions of what is considered 'wild' (Papworth et al. 2009; Yorke 2016). Building consensus around the meaning of rewilding and any baseline requires a common definition of 'wild'. This is, however, a subjective task reflecting different values, such as the space required by 'wild' nature and the extent to which it can co-exist with humans (Schulte to Bühne et al. 2021). Given this topic's vastness and inherent subjectivity, it is beyond the scope of this paper, however a deeper analysis of perceptions of the meaning of 'wild' might provide insight into the roots of certain perceptions of rewilding.

1.3. Rewilding: policy and public debate

Controversy over the meaning of rewilding is enhanced outside of academic circles, where the term gains greater plasticity and is used more freely (Jørgensen 2015; Tanasescu 2017). Rewilding moved from a conservation theory to a topic of public debate with the publication of George Monbiot's book 'Feral' (Monbiot 2014; Thomas 2022). It has also recently become a prominent subject within environmental policy in the UK. The 2016 UK withdrawal from the European Union (EU) and associated EU Common Agricultural Policy (CAP), then opened a 'policy window' for a larger discussion on land management and environmental policy in the UK (Thomas 2022). The UK 2020 Agricultural Bill and 2021

Environment Act, including the Environmental Land Management Schemes (ELMS) and the Landscape Recovery Scheme (LRS), introduced the idea of 'public money for public goods' (Eustice 2020). This legislation enables landholders to gain compensation for land management activities that provide public goods, including social and environmental ecosystem services, making some rewilding initiatives economically viable (Defra 2021b). Parallelly, in September 2020, the government committed to protect 30% of UK land by 2030, commonly known as the '30 by 30' goal, in line with the Wildlife Trusts' aim across the country (Prime Minister's Office et al. 2020; Surrey Wildlife Trust 2022a). Current national policy therefore shares some commonalities with the goals of rewilding; however, the word is not mentioned explicitly, most likely due to its contentiousness within the public debate or its varied definitions (Mercer 2023). Nevertheless, these policy influences pushed rewilding to the public spotlight, as it simultaneously became both a popular yet controversial topic and a practical opportunity for many (Sandom and Wynne-Jones 2019; Thomas 2022).

The proponents of rewilding are varied and, in the UK, fall into four principal groupings, as described by Thomas (2022) (Table 1).

There are also groups expressing scepticism of, and reticence to, rewilding. Reticence often stems from a certain perception of the meaning of rewilding or its impact on other activities, with some stakeholders fearing a removal of all human intervention (Blewett 2016). Similarly, the conflation of rewilding with predator reintroduction may associate the conservation practice with fear (Blewett 2016). The exploration of farmer perspectives of rewilding conducted by Mikołajczak et al. (2022) found that attitudes were based on perceptions of five issues:

(1) Whether nature should be restored,
(2) Whether rewilding is effective at restoring nature,
(3) How rewilding impacts food production,
(4) How rewilding impacts rural livelihoods,
(5) And whether rewilding is just.

Reticence may exist among farmers and rural communities who see rewilding as clashing with their values, income, or livelihood.

1.4. Rewilding: sources of conflict

Academic exploration of conflict surrounding rewilding in the UK is revealing. Lorimer et al. (2015) argue that social and political conflict arises when rewilding is in tension with existing forms of environmental management, whether these are social norms or legislative. Wynne-Jones (2022) emphasises on the impact of emotions in driving conflict between proponents and opponents of rewilding. In contrast, some have argued that conflict arises when rewilding is seen as being promoted by urban elites whilst disregarding local interests (Jones and Comfort 2020; Mikołajczak et al. 2022; Thomas 2022), with others alluding to the concept of 'ecological democracy' to refer to the importance of local adherence in conservation projects (Pickering et al. 2020; Takacs 2020).

Rewilding has thus become a contentious, polarising buzzword used by media and advocates of both sides to designate different, emotionally laden ideas (Wynne-Jones et al. 2018). Some conservation organisations purposefully avoid the term for this reason, including the Surrey Wildlife Trust which prefers referring to 'restoration' or 'nature's recovery' (The Wildlife Trusts 2023). Others, such as the Sussex Wildlife Trust and the World Wildlife Fund (WWF), use the term 'rewilding' (WWF 2023; Sussex Wildlife Trust 2023). The inconsistent uses of the term by conservation organisations points to uncertainty by these stakeholders around how to approach the polarisation of the term. To reduce this polarisation, several authors suggest that local communication is essential to enable constructive conversations about the implementation of acceptable forms of rewilding, in order to reduce the term's divergence within public discourse (Takacs 2020; Tanasescu 2017; Christie et al. 2020).

