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**‘Encouraging Human-Wildlife Coexistence in Scotland:
Implementing Key Stakeholder Perspectives and International
Mechanisms to Design a Wildlife Coexistence Fund’**



School of Geosciences

Dissertation for the degree of
MSc in Environment Culture and Society

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August 2025

I hereby declare that this dissertation has been composed by me and is based on my own work.

Abstract

Biodiversity worldwide is facing an accelerating crisis, driven by agricultural intensification, unsustainable land management practices, habitat loss, and the escalating impacts of climate change. This decline not only endangers wild species but also vital ecosystem services that support human livelihoods, such as clean water, pollination, and food production. As nature restoration efforts and species reintroductions increase, constructive human-wildlife coexistence (HWC) becomes an urgent concern for policy and practice. Agricultural and rural communities around the world often bear a disproportionate share of the costs and challenges associated with sharing land with wildlife. In Scotland, despite commitments to tackle the biodiversity and climate crises, current government schemes continue to support intensive agricultural production and lack the ambition and scope to adequately support HWC or nature recovery at the scale and pace required.

This thesis explores strategies to support HWC in Scotland, addressing the urgent need for financial mechanisms that effectively encourage, recognise, and reward efforts by key Scottish stakeholders, including farmers, crofters, land managers and rewilding practitioners, to coexist with wildlife. It investigates the feasibility of a Scottish Wildlife Coexistence Fund (WCF), drawing on international examples of government-backed outcome-based funding for HWC and semi-structured interviews with key Scottish stakeholders regarding their main concerns and motivations for a potential WCF. The analysis of international funding schemes identified six recurrent characteristics for successful HWC: **(1)** robust stakeholder involvement, **(2)** clear and measurable outcomes, **(3)** diversified financial mechanisms, **(4)** comprehensive education and awareness initiatives, **(5)** conditional payment structures, and **(6)** adaptive flexibility.

Scottish stakeholders, including farmers, crofters, land managers, and rewilding practitioners, voiced significant concerns, such as entrenched conflicts over land-use values, rigid and ill-fitting scheme requirements, insufficient government action and public investment, and high administrative burdens. Despite these challenges, strong motivations for reform emerged, with participants advocating for greater bottom-up engagement, improved public education, recognition of existing coexistence efforts, and the adaptation of successful international models.

The findings underscore a persistent gap between Scotland's ambitious biodiversity goals and the practical realities faced by key stakeholders. This study concludes that a dedicated Wildlife

Coexistence Fund, incorporating the identified principles of effective funding models and addressing stakeholder concerns, is crucial. Such a fund would serve as a vital instrument for achieving Scotland's biodiversity and climate ambitions through inclusive and adaptive land stewardship, fostering trust and bridging the policy-practice divide by empowering rural communities as active stewards for nature recovery.

Key Words: *Human–Wildlife Coexistence, Policy, Outcome-Based Funding, Agricultural Policy, Crofting, Farming, Land Management, Rewilding, Biodiversity, Stakeholder Engagement*

Wordcount: 11,996

Dedication

This thesis is dedicated to the memory of the countless species lost to extinction. It is also dedicated to the global communities disproportionately affected and increasingly displaced by the escalating crises of climate change and biodiversity loss, and to the individuals and organisations working tirelessly to forge a path toward environmental justice and systemic change.

Acknowledgements

I wish to thank my supervisor, Marc J. Metzger, for his guidance and feedback throughout the process of this thesis. I would also like to thank Charlotte Maddix for the exciting opportunity to work collaboratively with Scottish Rewilding Alliance and Rewilding Britain on this project, which has great potential to influence policy and bring about real change. A sincere thank you goes to all the participants who generously gave their time and shared their invaluable perspectives, without whom this study would not have been possible. Their insights are fundamental to informing future policy decisions.

This work would not have been possible without the support of my family and loved ones. I am profoundly grateful to my mother, Jude, for her patience and belief in me. My deepest thanks also go to my sister, Sofia, for her friendship and advice; to my partner, Conor, for his unwavering love and encouragement; and to my father, Sergio.

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Chapter 1: Introduction

1.1 The State of Nature

A Global Biodiversity & Climate Crisis

Biodiversity worldwide is in crisis, with an accelerating decline driven by complex, interconnected human-induced pressures including agricultural intensification, unsustainable land management, habitat loss, and the escalating impacts of climate change, which amplify these threats. The increasing competition for land and resources not only impacts wild species but also threatens the essential ecosystem services that humans rely on, such as clean water, pollination, food production, and climate regulation (Gross E. et al., 2021; Dickman, 2010). As nature restoration projects and species reintroductions increase, interactions between people and wildlife are becoming more frequent, making the question of how to coexist constructively an urgent concern for both policy and practice.

Reintroducing keystone species¹ and ecosystem engineers² into degraded natural landscapes, such as lynx (*Lynx lynx*) and beavers (*Castor fiber*), is increasingly regarded as crucial for regenerating functional and resilient ecosystems. Over time, the presence of these species in their natural habitats can help to improve habitat eco-structure and support broader biodiversity recovery across entire landscapes (Rewilding Europe, 2024; Pongen, 2024). However, such interventions are often contentious due to human conflicts over the inequitable distribution of the costs and benefits of living with wildlife (Jordan, 2020). Agricultural and rural communities worldwide bear a disproportionate share of the financial, emotional, and practical impacts of human-wildlife coexistence (HWC), and in many cases, cannot mitigate the negative impacts that it can have on their livelihoods. Therefore, finding equitable and locally adapted ways to support those who live closest to nature is a central challenge for advancing biodiversity and climate goals worldwide (Gross, 2025).

¹ **Keystone species** play a critical role in maintaining the structure of an ecosystem. Their loss causes major ecological changes, as no other species can fulfil their unique role, potentially leading to ecosystem collapse or invasion by other species (National Geographic Society, 2025).

² **Ecosystem engineers** shape the physical geography of their habitats creating, modifying, or maintaining them through their biological activities or altering the living (biotic) and non-living (abiotic) components of their environment (National Geographic Society, 2025).

The State of Scottish Nature

Scotland's unique sociopolitical landscape illustrates the challenges inherent in human-wildlife coexistence (Glass, 2019). Despite being celebrated for its “wild” and “natural” places, Scotland is recognised as one of the most nature-depleted nations in the Western world (Scottish Rewilding Alliance, 2023; Walton et al., 2023). Dramatic declines in wildlife have been linked to decades of agricultural intensification and a policy environment that has prioritised productivity over ecological sustainability (RSPB, 2025). Although the Scottish Government has made multiple commitments to biodiversity recovery, substantial funding still flows towards intensive production, leaving only a limited proportion allocated to nature-friendly or restorative practices (Harper, 2021; Scottish Wildlife Trust, 2024; RSPB, 2025).

Alongside ecological decline, Scotland faces historical sociopolitical dynamics that continue to shape conservation and land-use policy today; namely, the highly concentrated patterns of land ownership which restrict the ability of communities to participate fully in decision-making about land management and restoration (Wightman, 2010; Scottish Land Commission, 2021). The legacies of the Highland Clearances and ongoing rural–urban divides contribute to scepticism regarding top-down interventions in agricultural and rural communities. Understandings of what constitutes “nature” and how landscapes should be managed are strongly shaped by these histories, reinforcing mistrust and, at times, polarisation in contemporary debates about HWC. A prominent example of such tensions can be seen in the case of rewilding initiatives, which have grown increasingly visible within Scotland, energising new conversations about the future of land management.

Scotland hosts over 150 rewilding projects and campaigns. An example of such an initiative is the Scottish Rewilding Alliance, which is advocating for the formation of a dedicated Wildlife Coexistence Fund (WCF) in Scotland (See **Appendix II** for the working draft of a collaborative policy brief for MSPs) (Scottish Rewilding Alliance, 2023; 2024). This is an initiative supported by a coalition of over 20 environmental organisations working towards the shared objective of enabling large-scale nature restoration as a pathway to make Scotland a “Rewilding Nation.” This vision reflects widespread optimism and a push for greater progress under current Scottish agricultural and rural land management policies. However, as many key Scottish stakeholders observe, rewilding can be viewed as threatening to traditional rural livelihoods and identities, especially when political priorities and decisions appear to overshadow

the local experience. Achieving meaningful progress requires approaches that are locally rooted, adaptive, and capable of building trust across long-standing divides (Carter and Linnell, 2016; Martin, 2023).

Building Human-Wildlife Coexistence

Globally, a variety of policy instruments have been tested in pursuit of better HWC. These range from classic compensation schemes for livestock losses, to more holistic or outcome-based payments that incentivise stewardship and participatory funding models that are co-designed with key stakeholders (Glikman et al., 2021; Zabel and Holm-MÜLLer, 2008). International evidence increasingly suggests that blended, flexible models grounded in the realities of local communities are more likely to succeed over the long term (Dickman et al., 2011). In contrast, Scotland's approaches remain largely reactive, relying on limited programmes for specific species or circumstances, and seldom providing broad-based, long-term support (Scottish Wildlife Trust, 2025). Additionally, administrative complexity and unequal access to funding often mean that smaller farms and crofts, or those with less technical capacity, may be behind (Jones, 2018; Mack et al., 2021).