1.5. Local context in rewilding initiatives

Including local interests can be complex if they are in contradiction with conservation goals, however the broad literature consensus is that addressing the social risks relating to the change of a socio-ecological system is as essential as considering the ecological risks (Jones and Comfort 2020; Jones-Walters and Çil 2011; IUCN 2021; Tanasescu 2017;

Table 1. Four categories of rewilding proponents in the UK, as found and defined by Thomas (2022).

Category	Description
Armchair rewilders	Far-off advocates who will not be impacted by the practical consequences of rewilding.
Pioneer farmers	Landholders who transition to more sustainable food production and kickstart cultural change.
Policy entrepreneurs	Members of lobbying organisations who identify and utilise existing policy windows to push their proposals on rewilding.
Guerrilla rewilders	People who participate in direct, often covert and illegal, action in an attempt to rewild land.

Takacs 2020). This is particularly relevant for larger-scale rewilding projects which are especially prone to conflict. Resolving conflict requires a deep understanding of local interests and attitudes, to strategically include key stakeholders in the planning, decision-making, and implementation of rewilding. On the other hand, prioritising social values too much may undermine rewilding goals (Mikołajczak et al. 2022). Understanding the social constraints of rewilding among potential participants is therefore essential to navigate around this tension and to design acceptable, effective rewilding projects which deliver on their associated ecosystem services.

In order to better understand the role of local context in rewilding, we have explored a case study of local rewilding perceptions among landholders (land managers and land owners) in the county of Surrey, in Southern UK. The Surrey Wildlife Trust (SWT) aims to restore, protect, and connect 30% of the county's land by 2030, in a campaign for 'nature's recovery', contributing to the national '30by30' campaign (Surrey Wildlife Trust 2022a). This campaign fits within the international target agreed during the UN Convention on Biological Diversity (COP15) in 2022, which aims to restore and protect 30% of the planet for nature by the end of 2030 (Convention on Biological Diversity 2022). Collaborating with landholders to manage private land is essential to this goal in Surrey and SWT has already promoted rewilding initiatives such as collaborating to create nature corridors, advising on nature-based solutions and facilitating species reintroductions (Surrey Wildlife Trust 2022c, 2022b).

The county of Surrey lies to the South West of London and has many commuter links to the capital. The county is densely populated in some areas whilst very sparsely populated in others (Figure 1) and has seen a population growth of 6.2% between 2011 and 2021 (Surrey County Council 2022b). It is historically wealthy and rural with many large landholdings, with the 2021 census showing that less households in Surrey were deprived compared to both national and regional averages (Surrey County Council 2023). Large landholdings in Surrey include farms and old familial landowners with large estates, both stakeholder groups being most likely interested in the outcomes of ELMs (Surrey County Council 2022c). The 1,663 km^2 of Surrey are the most wooded in the UK with over 22% of the land area being tree-covered relative to a national average of 11% (Surrey County Council 2007). The combined characteristics of Surrey make it a promising territory for rewilding, and thus a relevant area in which to explore landholder perceptions of rewilding.

To make rapid local progress in achieving the '30by30' goal, the SWT must explore the local range of landholder perceptions of rewilding, including their level of interest, their conceptual understanding, and their attitudes towards rewilding (Pers. Comms. Siggery 2022). By exploring the perceptions of rewilding held by landholders in Surrey, this research aims to better understand the role of local context in rewilding, in order to inform the opportunity for local rewilding and the ways in which rewilding can become a land management strategy that is both effective at providing ecosystem services and acceptable among landholders.

2. Methods

This work uses semi-structured interviews which allow answers to specific questions as well as a more free-ranging exploration of landholder views. This

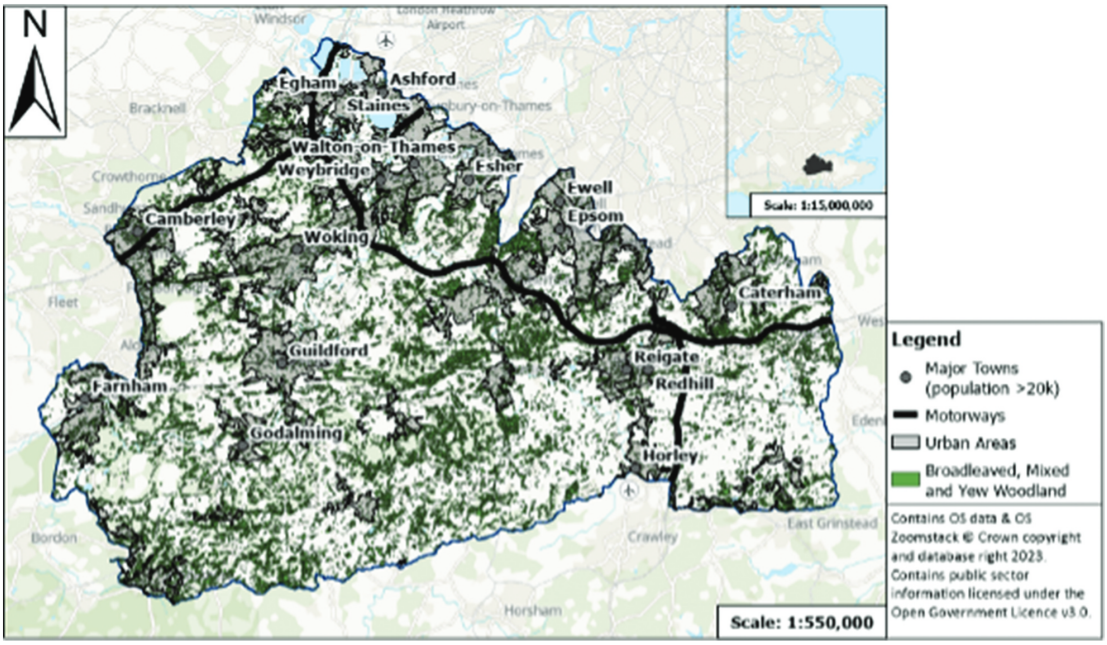

Figure 1. Map of the county of Surrey.

form of consultation has been successfully used to understand the local context and the social constraints of conservation projects in other contexts (Fitzgerald et al. 2021). This provides a foundation for building consensus around the communication and implementation of rewilding projects on private land in an area. Interpretation through thematic analysis allowed flexibility in the exploration of stakeholders' opinions, whilst maintaining a comparable focus. Ethical Approval was gained from the Science, Engineering and Technology Research Ethics Committee (SETREC) of Imperial College London.

2.1. Stakeholder selection

Potential stakeholders were mapped based on their level of interest and influence regarding rewilding in Surrey (Figure 2) (Reed et al. 2009). The information for this stakeholder map came from the literature review and conversations with SWT staff (Pers. Comms. Waite 2022).

Landholder influence on rewilding was found to be high whilst their interest is unknown, justifying the chosen research focus on landholders for two reasons. First, these stakeholders have a high level of potential influence, due to their ownership or management of land and their ability to create high levels of environmental and social impact on that land. With 71% of UK land being farmland, understanding landholder perceptions is essential to promote the success of rewilding projects and reach '30 by 30' targets (Defra 2021a). Second, discussions with SWT staff highlighted a misunderstanding of their level of interest in the subject. A better understanding of landholder perspectives about rewilding will therefore help to clarify their interest and 'unlock' their large potential impact.

Interviewees were selected through non-probability sampling, based on their deemed relevance ('purposive' sampling) and their connection with SWT ('convenience' sampling). This process produced a contact list of 15 relevant stakeholders and a local landholder group (Pers. Comms. Waite 2022). The nature of the sampling was justified by the research being an exploration of existing perceptions among a specific population, rather than a representation of wider perceptions in Surrey.

2.2. Semi-structured interview design

Participants were interviewed remotely during June 2022, and interviews were recorded and transcribed using Microsoft Teams. Open-ended interview questions were developed by building upon the gaps identified in the literature (see Supplementary Material 1). The questions were piloted with a land manager of a local Trust and subsequently refined. The content and phrasing of questions was adapted by considering the expertise and position of each participant.

2.3. Respondent characteristics

Twelve landholders initially responded and interviews were successfully organised with eight of these (see summary of characteristics under Table 2). The number of people contacted within the local landholder group is unknown as the invitation was circulated within a private network, therefore the exact response rate is impossible to determine. The mean length of interviews was 54 minutes.