The path forward for HWC in Scotland is clear: it demands a fundamental reimagining of our approach, as consistently highlighted by academic studies, practitioner insights, and the powerful voices of stakeholders interviewed for this research. With nature restoration and climate resilience now critical imperatives, there's a strong and growing agreement that only proactive, collaborative, and outcomes-focused strategies can bridge the chasm between current policy rhetoric and the practical action that is urgently required (Gross et al., 2025; Scottish Rewilding Alliance, 2023).

1.2 Research Questions and Objectives

In response to the increased demands for government action on the climate and biodiversity crises, this thesis explores whether, and how, financial mechanisms could more effectively support HWC within Scotland's agricultural and rural communities. The study focuses on the potential design of a Wildlife Coexistence Fund for Scotland, considering both lessons from international practice and the main motivations and concerns of Scottish farmers, crofters, land managers, and rewilding practitioners. In Scotland's shared and working landscapes, where

debates around land use and rewilding continue, HWC must be addressed to overcome broader conservation challenges. Although financial incentives to promote HWC exist in many countries (see page 19), there is no such mechanism in place in Scotland. This research seeks to fill this clear policy and knowledge gap. It places particular emphasis on the perspectives of those who would be most affected by coexistence policies, aiming to ensure future interventions are practical, equitable, and contribute positively to Scotland's biodiversity, climate, and rural wellbeing goals. To achieve this, the research is organised around two principal questions:

***Q1)** What types of financial mechanisms, informed by successful examples from other countries, could effectively encourage HWC among Scottish crofters, farmers, land managers and rewilding practitioners?*

***Q2)** What are the key motivations and concerns of key Scottish stakeholders regarding HWC and the prospects for a new targeted Wildlife Coexistence Fund?*

The thesis will address these questions, beginning with a critical review of the evolving concept of coexistence and the role of incentives in conservation, connecting these debates to the Scottish context, and highlighting ongoing challenges in land management and stakeholder engagement. Subsequent chapters outline the methodology, present empirical findings from interviews and literature review, and discuss the policy implications, culminating in practical recommendations for the future design and implementation of a Wildlife Coexistence Fund (WCF) in Scotland.

Chapter 2: Literature Review

2.1 Human-Wildlife Coexistence

From Conflict to Coexistence: Reframing Human-Wildlife Interactions

Building tolerance for HWC is crucial for any nature recovery initiative. Yet, overcoming negative perceptions of certain wildlife species remains a persistent barrier (Frank et al., 2019). Research consistently shows that achieving coexistence requires meaningfully engaging those most affected, listening closely to their concerns, and supporting transformations in both policy and practice, as well as promoting attitudes that foster tolerance, reduce hostility, and address misconceptions (Fletcher and Toncheva, 2021, Martin et al., 2023).

This study adopts a coexistence lens that challenges dominant ‘conflict’ narratives surrounding human-wildlife interactions, which often imply intent or agency on behalf of wildlife (Peterson, 2010). Instead, coexistence views negative human-wildlife encounters as complex outcomes of broader human–environment relationships (Dickman, 2010). Framing conservation disputes as ‘conflicts’ overlooks the social elements of conflicts and masks underlying tensions between people, obstructing effective resolution for HWC (Dickman, 2010). Emphasising coexistence aligns with integrative conservation approaches that recognise ecological interdependence and social complexity (Redpath et al., 2013, Kansky et al., 2024, Gross et al., 2025, Frank et al., 2019, Dickman, 2010). Consequently, adopting a coexistence lens in this research is not just a theoretical and methodological decision, but also a principled ethical stance that positions this discussion firmly within current academic and policy dialogues, both globally and in Scotland.

What is Coexistence?

There is no universally accepted definition of coexistence; this is likely due to its context-dependent nature, making it open to multiple interpretations (Fiasco and Massarella, 2022; Carter and Linnell, 2016; Pooley et al., 2021; König et al., 2020; Gross et al., 2025). Pooley et al. (2021, p.2) describe coexistence as “a sustainable though dynamic state, where humans and wildlife co-adapt to sharing landscapes and human interactions with wildlife are effectively governed to ensure wildlife populations persist in socially legitimate ways that ensure tolerable risk levels.” Fostering coexistence is vital for any serious biodiversity recovery agenda, especially in shared landscapes, like Scotland’s, where histories of dispossession and concentrated land tenure

complicate notions of legitimacy (Convention on Biological Diversity, 2022; Brown et al., 2011). Unpacking these contextual complexities will allow the development of coexistence models that pursue both ecological and social justice. This will be discussed in detail in Section 2.4.

2.2 Social Complexities of Human-Wildlife Coexistence

Addressing Human Conflicts

The term ‘human–wildlife conflict’, masks what are fundamentally human–human conflicts rooted in competing values, interests, and power dynamics (Peterson, 2010). It also disguises social tensions, historical, political or economic, which are not always adequately addressed by current conservation responses (Fletcher and Toncheva, 2021; Peterson et al., 2010; Holmes, 2011). Despite this, most HWC strategies focus narrowly on ecological factors or technocratic solutions that aim to alter wildlife behaviours or provide compensation for wildlife-related damage, overlooking the social dimensions and complexities of conflict (Dickman, 2010). This approach may deliver short-term fixes but seldom resolve the underlying issues that condition stakeholder responses (Redpath et al., 2013).

Zimmerman et al.'s (2020) "Levels of Conflict" framework seen in **Figure 1**, is a useful tool for understanding why many strategies to encourage HWC fail. The framework outlines a hierarchy of conflict, beginning with Concrete Disputes (L1), which are the surface-level issues like economic loss from livestock depredation. Most conservation efforts, such as compensation schemes, only address this level. However, these disputes often mask deeper issues. The second level, Underlying Conflicts (L2), involves a history of unresolved or inefficiently addressed conflicts. The most profound level is Deep-rooted Conflict (L3), which is driven by historical grievances, identity politics and systemic inequalities. The Scottish debate over rewilding is a prime example of a deep-rooted conflict which encapsulates all three levels.

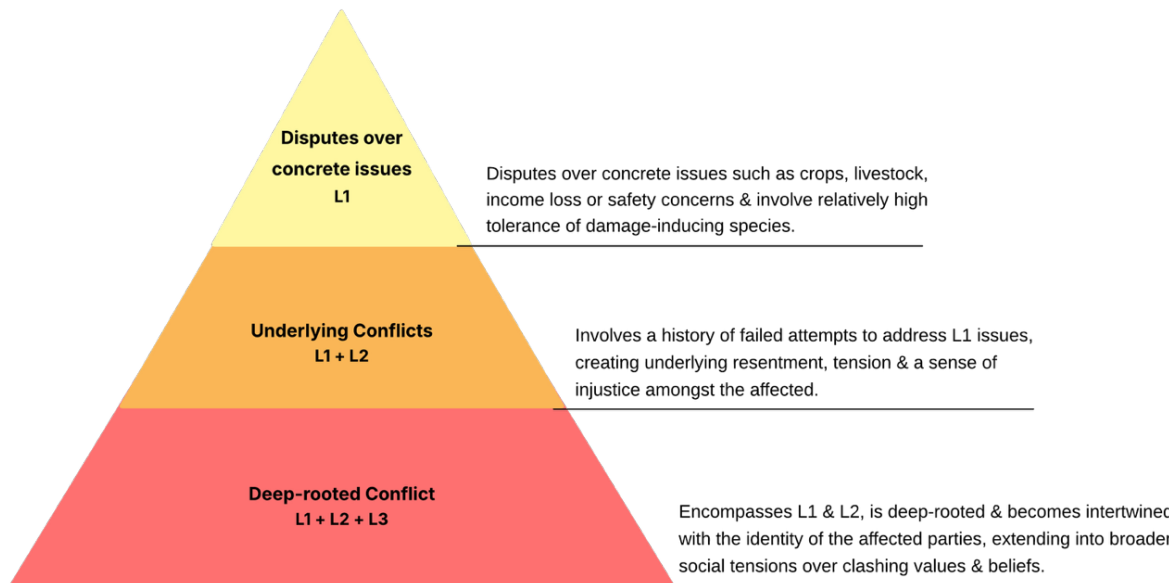


Figure 1: Illustration of the different levels of conflict amongst humans (Adapted from Zimmerman et al., 2020).

Therefore, this model can explain why resistance to conservation initiatives in Scotland is not simply about immediate losses or concrete issues but is shaped by historical injustices, such as land dispossession, and a mistrust of centralised policies (Brown et al., 2011; Martin, 2023). Additionally, conflicts over illegal species releases and clashes between agricultural and rural communities and conservation NGOs are not isolated incidents; they are also symptoms of social tensions (Coz et al., 2020). The failure to address these underlying social dynamics is likely a key reason for both the slower progress of rewilding in Scotland compared to other European nations (Whitehead and Hare, 2025; Webster, 2025) and the failure of technical fixes, such as fencing or lethal control to mitigate negative human-wildlife interactions, to address the root of the conflicts, which continue to persist issues (Dickman et al., 2011; Carter & Linnell, 2016).