All participants were land managers, but the extent of their influence on the land management differs: some were the sole managers, others managed it in collaboration with external organisations or tenants. All participants had income-generating use of their land; however, only half of the participants practiced farming, and the proportion of the agricultural area differs among these. The area of land

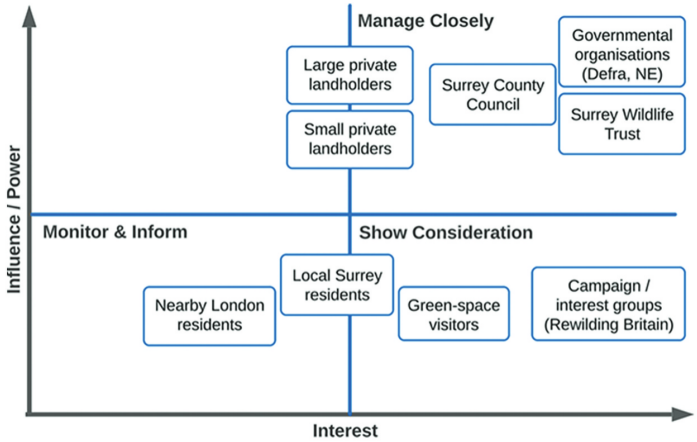

Figure 2. Stakeholder map representing relevant stakeholders based on their levels of interest and influence about rewilding in Surrey.

Table 2. Summary of the characteristics of the landholder participants.

Participant code	Land ownership	Land management	Agricultural use	Size of holding (acres)
L1	Does not own land	Manages land	Does not practice agriculture on land	9885
L2	Owns land	Manages land	Does not practice agriculture on land	48
L3	Owns land	Manages land	Practices some form of agriculture	90
L4	Owns land	Manages land	Practices some form of agriculture	1000
L5	Owns land	Manages land	Does not practice agriculture on land	8
L6	Owns land	Manages land	Practices some form of agriculture	500
L7	Owns land	Manages land	Practices some form of agriculture	30
L8	Does not own land	Manages land	Does not practice agriculture on land	580

for which each was responsible varied widely and provides information across much of the range of landholding sizes: the smallest held 8 acres and the largest 9885 acres.

2.4. Analysis

The qualitative data was analysed using the 6-phase methodology of thematic analysis presented by Braun and Clarke (2021). Thematic analysis is 'a method for identifying, analysing, and reporting patterns (themes) within data' (Braun and Clarke 2006, p. 6). This was chosen as the analytical tool as it allows for the identification, comparison, and synthesis of cross-cutting perceptions, which would enable us to demonstrate the complex nature of opinions surrounding rewilding, derived from interviewees of varied backgrounds. By 'actively' reading interviews and manually coding the data, thematic analysis enabled the identification of any non-verbal cues and assumptions that underlie spoken views. The analysis process is presented in Figure 3.

A rich thematic description of the data was conducted using the software NVivo, reporting on all prevalent themes through frequency or emphasis given by the participants, as recommended for research into unknown views or under-researched topics (Braun and Clarke 2006; Lumivero 2022). Themes were identified at the semantic level and analysed by interpreting the significance of patterns and implications relating to the existing literature. Quotations from specific landholders are attributed using a numeric code (L1-L8).

2.5. Methodological limitations

Non-probability sampling is inherently biased (Denscombe 2010). The sampling bias was, however, reduced by sending the invitation to the local landholder group as well as SWT-known landholders, thereby widening the pool of interviewees and avoiding the focus on landholders with strong views only. Also, interviewing landholders with strong views of

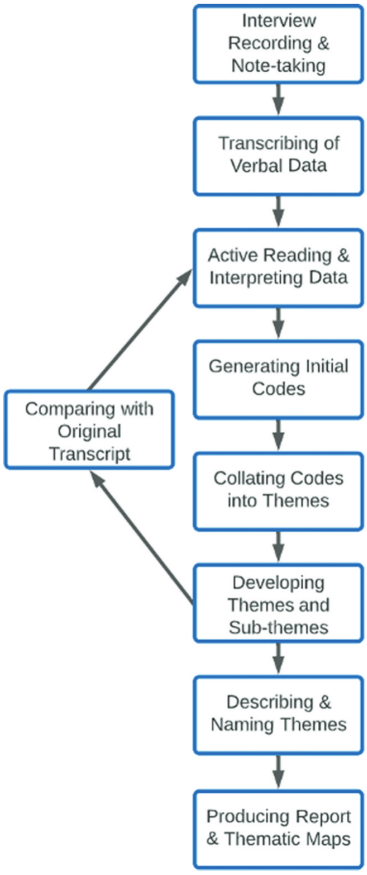

Figure 3. Overview of the thematic analysis process, based on Braun and Clarke's methodology (2006).

rewilding is relevant as this research attempts to explore the reasons behind resistance to rewilding.