Moreover, resolving human conflicts is inherently complex as it requires navigating a wide array of stakeholder experiences, which are shaped by differing motivations, unequal access to power and resources, and varying levels of damage or injury (Dickman, 2010; Fiasco and Massarella, 2022). Consequently, understanding the conflict is not just an ecological challenge but a social one. A critical aspect of this challenge is that a person's perception of risk can be more influential than the actual damage they experience. As seen in **Figure 2**, these perceptions are shaped by deep-seated social factors, including a community's economic vulnerability, its internal power dynamics, identity politics, and historical tensions (Gross et al., 2025; Carter

and Linnell, 2016). In essence, how people feel about wildlife is often a reflection of how they feel about their place in society.

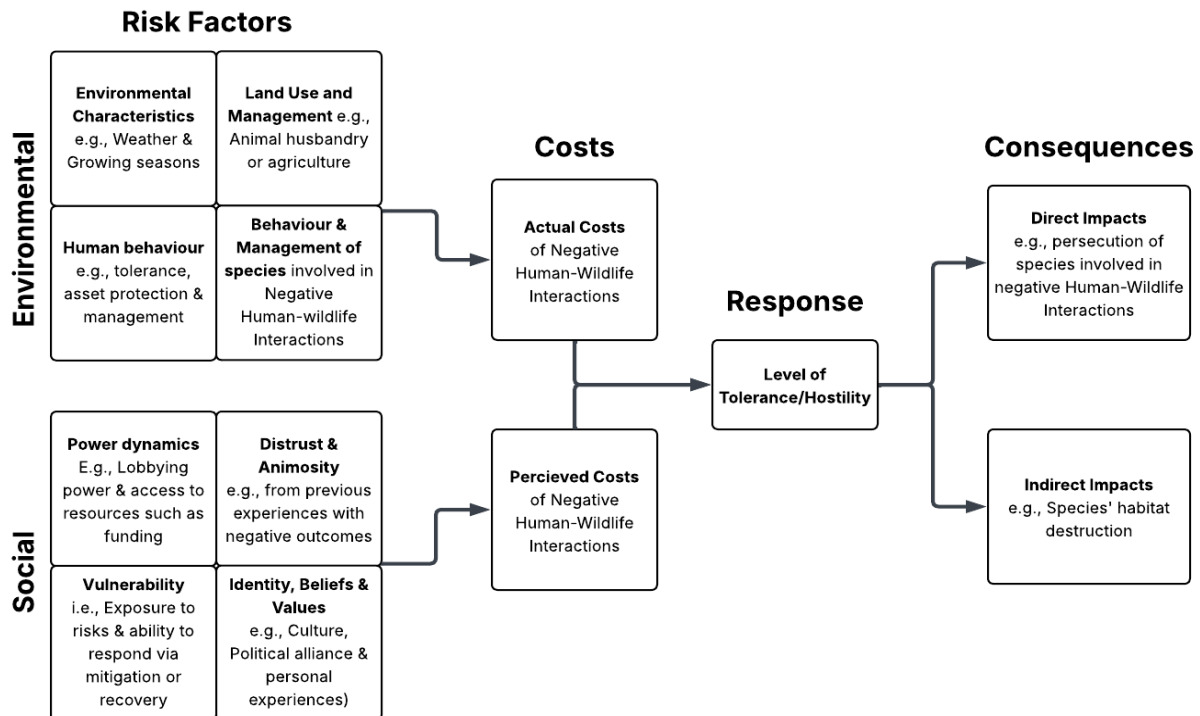


Figure 2: Conceptual framework of some of the Social and Environmental factors likely to affect the intensity of human-wildlife conflict (Adapted from Dickman, 2010).

This dynamic is starkly illustrated by the unequal distribution of conservation's burdens and benefits. Often, rural communities shoulder a disproportionate share of the emotional, financial, and practical costs of living with wildlife, while more distant urban populations enjoy the benefits of biodiversity from afar (Jordan et al., 2020; Hamm et al., 2024). This unequal distribution of the burdens and benefits of coexistence is a persistent issue in many conservation initiatives and can lead to feelings of alienation and resentment that fuel resistance to policy changes and limit stakeholder buy-in (Martin et al., 2023; Wynne-Jones et al., 2020; Holmes, 2011). Ultimately, these social conflicts can become projected onto wildlife itself.

A lack of consultation, support, or compensation can create a vicious cycle where hostility towards a failed policy translates into reduced tolerance for the associated animal, thereby undermining the very conservation efforts being attempted (Hamm et al., 2024; Ravenelle and Nyhus, 2017).

In order to address the complexities of human-wildlife interactions, Gross et al. (2024) propose a six-component framework that can be used to effectively manage HWC. The framework includes (1) policy and governance, (2) understanding interactions, (3) prevention, (4) response, (5) mitigation, and (6) monitoring. Together, these elements offer a holistic approach that moves beyond reactive or conservation-centric solutions by embedding coexistence efforts within a broader understanding of human institutions, values, and lived experiences. This structure helps situate both technical and relational strategies, such as trust-building, equitable incentives or participatory governance, within a unified system of action. Frameworks like this are particularly useful in the current context, with academic literature increasingly advocating for funding and governance mechanisms that foreground social equity and collaboration.

2.3 Incentivising Human-Wildlife Coexistence

Wildlife Coexistence Funding

While there is no single, widely accepted definition of 'human-wildlife coexistence funding' in the literature, this study defines it as encompassing financial mechanisms that incentivise tolerance and reward land managers for supporting biodiversity. This definition aligns with and builds upon concepts such as Payments to Encourage Coexistence (PEC), a term defined by Redpath et al. (2015) as schemes that provide financial incentives to land managers to reduce conflict and increase coexistence. It also draws on the broader framework of Payments for Ecosystem Services (PES), where land managers are compensated for providing valuable environmental benefits; in this case, the restoration and protection of species and habitats (Engel et al., 2008). As highlighted by multiple studies, a successful WCF must foster proactive behaviours and reward on-the-ground stewardship, differentiating it from legacy compensation frameworks that simply respond to losses (Dickman et al., 2011; Gross E. et al., 2021; Pekor et al., 2020). Recognising the everyday adaptations made by rural actors to enable coexistence and supporting them through practical and financial means is a key factor in this (Ravenelle and Nyhus, 2017).

Community participation is a key component of successful WCF. Where stakeholders are excluded from conservation decisions, mistrust and opposition are far more likely to arise (Martin et al., 2023; Holman et al., 2016; Coz et al., 2020). Literature and case studies demonstrate that the most successful initiatives co-develop plans and address root causes of tension, rather than

simply offering top-down solutions (Baynham-Herd et al., 2018; Jordan et al., 2020). Targeted incentives and equity-based payments for those most exposed to risk is a suggested way to redress imbalances and support more just and sustainable coexistence (Hamm et al., 2024). This is directly relevant to Scotland, where rewilding debates frequently mirror wider struggles over equity, land use and power (Jordan et al., 2020).

Patterns in Funding for Wildlife Coexistence

Deviating from technocratic, ecology-based interventions, the field of HWC is now shifting toward proactive, outcome-based incentives that reward land managers for fostering tolerance and biodiversity (Redpath et al., 2015). This emerging trend, which aligns with concepts like PEC, aims to integrate conservation into rural economies, prevent negative interactions and adapt land-use practices (Redpath et al., 2015; Wunder, 2005; Jordan et al., 2020). Examples include habitat improvements, wildlife corridor protection, and citizen science initiatives (Horgan et al., 2021; Sasaki et al., 2025). A significant limitation, however, is the disproportionate focus on large, charismatic species, often overlooking smaller, less visible species, such as insects, whose coexistence with people is also important (Dickman et al., 2011; Berzi et al., 2021).

Compensation schemes have long been a primary tool for offsetting wildlife losses and building tolerance (Dickman et al., 2011; Hemminger et al., 2025). However, a growing body of evidence reveals their significant flaws when used in isolation, including issues of moral hazard³, bureaucratic inefficiency and a lack of transparency (Ravenelle and Nyhus, 2017; Bautista et al., 2019). These schemes also fail to address the underlying causes of conflict (Redpath et al., 2013; Dickman et al., 2011). This has led to a consensus within the literature: effective human-wildlife coexistence requires integrated strategies that blend compensation with preventative measures, education, and conditional payments that incentivise positive outcomes (Austin et al., 2010; Berzi et al., 2021).

³ **Moral hazard** occurs when compensation reduces the incentive for individuals to take preventative measures against wildlife damage, potentially leading to riskier behaviours (Ravenelle & Nyhus, 2017).

Proactive outcome-based approaches

Internationally, studies show a clear and powerful shift toward direct, outcome-based incentives that reward tangible results rather than inputs. This marks a crucial evolution from reactive compensation schemes toward proactive mechanisms that create and sustain the conditions for HWC. Diverse international case studies summarised in **Table 1** below, demonstrate their versatility and capacity to integrate conservation goals with tangible local benefits for human-wildlife coexistence and biodiversity recovery across different countries. The EU's Agri-Environmental Climate Measures (AECM) and Finland's Payments for Improved Ecostructure (PIE) link payments to biodiversity gains (European Network for Rural Development, 2017; Hiedanpää et al., 2016; Opdenbosch et al., 2024), while Sweden's Conservation Performance Payments (CPP) and Canada's Conservation Impact Bonds (CIBs) tie payments to predator presence and species recovery metrics, respectively (Zabel et al., 2014; Carolinian Canada, 2025; Deshkan Ziibi, 2021; Lynch & Kanter, 2023). Coexistence-focused pilot projects like CoCo and LIFE BOREALWOLF further exemplify how financial support can be integrated with monitoring, deterrents and community engagement (Cordis Eu, 2024; European Commission, 2019; Natural Resources Institute Finland, 2025). These emerging mechanisms are typically co-produced, adaptive and rooted in stakeholder engagement (Sasaki et al., 2025; Voigt-Heucke et al., 2023). By embedding wildlife into working rural landscapes, these initiatives successfully align conservation goals with tangible local benefits.

Table 1: Summary of international government-backed outcome-based financial Mechanisms that have successfully encouraged Human-Wildlife Coexistence through diverse strategies.

Country /Region	Programme	Main Financial Mechanism	Administered by	Key Features	Successes for Human-Wildlife Coexistence	Sources
Canada	Ontario Conservation Impact Bond (CIB) Initiative	Public-private Outcome-based CIB repayable on meeting ecological outcomes	Ontario Government, Conservation Finance Initiative, Indigenous partners	Funds habitat restoration via investor capital. Investors provide upfront capital and if biodiversity targets (i.e., species recovery or habitat quality) are met, the government repays with interest	170+ acres restored in Deshkan Ziibi, 269 ha improved in Ontario; model scalable and integrates Indigenous governance	Lynch and Kanter (2023); Carolinian Canada (2025); Deshkan Ziibi Conservation Impact Bond Leadership Team (2021)
England	UK Countryside Stewardship (Higher Tier) Scheme	Agri-environment management payments under Environmental Land Management	UK Department of Environment, Food & Rural Affairs (DEFRA)	Farmers and land managers receive payments for habitat restoration, species recovery and landscape connectivity; Payments depend on land parcel types and actions chose. Focuses on priority species and ecological networks	Ongoing species recovery (e.g., lapwing, redshank, dragonflies & pollinators), adoption of wildlife-friendly practices	UK Government (2025)
EU (Multi-country)	Agri-Environment-Climate Measures (AECM)	Outcome-based payments under EU Common Agricultural Policy	National governments via EU Common Agricultural Policy	Contracts paying farmers €250–€600/ha/year to deliver ecosystem outcomes (e.g., biodiversity, habitat quality, water protection). Payments tied to compliance and monitoring with penalties for unmet goals	Biodiversity gains in farmland birds and insects	European Network for Rural Development (2017); Opendbosch et al. (2024)
	Co-creating Coexistence Project (CoCo)	EU Horizon/EU4Nature co-funding for pilot coexistence projects	EU Horizon 2020, national partners	Provides small grants (€20k–€50k) for community-led efforts to coexist with carnivores. Funds coordination, non-lethal deterrents, local engagement, and encourages participatory governance	Early improvements in stakeholder collaboration and pilot coexistence solutions	(CORDIS EU, 2024)
Finland	Payments for Improved Ecostructure (PIE)	Result-based Agri-environment payments under EU Common Agricultural Policy	Finnish Ministry of Agriculture and Forestry	Pays €300–€750/ha/year to farmers who improve ecological structure (e.g. flower strips, buffer zones) with measurable outcomes for monitoring of vegetation and biodiversity	Enhanced habitat connectivity and biodiversity in waterways	Hiedanpää et al. (2016)
	LIFE BOREALWOLF	EU-LIFE grants with performance conditions	EU LIFE programme; Finnish Ministry of Foreign Affairs	€5.5m project supporting coexistence with wolves via outreach, training, deterrents, and monitoring. Payments flow to institutions delivering project goals to enhance wolf conservation and human–wolf coexistence. Include predator management tools and raising community awareness	Improved livestock protection infrastructure, reduced wolf presence & fewer farmer conflict reports	Natural Resources Institute Finland (2025); European Commission: LIFE Public Database (2019)
Germany	Schleswig-Holstein Grassland Bird Scheme	Result-based Agri-environment payments under EU Common Agricultural Policy	Schleswig-Holstein Ministry of Agriculture	Pays €250–€500/ha/year for bird-friendly grassland based on field scoring system measuring sward height, delay of mowing, and plant diversity for ground-nesting bird species (e.g., lapwing, godwit, curlew, etc.)	Breeding pairs remain stable locally, defying national downward trends	Result Based Payments Network (2025)
Ireland	BurrenLIFE Project	EU-LIFE funded Results-Based Agri-environment Payment Scheme (RBAPS)	Irish National Parks & Wildlife Service, EU LIFE Programme	Pays €50–€450/ha depending on ecological quality scores and restoration of semi-natural grasslands, promotes traditional grazing, and supports infrastructure for sustainable management and livelihoods	Re-established species-rich habitats; active farmer engagement	Results Based Payment Network (2025a); European Network for Rural Development (2024)
Sweden	Compensation & Incentive Programs for Large Carnivores	Conservation Performance Payments (CPP) & Damage compensation	Swedish Environmental Protection Agency (SEPA)	Pays €3,000–€5,000/year for breeding carnivore presence (e.g., wolves, lynx, wolverine, bears). Supports fences, herding dogs, and other non-lethal control. Encourages local acceptance through proactive & reactive support (i.e., livestock loss compensation)	Increased tolerance in some regions, helped maintain large carnivore populations while supporting reindeer herders and livestock owners	Dickman et al. (2010); Zabel et al. (2014); Results Based Payment Network (2025b)
USA (Multi-state)	Wolf Livestock Loss Demonstration Project Grant Programme	Federal and state government-funded compensation and incentive schemes	U.S. Fish and Wildlife Service, various state wildlife agencies	Compensates livestock loss (~market value) and supports conflict mitigation (e.g. fencing, dogs, non-lethal deterrents), plus bonuses up to \$1,000 for carnivore presence. Some areas also offer conservation incentives for carnivore-positive land	Increased tolerance for large carnivores, and reduced illegal retaliatory killings in some areas	Morehouse et al. (2018); U.S. Fish & Wildlife Service (2025)

The Role of Government & Policy

Legislation, regulation and public funding are fundamental for successful HWC (Dinnie and Holstead, 2018; Madden, 2008; Miteva et al., 2012). Effective policy frameworks are those that offer clear management procedures and are coupled with sustained investments in education and long-term financial support, which together enhance security for both communities and wildlife and foster public buy-in (Madden, 2008). As Gross et al. (2025) further demonstrate, such legal frameworks build legitimacy through authoritative signals, not just coercion. This governmental leadership is critical; for instance, in Europe and North America, the most effective PES schemes are government-led, signalling a clear state commitment to environmental outcomes (Ezzine-de-Blas et al., 2016).

The Scottish Government has initiated significant reforms aimed at biodiversity and climate recovery. This includes a National Biodiversity Strategy and the new Natural Environment (Scotland) Bill, which introduces statutory targets for nature restoration (Scottish Government, 2025). Promising pilots, such as the Payments for Outcomes-Based Approach Scheme (POBAS), also signal a shift toward fostering greater trust and engagement with land managers (NatureScot, 2022). Nevertheless, these positive developments are undermined by a persistent implementation gap. Current farm funding in Scotland remains heavily dominated by direct, area-based payments, which provide little or no explicit incentive for biodiversity and often fail to support small-scale actors (Scottish Environment LINK, 2025). Moreover, the few government schemes that do address HWC are often narrow in scope, targeting individual species such as geese, sea eagles and beavers, rather than explicitly fostering a broader culture of coexistence. As a result, more systemic, outcome-focused initiatives remain at the pilot stage, constituting only a small proportion of total agricultural and rural funding (Scottish Wildlife Trust, 2024).

2.4 Human-Wildlife Coexistence in Scotland

Understanding the Context of Scottish Land-use Conflicts

The complex dynamics of HWC in contemporary Scotland cannot be understood without first understanding the nation's land, its history and the structures of power that govern it (Robbins, 2012; Brown et al., 2011). This is particularly salient in Scotland, where highly concentrated land ownership means biodiversity outcomes depend less on land cover and more on the agency of those who manage the land (Wightman, 2010; Burton et al., 2008). This aligns with principles from environmental justice and rural sociology, which underscore that for conservation policy to be both effective and legitimate, it must address distributional equity (Schlosberg, 2007; Pascual et al., 2023).