The interview questions were found to be less appropriate when one landholder challenged the assumption of the existence of a biodiversity crisis. Additionally, asking if the interviewee had anything to add at the end of the interview prompted an informal discussion of the topics, which led to additional insight on the participant's views. Having more than one pilot interview may have enabled these reflections to emerge prior to the interview process,

ensuring clear and non-leading interview questions and improving the overall interview structure.

Researcher bias is inherent within thematic analyses as themes do not emerge from a data set, but are actively applied by the researcher, leading to potential subjectivity in the reporting. An iterative analysis was conducted to reduce this bias (Figure 3), and to ensure both internal homogeneity (data within themes are coherent) and external heterogeneity (there are clear distinctions between themes) (Braun and Clarke 2006). There are a variety of other recognised challenges with thematic analysis, as described by Braun and Clarke (2021), and any findings from this paper must be viewed with these in mind.

3. Results & discussion

3.1. Defining rewilding

The thematic range of understanding of the term rewilding varied substantially among interviewees. There were five principal themes emerging with sub-sections to these (Figure 4). These were explored individually prior to synthesis.

3.1.1. Rewilding is large-scale, impactful action

The majority of landholders included within their definition of rewilding the description of large-scale, impactful actions (7/8). Several landholders described reintroducing apex predators, such as lynx or wolves (2/8). This description implies a large-scale impact, as this would displace the 'predatory' role that humans have played in the ecosystem due to the absence of such species in the UK for centuries, as well as the contentious nature of reintroducing apex predators (Blewett 2016).

The idea of rewilding as turning land back to its 'natural state' (L4) was discussed by a majority of landholders (7/8), most of which argued that this goal can be achieved by minimising human intervention (5/8). This definition thus represents rewilding as an initiative in which human structures are removed rather than improved. By defining the 'natural' or 'wild' state of land as an environment without humans, landholders align with the concept of 'wilderness' being void of human activity, as discussed by several authors (Ward 2019; Wilson 2023). This perception also aligns with the recent resurgence in popularity of conservation methods that seek to protect nature by removing human influence, such as notable naturalist E.O. Wilson's 'Half Earth' proposition and the discussions since prompted by his radical idea (Locke 2014; Wilson 2017; Cafaro et al. 2017; Schulte to Bühne et al. 2021). However, these ideas have been challenged, with several authors instead advocating for conservation which aims to reconcile human activity with non-human 'nature' (Büscher et al. 2017; Büscher and Fletcher 2019; Egoh et al. 2021). This diverging approach points to the social complexity of bypassing human infrastructure, and is justified by the thesis that humans are intrinsic members of the ecosystem (Mace 2014; Büscher and Fletcher 2019).

3.1.2. Rewilding is replacing agriculture

The perception of rewilding as replacing agriculture was another notable theme: several landholders expressed this idea in depth (2/8) and several others mentioned it less prominently alongside other perceptions (3/8). The sentiments associated with this theme were mainly negative: participants described rewilding as 'negligent farming', 'abandonment' (L7),