These tensions are particularly apparent within agriculture, a land use which covers approximately 70% of Scotland's land (Scottish Government, 2023) and is therefore central for many contemporary land-use and nature restoration debates. While some traditional farming systems have historically maintained biodiversity, decades of policy-driven intensification have eroded both ecosystem resilience and the diversity of rural livelihoods (Walton et al., 2023; Reed, 2008). Less intensive farming practices such as crofting remain an important model of high nature value farming, fostering both environmental and cultural benefits through communal land management and stewardship (Scottish Government, 2021). Consequently, the success of future agri-ecological transitions will hinge on creating trust-building, context-sensitive incentives that acknowledge these diverse land management traditions. However, the implementation of such policies is fundamentally constrained by Scotland's highly concentrated pattern of land ownership, a contentious issue at the forefront of the nation's land reform debate (Scottish Land Commission, 2021).

Land Ownership & Reform

Conservation and rewilding efforts in Scotland are profoundly politically sensitive and deeply entangled with the country's highly unequal patterns of land ownership. The dominant legal framework prioritises individual property rights, often reducing complex and relational understandings of people, animals and landscapes (i.e., relational ecologies) to the authority of a single owner (Wightman, 2010; Scottish Land Commission, 2021). This legal simplification, while perhaps administratively convenient, has been sharply criticised. As James C. Scott

(1998) argues, such state-led efforts to create 'legibility' often destroy the very local knowledge that makes communities resilient. This concentration of power effectively stifles local voices, creating what Sherry Arnstein (1969) would label 'tokenism' rather than genuine citizen control. Ultimately, by centralising authority, this approach risks undermining the 'social capital' that is the foundation of authentic community development (Putnam, 2000). This emphasis on private ownership, often at the expense of collective or customary rights, lies at the core of Scotland's land justice concerns. The issue is not abstract: as Andy Wightman (2024) highlights, just 433 individuals own half of Scotland's private rural land, while less than 3% is in community hands. This extreme concentration of ownership exacerbates wider systemic issues, including housing inequality, food insecurity, and climate vulnerability.

In response, Scotland has introduced progressive land reform measures, notably the Land Reform (Scotland) Acts of 2003 and 2016. This landmark legislation granted public access rights and created mechanisms for community ownership, aiming to redistribute power and support sustainable rural development. Such reforms are rooted in historical injustices, from the Highland Clearances to feudal tenure systems that long entrenched elite dominance (Glass et al., 2019). Redefining the ownership, management and tenure of land is increasingly recognised as central to achieving environmental goals (Wightman 2010, 2024; Glass et al., 2019; Martin et al, 2023). By reshaping governance structures, land reform can create the enabling conditions essential for both human-wildlife coexistence and wider nature recovery. Farmers, crofters and land managers are indisputably central to this transition and must be robustly supported in adopting biodiversity-positive practices (Scottish Environment LINK, 2025).

Current Scottish Government Schemes

Over the past few decades, the Scottish Government has implemented various initiatives to restore biodiversity and meet national climate targets, yet most remain limited in scope and impact. As detailed in **Table 2**, only three existing schemes, the Goose Management Scheme, Sea Eagle Management Scheme and the Scottish Beaver Strategy, directly target Human-Wildlife Coexistence (HWC).

Table 2: Summary of existing Scottish Government schemes that directly or indirectly support Human-Wildlife Coexistence.

Scheme	Financial Mechanism	Main Aims	Important Features	Successes	Limitations	Source
Goose Management Schemes Since 2000	Direct payments based on goose numbers or impact	Manage agricultural damage caused by protected goose populations	Directly encourages HWC; Regional schemes; adaptive management plans; monitoring & stakeholder input	Reduced conflict in high-goose-density areas; integrated local input in scheme design	Criticised for inconsistent funding & inequitable support between regions	NatureScot (2025a)
Sea Eagle Management Scheme Since 2008 * Revised 2015	Compensation & support for deterrents	Reduce conflict between sea eagles & livestock farming	Directly encourages HWC; Payments for lamb losses; funding for scaring equipment & nest monitoring	Helped maintain farmer tolerance of protected species; improved data on eagle impacts	Farmers report under-compensation; tensions remain over perceived lack of eagle control measures	NatureScot (2024)
Agri-Environment Scheme (AECS) Since 2015	Management-based payments from Scottish Rural Development Programme (SRDP)	Support land management that benefits biodiversity & tackles climate change	Competitive funding; multi-year agreements; supports habitat restoration, species protection, peatland work	Supports high-nature-value farming; significant uptake among land managers	Complex application process; limited accessibility for smaller or low-capacity farms	Scottish Government (2025a)
Forestry Grant Scheme (FGS) Since 2015	Capital grants for woodland creation & management	Support sustainable forest management, biodiversity, & climate goals	Offers funding for native woodland creation, habitat networks, & deer management; supports landowners in delivering public goods	Encouraged expansion of native woodlands & ecological connectivity; supports biodiversity benefits	Not targeted at individual farmers; limited direct application to conflict species or coexistence schemes	Scottish Government (2024)
Nature Restoration Fund (NRF) Since 2021-2027	Competitive grant funding from the Scottish Government (via NatureScot)	Support nature recovery, biodiversity enhancement, & climate mitigation	Funds large- & small-scale projects (e.g. wetland restoration, species recovery); supports community-led initiatives & public sector partnerships	Enabled restoration of habitats & species; supports landscape-scale action	Not targeted at individual farmers; limited direct application to conflict species or coexistence schemes	NatureScot (2025b)
Scottish Beaver Strategy Since 2022	Public funding for mitigation measures; non-monetary support (e.g. licensing, advice)	Enable coexistence with beavers while protecting livelihoods & ecosystems	Directly encourages HWC; Supports translocations to suitable habitats; offers technical support & funding for mitigation; stakeholder-inclusive governance	Marked shift from control to coexistence; increased translocations; improved collaboration between sectors	Farmers & land managers report delays in support & uncertainty around compensation pathways	NatureScot (2023)
Future Farming Investment Scheme (FFIS) Since 2023	Capital grants & support from Scottish Rural Development Programme (SRDP)	Modernise farming to be more sustainable & resilient, & encourage innovation of nature/climate-friendly farming	Supports technology, infrastructure, & climate-smart practices	Encourages transition to low-emission precision farming practices	Still in early stages; long-term biodiversity outcomes not yet demonstrated	Scottish Government (2025b)

Critically, these schemes operate primarily through compensation or specific interventions, rather than integrating participatory or explicit outcome-based approaches. Consequently, the crucial social and behavioural outcomes of HWC largely remain unmeasured. Existing agricultural funding, heavily shaped by the legacy of the EU Common Agricultural Policy, is still predominantly delivered through area-based payments with minimal environmental conditions. This system disproportionately benefits large landowners while providing insufficient support for smallholders and crofters (Scottish Environment LINK, 2025). Furthermore, whilst some programmes include general environmental aims, an explicit prioritisation of HWC is notably lacking.

Despite ambitious policy announcements at multiple Conferences of the Parties (COP) meetings and under the now-defunct Bute House Agreement, which signalled a stronger commitment to biodiversity and climate action, a significant implementation gap persists between policy and outcomes (Long, 2024; Walton et al., 2023). This is most evident in a profound policy-funding disconnect. Although the Scottish Government has established high-level commitments to biodiversity, substantial public funding, exceeding £600 million annually, continues to flow towards intensive agricultural production (Rural Affairs and Islands Committee, 2023; Scottish Wildlife Trust, 2024). This system disproportionately supports the high-emission livestock sector, which receives an estimated 80% of these subsidies and forms the basis of profitability for many farms (Rural Affairs and Islands Committee, 2023).

In stark contrast, a limited and insufficient proportion of funding is allocated to nature-friendly or restorative practices through schemes like the Nature Restoration Fund (NatureScot, 2025b) and the Agri-Environment Climate Scheme (AECS) (Scottish Government, 2025a). These funds collectively represent only a fraction of the investment required to meet Scotland's own nature restoration targets and address a multi-billion-pound annual nature finance gap (Rural Affairs and Islands Committee, 2023). This limited scope is also apparent in initiatives that directly target HWC. Schemes for geese, sea eagles and beavers operate primarily through compensation or specific interventions rather than integrating participatory, outcome-based approaches. Consequently, the crucial social and behavioural dimensions of coexistence remain largely unmeasured.

This financial reality undermines flagship commitments, such as the goal to protect 30% of land for nature by 2030, which still requires a clear, resourced plan to protect nearly one million additional hectares (Scottish Rewilding Alliance, 2024). Similarly, the pledge to create a "nature positive" agricultural system is at odds with proposed reforms that will continue to allocate 70% of the budget to production-based support, rather than rewarding environmental outcomes (Rural Affairs and Islands Committee, 2023; Scottish Wildlife Trust, 2024).

Against this backdrop, the Piloting Outcomes-Based Approach in Scotland (POBAS) represents a significant and positive shift. By explicitly rewarding biodiversity outcomes through a payment-by-results model, it has successfully fostered trust and flexibility among participants (NatureScot, 2020, 2022). However, while early findings indicate improved farmer engagement and cost-effectiveness, its coverage and overall funding remain limited, highlighting the challenge of scaling up successful pilots to address the systemic imbalance

(NatureScot, 2022). Critically, less than 5% of Scotland's farm budget currently supports such nature-focused schemes, and essential measures like enhanced buffers have been delayed until at least 2026 (Scottish Wildlife Trust, 2024). To meet its urgent 2030 biodiversity and climate targets, Scotland must accelerate reform, significantly expand advisory services, and increase dedicated funding through mechanisms like a robust WCF.

Chapter 3: Methodology

This research drew on both primary and secondary data to address Research Questions 1 and 2. Every data source, sampling strategy, and method was selected to suit a qualitative approach tailored to the needs of this policy-focused study. This methodology enhances the credibility of findings and underpins actionable recommendations.

3.1 Secondary Data Collection

Research Scope & Rationale

To maintain a clear and manageable scope, this study concentrates on terrestrial land management in Scotland, acknowledging that while effective strategies are needed for all habitats, a comprehensive analysis of every ecosystem is unfeasible for a single study. With agriculture accounting for the majority of Scotland's land use (Scottish Government, 2023), engaging with established farming and land management practices is paramount for achieving large-scale impact. Therefore, this research assesses how a 'Wildlife Coexistence Fund' could incentivise outcomes directly relevant to the key stakeholders who steward the vast majority of the nation's landscape.

Literature Search Strategy

Relevant literature was identified through a systematic search of academic databases and search engines, primarily Google Scholar. The search process was iterative, beginning with broad keywords such as "*payments for wildlife coexistence*," "*wildlife-friendly farming*," and "*conservation performance payments*." As key studies emerged, these terms were refined, and the bibliographies of pivotal papers were systematically reviewed to identify additional sources, a technique known as "snowballing" (Booth et al., 2016). This iterative approach is a

recognised best practice for mapping evidence in under-researched fields (Miteva et al., 2012; Ridley, 2012). The selection of sources was guided by specific criteria to ensure relevance to the Scottish context. Priority was given to government-backed initiatives that featured clear accountability mechanisms and reported demonstrable outcomes, as these provide the most pertinent models for a potential Scottish fund (Dinnie and Holstead, 2018). The literature search continued until a point of thematic saturation was reached, meaning no new significant themes or concepts emerged from additional sources. While not exhaustive, this method ensures a comprehensive and robust thematic sample for analysis (Boell and Cecez-Kecmanovic, 2015; Booth et al., 2016).

3.2 Primary Data Collection

Participant sampling and Recruitment

The study focuses on farmers, crofters, land managers, and rewilders, as these stakeholders are most directly affected by wildlife coexistence and would be the primary audience for any new funding. Purposive sampling, guided by contacts in the Scottish Rewilding Alliance, ensured a diverse range of experiences and viewpoints. This approach mitigated bias and allowed for inclusion of multiple voices across Scotland's regions and landholding types.

Semi-Structured Interviews

Data were collected through 13 semi-structured interviews, with an average duration of 53 minutes, yielding a total of 686 minutes of audio data. Conducted online via Microsoft Teams, each interview was recorded with participant consent and subsequently transcribed. The interview protocol (see **Appendix I**) used open-ended, conversational questions to explore participants' lived experiences with wildlife, their perceptions of existing financial incentives and government schemes, their attitudes toward coexistence and rewilding, and their suggestions for the structure of a potential Wildlife Coexistence Fund. This qualitative method is exceptionally well-suited for examining the complex concerns, nuanced viewpoints, and aspirations of stakeholders in depth (Brinkmann and Kvale, 2015).

Thematic Analysis

Thematic discourse analysis was selected for this research as it provides a comprehensive and nuanced understanding of the range of perspectives embedded within textual data (Potter J. et al., 1994). I adopted an inductive approach, allowing key findings and patterns to emerge organically from the transcripts, rather than being constrained by a strictly predetermined framework (Thomas, 2006). The process was facilitated by NVivo (Version 14) software (Lumivero, 2023), which enabled both the systematic management and detailed interrogation of qualitative data. I followed the five steps of Thomas's (2006) general inductive approach to ensure rigor and transparency throughout the analytical process.

The first stage involved meticulously reviewing the AI-generated transcriptions from Microsoft Teams (Version 25122.1207.3700.1444). I cross-referenced these transcripts against the original interview recordings in order to correct any errors or omissions, ensuring that all responses were accurately captured. The process then moved to iterative coding, which involved a line-by-line reading to generate initial inductive codes that were continuously refined, merged, or separated. As the coding framework stabilised, the next stage of theme development involved grouping related codes into thematic categories based on the most frequently mentioned themes in the interviews.

The analysis of interview data generated two principal parent codes: **(1) Challenges and Concerns** and **(2) Opportunities and Motivations**. Each parent code is further divided into two child codes: **(1a) Behavioural Change** and **(1b) Problems with Existing Government Schemes** under Challenges and Concerns; and **(2a) Stakeholder Collaboration and Participation** and **(2b) Improving Government Funding Schemes** under Opportunities and Motivations. Each of these child codes encompasses several underlying themes, which are summarised in section 4.2. The final stage, verification and reporting, validated each theme with illustrative participant quotes to strengthen the credibility of the findings and maintain a clear link between the raw data and the final interpretation.

3.3 Positionality & Reflexivity

I approach this work with academic interest and a practical concern for the challenges of human-wildlife coexistence and ecosystem resilience, recognising the critical role that well-

informed, inclusive policy plays in addressing these issues. Although I don't have an academic background in policymaking and can't claim to fully understand the complexities of Scotland's rural communities, farming systems, or the lived experiences of those who work the land, I've approached this research with diligence, openness, and care. Throughout, I have sought to engage with a wide range of perspectives and collaborated with experts and stakeholders to ensure the analysis is as grounded and informed as possible. I recognise that rewilding is neither a neutral nor uncontested concept, and my interpretation of the issues is shaped by my academic training, environmental values, and the specific scope of this project.

3.4 Ethical Considerations

Data Collection and Handling

This research adheres to the University of Edinburgh's ethical protocols with approval from the relevant Research Ethics Committee in May 2025. All participants received detailed information about the study's aims and procedures and provided written consent for their involvement and for the use of their data in the research. All data handling followed GDPR requirements, with secure storage of transcripts. Participant anonymity and confidentiality were strictly maintained throughout due to the sensitive nature of the topic.

Declaration of Interests

This research was carried out in partnership with the Scottish Rewilding Alliance to support their Rewilding Nation initiative. While this partnership reflects a shared interest in addressing shortfalls in government action around human-wildlife coexistence, all data collection, analysis, and interpretation was carried out independently to maintain objectivity and research integrity.

3.5 Methodological Limitations

The use of semi-structured interviews with a purposively selected cohort of Scottish farmers, crofters, land managers, and rewilding practitioners was essential for exploring the complex interplay of economic imperatives, cultural identity, and personal values that shape attitudes towards HWC. The semi-structured format proved particularly effective in prompting the

nuanced, deeply personal perspectives necessary for understanding local lived experiences (Brinkmann and Kvale, 2015).

The use of purposive sampling, in collaboration with the Scottish Rewilding Alliance, was a strategic decision to ensure representation across diverse landholding types, regions, and ideological standpoints. While this rightly precludes claims of statistical generalisability, it provides something arguably more valuable for policy design: a credible, contextually rich, and evidence-based foundation for actionable recommendations. The small sample size (n=13) necessitates analytical caution but does not diminish the relevance and validity of the findings. However, an expansion of this study would allow for proof of their significance.

Chapter 4: Results

4.1 Question 1: Lessons from Global Financial Mechanisms for Key Scottish Stakeholders

Analysis of international, government-backed outcome-based financial mechanisms for HWC, revealed six recurring features (discussed in section 5.3): **(1)** Stakeholder involvement in planning, **(2)** Clear, measurable outcomes, **(3)** Combined financial support mechanisms, **(4)** Education and community awareness, **(5)** Conditional, outcome-based payments, **(6)** Flexibility in land management. Not every scheme integrated all of these features; however, each included at least one, as summarised in **Table 3**. These common characteristics serve as a foundation for understanding what might be required for the development of an effective Scottish WCF model, with particular emphasis on flexibility, stakeholder voice, and measurable outcomes.

Table 3: Summary of key characteristics identified across reviewed outcome-based schemes that have successfully incentivised human-wildlife coexistence.