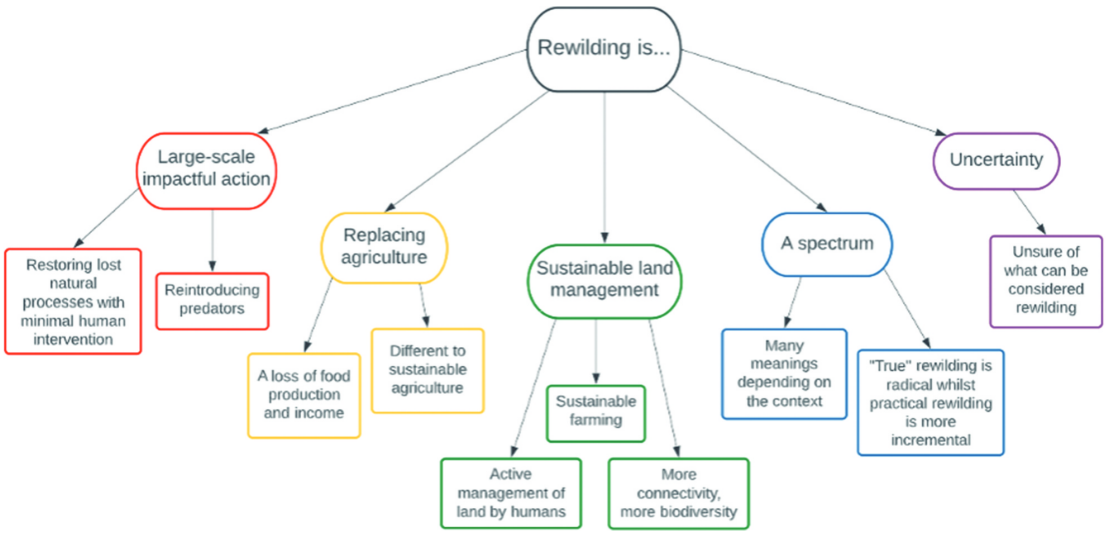

Figure 4. The arising thematic map of landholder perceptions of rewilding in Surrey, UK.

Table 3. The number of landholders interviewed who expressed specific perspectives on agricultural reduction through rewilding.

Number of landholders	Perspectives relating to rewilding as replacing agriculture.
5	Rewilding happens as an alternative to agricultural production, removing the potential for land to produce food or income
2	Rewilding is different to sustainable or regenerative agriculture, assuming that agriculture cannot be ecologically improved through rewilding
2	Importance of finding a balance between food security and environmental goals, implying that they are mutually exclusive

and wasting 'good soil and good agricultural land' (L5) (Table 3).

Perceiving rewilding as an alternative to agriculture creates a tense trade-off with food production and rural livelihoods, hence the broadly negative sentiments to the term. These findings build upon the research conducted by Mikołajczak et al. (2022) by demonstrating that these sentiments are present among non-farmer landholders as well as farmers.

3.1.3. Rewilding is sustainable land management

A third theme, emphasised by half of the landholders (4/8), describes rewilding as sustainable land management. 'Sustainable' is widely used across the literature with diverging definitions, referring to different levels of environmental, economic, and social improvements (Caradonna 2014; United Nations 2023); however, in this context, the term will be used to suggest a process of improving the ecological balance of a place or thing in order to secure its long-term maintenance and renewal. By describing rewilding as sustainable land management, this thus includes humans and gives them a role to play in the ecological improvement of land management. This emphasis relates to the debate about the extent to which rewilding aims to restore land modified by human activities (Corlett 2016). One landholder reinforced this argument:

> You look at remote parts of Australia or America or the middle of Russia where there's very low populations of people. It's not rewilding, it's just wild, because there's next to no humans. (L1)

This suggestion infers that rewilding only happens on land where humans live through its active *re*-wilding. The agency and role of humans in the action of rewilding is therefore central. This understanding assumes that rewilding can improve the ecological impact of human activities on land, instead of replacing human activity entirely. By actively involving humans in this process, it also supports the social and economic outcomes of sustainable land management.

3.1.4. Rewilding is a spectrum

Most landholders expressed views suggesting that rewilding has multiple meanings (6/8). The specific idea that rewilding is a spectrum between low-intervention 'passive' actions and active land management, as understood by the literature, was brought up by half of the landholders (4/8). One landholder referred to rewilding as an 'umbrella term' (L1), illustrating the multi-faceted nature of the term.

Half of the landholders alluded to the existence of 'extreme', 'real', and 'ultimate' (L3, L6, L8) forms of rewilding (4/8), differentiated by being harder to implement in the UK, due to the geographical area it would take up and the impacts on human activity. Describing this form of rewilding builds upon the literature that conceptualises rewilding along a spectrum of degree of human intervention in land management (Lorimer et al. 2015; Yorke 2016; Jepson and Blythe 2020; Thomas 2022; Driver 2022). It adds further nuance, by presenting rewilding as having different levels of impact on existing human activities, as well as different levels of human involvement (Figure 5).

The reframing of rewilding enables an easier examination of the forms which might be effective and acceptable in the UK. 'High-impact' rewilding, whether it is passive or active, may not be viable in the UK, due to the highly modified landscape of the country and the contentious nature of these actions. In contrast, 'low-impact' rewilding is more applicable to the integration of 'domesticated' forms of rewilding, as argued in the literature (Cockburn 2021; Thomas 2022).

Uncertainty about the meaning of rewilding was displayed by a few landholders (2/8). This uncertainty contrasted with an acceptance of variation in the meaning held by landholders, as well as the variety of perceptions of rewilding among the wider UK public (Lorimer et al. 2015; Blewett 2016; Mikołajczak et al. 2022).

3.2. Advantages of rewilding

The theoretical framework applied allowed extraction of stakeholder views of the advantages, barriers, and enabling factors associated with rewilding. This allows the visualisation of how to enhance the implementation of rewilding, by identifying the advantages to reinforce, the barriers to overcome, and the enabling factors to implement. The framework also

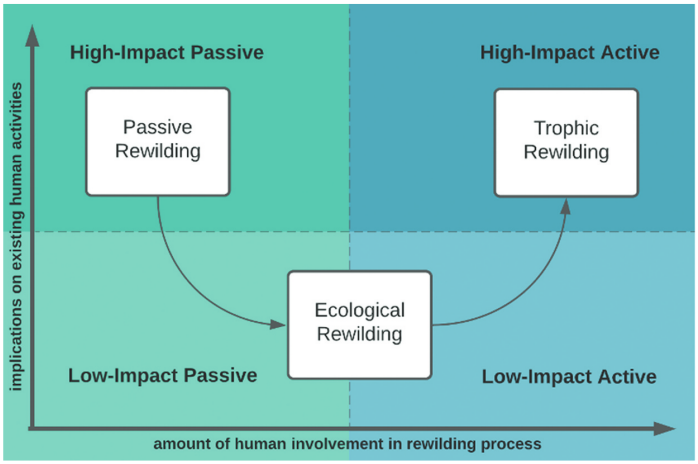

Figure 5. The different forms of rewilding within the existing literature (principally the X-axis) are given a further dimensionality emerging from Surrey landholder views which add the relevance of impacts affecting existing human activities.

facilitates comparison with views of other stakeholders.

Landholders described the forms of rewilding they would favour on their land and linked these to the underlying drivers of their attitude (Figure 6). The forms of rewilding landholders cited as favourable were grazing (5/8), hedgerow planting (4/8), more sustainable agriculture (2/8), and managing land to maintain habitat diversity (2/8) and favour the reintroduction of species such as large herbivores (1/8) and butterflies (1/8). Several landholders referred to the Knepp Estate as a desirable form of rewilding (3/8).

These forms of rewilding broadly fit within the category of ecological rewilding. The idea that landholders would prefer not to reduce their level of intervention on the land reflects the existing literature explaining that stakeholders often find active forms of rewilding more 'exciting' than passive rewilding (Yorke 2016, p. 55).

Most landholders demonstrated understanding of the *ecological benefits* of rewilding, discussed as intrinsically positive, as well as beneficial for the maintenance of land and its associated income. Rewilding was cited as a way to improve the ecological benefits of 'conventional' farming whilst remaining productive (4/8). Planting hedgerows and reducing human pressure on land were discussed as methods to increase biodiversity (2/8).

Half of the landholders suggested that rewilding can bring *financial benefit*, by being a source of income or reducing costs of land management (4/8). Using natural methods instead of antibiotics to combat pests in cattle and allowing succession instead of cutting grass were cited as two instances in which rewilding can save costs. Several landholders expressed that 'conventional' farming is no longer a profitable source of income (3/8), though only one of the three explicitly presented rewilding as an alternative source of income. The ELMS were mentioned as showing promise that environmentally-focused land management may be an alternative income source for landholders and farmers

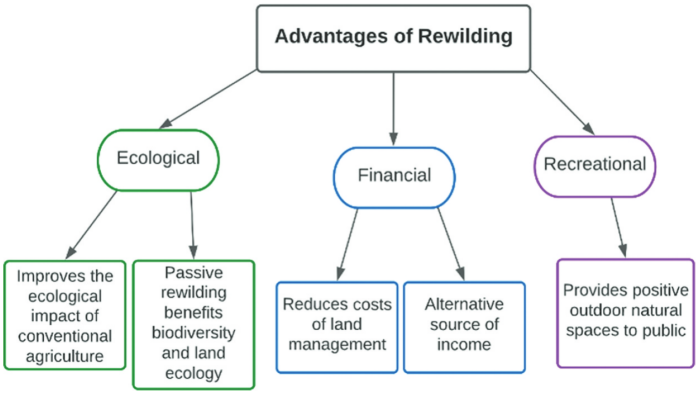

Figure 6. Thematic map of the perceived advantages of rewilding expressed by landholders in Surrey, UK.

(Defra 2022a). More effective communication of these schemes should create an opportunity for landholders to view rewilding as a viable land management strategy.