Country/Region	Programme	Stakeholder Involvement in Planning	Clear, Measurable Outcomes	Combined Financial Support Mechanisms	Education & Community Awareness	Conditional, Outcome-Based Payments	Flexibility in Land Management
Canada	Ontario Conservation Impact Bond (CIB) Initiative	✓ Indigenous co-creation	✓ Biodiversity/habitat targets	✗ Primarily investor-backed model	✓ Indigenous stewardship	✓ Payments tied to meeting ecological outcomes	✓ Locally relevant restoration goals
England	UK Countryside Stewardship (Higher Tier) Scheme	✓ Farmer involvement	✓ Species recovery and habitat connectivity	✗ Primarily proactive, not reactive	✓ Pollinator-friendly farming practices	✓ Payments depend on delivery of actions	✓ Tailored to priority habitats and species
EU (multi-country)	Agri-Environment-Climate Measures (AECM)	✓ Farmer consultation under CAP	✓ Linked to ecosystem outcomes (biodiversity, water)	✗ Primarily proactive payments	✓ Through CAP training & info	✓ Payments conditional on results	✓ Payment based on actions relevant to local context
	Co-creating Coexistence Project (CoCo)	✓ Participatory governance, local leadership	✗ Less emphasis on ecological indicators	✓ Small-scale tolerance payments + deterrents	✓ Community workshops and local engagement	✗ Grants not strictly outcome-based	✓ Local solutions for local carnivore issues
Finland	Payments for Improved Ecostructure (PIE)	✓ Targeted to farmers managing field margins	✓ Measurable outcomes for biodiversity	✗ Only proactive incentive	✓ Awareness on biodiversity benefits	✓ Payments linked to ecological structure	✓ Farmers choose suitable measures for fields
	LIFE BOREALWOLF	✓ Institutions and communities engaged	✓ Monitoring and deterrence targets	✓ Compensation + deterrents	✓ Outreach, awareness campaigns	✓ Project funds depend on goals	✓ Management tools tailored to region
Germany	Schleswig-Holstein Grassland Bird Scheme	✗ Limited direct stakeholder planning info	✓ Bird monitoring + habitat metrics	✗ Only proactive	✗ Less emphasis in documentation	✓ Result-based payments for bird-friendly actions	✓ Farmers adjust mowing, grazing schedules
Ireland	BurrenLIFE Project	✓ Farmers central to planning	✓ Scoring system for habitat quality	✓ Incentives + support infrastructure	✓ Education on traditional grazing	✓ Payments scaled to ecological score	✓ Flexibility in land and livestock use
Sweden	Compensation & Incentive Programmes for Large Carnivores	✓ Herding communities involved	✓ Carnivore presence & tolerance	✓ Proactive + reactive compensation	✓ Coexistence education efforts	✓ Performance payments tied to carnivore presence	✓ Flexible methods to manage conflict
USA (multi-state)	Wolf Livestock Loss Demonstration Project	✓ State agencies & landowners	✓ Conflict mitigation tracked	✓ Livestock loss compensation + deterrents	✓ Reduced illegal killings, outreach	✓ Incentives for carnivore presence	✓ Local tools and deterrents adapted to context

4.2 Question 2: Stakeholder Motivations and Concerns Around Wildlife Coexistence Funding in Scotland

(1) Challenges and Concerns of a HWC

The main concerns and challenges raised by interviewees fell into two overarching categories: (1a) behavioural change and (1b) problems with existing government schemes.

(1a) Behavioural Change

Persistent conflict and Lobbying power

A primary concern highlighted by 85% of interviewees was enduring divisions and conflicts between stakeholder groups, particularly between farming interests and conservationists. As one farmer from Aberdeenshire explained, "*deep division and self-interest between different groups and political parties hinders key national goals like food security and biodiversity and prevents essential cooperation.*" These tensions were perceived as hindering collaboration and the development of shared land management goals.

Specific mention was made of the lobbying power of the National Farmers Union of Scotland (NFUS), with concerns about disproportionate policy influence. As a rewilder noted, "*A significant hurdle to overcome is regulatory capture, whereby certain organisations, in particular the National Farmers Union, exert disproportionate leverage over the Scottish Government.*" This was a widely held perception expressing a feeling that individual priorities were sometimes sidelined by larger organisations.

Parent Code	Child Code	Themes	Percentage (%) of Interviewees mentioning themes in discourse
Concerns & Challenges	Perceptions and Behaviour	Conflicts among people & lobbying groups over what constitutes best land-use practices	85%
		Urban-rural disconnect causes a lack of awareness of food production realities & necessity of public funding	46%
		Negative portrayal & dismissal of farmers and crofters in media & public discourse	31%
		Limited education on the benefits & risks of human-wildlife coexistence	23%
	Problems with existing Government Schemes	Rigid schemes poorly adapted to local contexts & incentivise 'tick-box culture'	92%
		Insufficient government action & spending are disproportionate to the scale of the issue	69%
		High administrative burden & beaurecracy for government & applicants	62%
		Funding access often unequal & misses those with fewer resources & who are most in need	31%
		Short-term government schemes lack long-term vision	31%
	Opportunities & Motivations	Stakeholder Collaboration & participation	Greater bottom-up engagement support & consultation throughout governmental processes wherever possible
Increased public education to counter misinformation & raise awareness of nature & human-wildlife coexistence			69%
Greater peer collaboration, knowledge exchange & incentivisation of multi-farm/croft partnerships			46%
Cross-sector coordination and open communication between conservationists, land managers, and politicians			31%
Improving government funding schemes		Learning from International Examples	54%
		Tolerance payments & rewards for existing coexistence with wildlife	54%
		Evidence or Outcome-based funding to ensure effective use of resources	38%
		Improved follow-up evaluation & transparency of government schemes & projects	31%
		Financial incentives & cost-sharing to enable low-risk trialing human-wildlife coexistence schemes	31%
		Reducing subsidy schemes that prioritise profit over environmental degradation	15%

Figure 3: Summary of coded discourse analysis indicating the proportion of the 13 interviewees who mentioned each theme within their discourse.

Urban-Rural Disconnect

The second most prominent theme, mentioned by 46% of participants, was that many people in urban areas, including policymakers, lacked an understanding of or sympathy for rural livelihoods. As a crofter from the Highlands put it: *"Modern Scottish society has largely lost touch with rural life, farming, wildlife, and land management... many people don't realise farmers and crofters are key to Scotland's biodiversity. Losing their grazing harms both wildlife and rural jobs. Farming and crofting support rural communities and food production, so we need to promote coexistence where wildlife and farming overlap."* The perceived knowledge gap, perpetuated by the media, was seen as contributing to misrepresentation and misunderstanding.

Negative perceptions and polarisation

The third most common theme cited by 31% of interviewees described a climate of antagonism towards farming and crofting communities. As one farmer from Aberdeenshire shared: *"One of the big issues is around the polarisation and dismissal of opinions. Lots of farmers feel like they're not heard and that their concerns aren't taken seriously. If you are taken seriously, then you're likely going to be more amenable, and more likely to get into constructive dialogue."* Trust and willingness to engage were seen as eroded by these dynamics, weakening collective efforts for initiatives like the creation of a WCF.

Public Education Gaps

Finally, 23% of interviewees noted that a general lack of education on coexistence complicates public support. As highlighted by a crofter from the Highlands: *"Some crofters work the system for financial gain but lack understanding of how vital non-human life and proper land management are, resulting in practices that harm biodiversity and soil health. Improving their knowledge could boost both their income and the environment."* Without widespread understanding of the risks and benefits of HWC, crafting effective support is a challenge.

(1b) Problems with Existing Government Schemes

Rigidity and one-size-fits-all design

The most common criticism of current government funding schemes, mentioned by 92% of interviewees, was their lack of flexibility, especially regarding timelines and prescribed management. As a Shetland crofter shared, *"Top-down, one-size-fits-all schemes that ignore local geography and land managers' realities don't work. They're too focused on the perfect science and not enough on what works in practice... If it works for the animals, the land, and us, that should be enough, even if it's not textbook perfect."* Farmers and crofters were particularly critical of the AECS, noting that imposed timelines for tasks like planting or harvesting often clash with shifting seasonal patterns, an issue that is only being intensified by climate change. This lack of flexibility, both temporal and geographic, was widely seen as a key barrier to success.

Several farmers and crofters explained that they often comply with the strict requirements to secure funding, but that doing so can sometimes conflict with what is best for their land, especially given local environmental conditions and even when they make little ecological sense in practice. This rigidity, stakeholders argued, does little to deliver real benefits for biodiversity or nature. As put by a farmer from Oban *"Current government schemes have no long-term investment and it feels like we're just ticking the box, which doesn't benefit anybody at the end of the day. It just maybe makes the government look like it's achieving its green credentials when in reality it's not."* This rigidity, participants argued, encourages tokenistic action and a 'box-ticking' culture, one that looks good on paper and fosters cynicism and disengagement among land managers.