The *recreational benefits* of rewilding were cited by one landholder as providing 'outdoor activities' and 'nice areas of natural habitat' to the public (L2). This alludes to the mutually reinforcing advantages of public access and rewilding, developed in Section 3.5. This also aligns with the interdisciplinary understanding of rewilding as sustainable land management, where environmental improvements are accompanied by joint social benefits, encompassed through cultural ecosystem services.

3.3. Barriers to rewilding

The perceived *ecological barriers* (Figure 7) largely focused on the negative consequences of 'high-impact' rewilding through reintroductions, but two landholders also showed a clear understanding of evolutionary and successional drawbacks (Table 4).

These attitudes may be influenced by perceptions of rewilding as a large-scale, 'high-impact' activity, associated with fears of rewilding impacting existing human landscapes such as farmland or heathland or excluding humans from land where large animals have been reintroduced.

For several landholders, the inability to implement rewilding was attributed to *economic barriers* (2/8), whilst others alluded that the cost itself is not the barrier but rather that it is not their role or responsibility to pay for rewilding. The distinction between these two attitudes stemmed from their attitude towards rewilding: those in favour of rewilding displayed a moral obligation to implement rewilding but were limited by its cost, whilst those whose enthusiasm was muted argued that they were not the ones responsible for paying.

Several landholders further mentioned the additional potential costs of rewilding, including of managing invasive species (2/8). Others emphasised that taking land out of 'conventional' production, such as clear-felling woodland, implied foregoing income (2/8). One landholder described rewilding as a public cost with no public benefit. Quantitative cost-benefit analyses of a range of rewilding projects would inform the potential trade-offs with other land uses. Such work would inevitably encounter the difficulty of valuing the non-monetary benefits of land uses, but would help to answer the complex public policy question of which land uses should be prioritised in different contexts.

Half of the landholders expressed concern about the *logistical difficulties* of implementing rewilding (4/8). One of these was the belief of its contentiousness among the public, specifically regarding wolves or large herbivore reintroduction. While this contentiousness is present within the UK public, it has been found that other forms of rewilding, such as 'wildlife gardening and urban rewilding', are more widely understood (Resilience Transition Alliance 2019).

Some landholders alluded to the practical difficulties of implementing rewilding (3/8). They expressed criticism of far-off rewilding advocates, who idealise rewilding and advocate for it everywhere, whilst being blind to its practical implications, including its cost and its impact on other human activities. This coincides with Thomas' research on 'armchair rewilders' (Thomas 2022). By creating a sense of 'external imposition' among rural communities whose concerns might not feel valued or understood, this group may be counterproductive to the goals of rewilding, instead increasing polarisation (Thomas 2022, p. 86). Wynne-Jones et al. agree, arguing that rewilding is often promoted by a 'metropolitan elite' who are not affected by the impacts of rewilding (Wynne-Jones et al. 2018, p. 8).

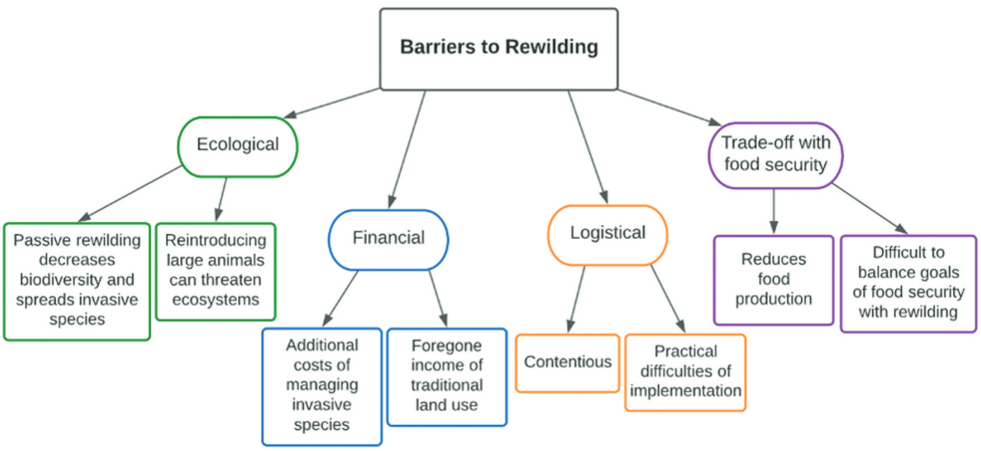

Figure 7. Thematic map of the perceived barriers to rewilding expressed by landholders in Surrey, UK.