Poor Alignment of Funding Ambition

The second most common criticism, mentioned by 69% of interviewees, argued that government investment doesn't match the scale of rural environmental and social challenges. As voiced by an RSPB land manager: *"At the moment, there aren't any schemes explicitly encouraging coexistence, and there's just not enough support (...) The main mechanism for delivering environmental benefits is the Agri-environment scheme, but it's massively underfunded. So the*

government on the one hand says that we're in an age and climate emergency but then doesn't change agricultural policy to reflect that by changing its decisions and how it's spending its money, it verges on the obscene." This mismatch between government rhetoric and action was often described as frustrating and, in some cases, demoralising.

Administrative Complexity

Another major concern, raised by 62% of participants, was the administrative burden associated with current schemes. Interviewees described these systems as overly complex, time-consuming, and difficult to navigate, especially for those with limited resources. As a crofter from Argyll and Bute described, *"The crofting subsidy system it's so complicated, so many people just give up (...) admin is expensive, and I spent a lot every year on help with subsidy forms, and months of unpaid time writing grant applications, often facing rejection. It's the same story everywhere. Rules and regulations make things harder than they need to be. If we want farming with nature, it has to be easier for people to do what's right for their own land."* This sentiment was common, with some interviewees mentioning that they were unsure whether they would continue their involvement in the Agri-environment scheme unless the government made some changes.

Equity and Access

A less prominent but still significant theme, highlighted by 31% of respondents, was the advantage held by those with greater financial and technical capacity in accessing funding, which can reinforce existing inequalities. As a farmer from Argyll and Bute explained, *"Public funding must prioritise those who need it most, not just the wealthy who can afford to apply. While land management funding is necessary, it often rewards those with the most degraded land because of its restoration potential. It's a bit of a catch-22 and it feels unfair, but damaged areas still need investment and action."* The burdens and risks of coexistence are unevenly shared, with crofters and small-scale farmers often bearing greater costs despite having fewer resources. Several participants called for tiered payment structures that recognise these imbalances, ensuring that smaller and more vulnerable landholders are not left behind.

Short Termism

A secondary, yet nonetheless significant, theme mentioned by 31% of interviewees was a persistent concern about a lack of long-term commitment, with frequent loss of scheme momentum and funding. As a farmer and crofter from the Highlands expressed: *"Unfortunately, these initiatives often start strong but lose momentum as governments run out of funding, leading to disappointment (...) we need multi-year funding commitments, not just year-to-year because farms and crofts don't change much in 12 months, they require long-term, 10- to 35-year plans and support... building involvement and trust also takes time and without this you discourage participation. A proper commitment, like hosting periodic village hall meetings with structured discussions, is essential."* The lack of long-term security, even when a scheme seems to be working well, creates uncertainty and discourages meaningful engagement, especially since land management changes typically take years to show results. Without a longer-term vision or commitment, it's difficult for land managers to fully invest in the process.

(2) Opportunities and Motivations for a Human-Wildlife Coexistence Fund

The opportunities and motivations identified through this study coalesce around two main themes: **(2a)** enhancing stakeholder collaboration and participation, and **(2b)** improving government funding schemes (see **Figure 3**).

(2a) Stakeholder Collaboration and Participation

Meaningful Bottom-up Engagement

Interviewees consistently called for genuine, bottom-up engagement, as highlighted by 77% of respondents. A crofter from the Highlands put it succinctly: *"At higher levels, like in government, I think there's still a lack of understanding. If they're making key decisions, they need to know what's happening on the ground and build strong, visible relationships with us crofters and farmers. We'd be more engaged if the government took the time to understand what we're already doing and what could work for us." To develop long-lasting and effective initiatives for HWC, the government must build trust with local communities. To do this, efforts*

should be rooted in local realities. This approach also helps prevent maladaptive project designs and allows for more efficient use of limited time and resources.

Peer-learning and Collaboration

Practical, localised, trust-based approaches were seen as crucial for effectiveness and buy-in with 54% noting the value of peer learning and collaboration. As a NatureScot land manager explained *"While financial rewards can be helpful, social recognition and belonging to a supportive group of like-minded peers, driven by shared values and mutual encouragement, can be even more effective in promoting coexistence than just money."* Participants stressed that group initiatives, partnership projects, and opportunities for horizontal exchange would enhance uptake, reduce complexity, and strengthen best practice.

Cross Sector Collaboration and Dialogue

Another key, though less central, theme mentioned by 31% of interviewees advocated for improved cross-sector collaboration and dialogue among farmers, conservationists, and policymakers. As shared by a land manager from Aberdeenshire: *"We've lost the spaces where land managers, agencies, and conservationists meet and talk. The gap between "us and them" keeps growing. To understand each other, we need to become "them," but that connection is disappearing... we really need for everyone to sit down together, farmers, land managers, organisations like the RSPB, Scottish Wildlife Trust, everyone."* This was a common theme discussed by interviewees who strongly agreed that open dialogue is essential to resolve misunderstandings and conflicting priorities.

(2b) Improving Government Funding Schemes

Many interviewees who criticised current government initiatives and funding schemes also suggested concrete ways in which they could be improved to support human–wildlife coexistence more effectively.

Education and Awareness-raising

First and foremost, 69% called for stronger public education and awareness-raising efforts to address misconceptions and build support for nature recovery. As described by a farmer from the Northwoods Rewilding Network, *"I think people will support human-wildlife coexistence schemes if they understand a clear benefit of having the species there, and at the moment there's quite a low understanding of the ecosystem benefits the different species bring (...) The government needs to focus more on funding education in terms of training, support, and coordination to get more people actively working for nature rather than just directly funding farmers."*

Learning from International Examples

Participants saw other countries' successes in encouraging HWC as useful blueprints for how Scotland might adapt its approach. This was often accompanied by expressions of strong disappointment at the slow progress in Scotland as illustrated by a rewilder from Scotland the Big Picture, *"Scotland's lack of progress is shocking when compared to much of Europe and even further abroad. For example, in Sweden or Norway, they employ outcome-based payments based on whether species are breeding successfully, paired with compensation for losses and in some villages, people earn money each time a predator appears on the camera traps installed on their land, making the animals' presence an asset."*

Rewarding Existing Efforts

54% of interviewees called for greater recognition and reward of existing efforts, suggesting that these successes should be used as models for peer learning and wider uptake within similar contexts. A crofter from Shetland voiced a frustration shared by many crofters and farmers, explaining that *"The government needs to reward what's already working and build on that, instead of constantly asking us to do more just to qualify for support (...) Crofters like me are already doing valuable work for wildlife, like changing grazing strategies and bringing back traditional late hay cuts. If you look at the riverbank on my land, which used to be terribly overgrazed, it's now a thriving riparian habitat. In just a few years, biodiversity has doubled,*

with wildflowers, insects, and birds returning." Several similar expressions of discontent revealed a broader sense that, despite delivering clear benefits for biodiversity, these efforts were being overlooked, unrecognised, and unrewarded by the government.

Support for Outcome/Evidence-based models

Outcome-based or evidence-based funding models to support human–wildlife coexistence were viewed as promising by 38% of participants. As explained by a farmer from the NFUS *"Outcome-based funding for coexistence could really work, but only if it's flexible and shaped by farmers themselves. Nature is unpredictable, and sometimes even when we do everything right, the results don't show it. That's a big risk when we've already invested time and resources. So, it would be encouraging to reward good practice, and add in bonuses when outcomes go well, and that way you still get support to continue working with nature. That's much better than being tied to rigid deadlines, like having to plant by a certain date. If we're trusted to do what we know works, we won't waste time, money, or effort."* However, many stressed the need for clarity on what such a fund would entail, emphasising that it must be both flexible and well-defined, with fair cost-sharing and realistic expectations given the unpredictability of environmental factors. Echoing broader concerns about rigidity, there was a strong call for site-specific approaches.

Improved Monitoring & transparency

31% of interviewees highlighted the lack of effective evaluation in current schemes, which hinders opportunities for learning and improvement. As a retired farmer from Aberdeenshire now working with NatureScot put it, *"There's very little scrutiny on public funding and how it's spent. New funding schemes get a lot of attention, but there's little focus on monitoring outcomes, which limits learning and improvement over time (...) A key step would be critically assessing government grant schemes to see if they truly achieved their intended outcomes, not just created short-term jobs. Genuine transparency, beyond selective openness, could be transformative."* While outcome monitoring was seen as essential, it was also considered important to keep it practical and realistic. A blended verification model combining self-

assessment, peer review, and random audits was suggested as a balanced way to maintain credibility without undermining trust.

Better Financial Incentives and Risk-Sharing

31% of interviewees also spoke about the need for better financial incentives and cost-sharing models to make it easier for land managers to trial coexistence approaches without bearing the full risk. As explained by a farming representative of the NFUS *"The challenge is that farmers are running businesses and they're busy and there's no accessible funding available to make participation in coexistence initiatives more appealing for them. Small-scale farmers in particular often face challenges due to limited tools, insufficient support, and the major costs that lie in management inputs. It makes it harder for them to do the 'right thing' environmentally, so public funding could help share those costs."*

Revising Legacy Subsidies

Although only raised by 15% of stakeholders, some noted the importance of revising existing subsidy schemes that continue to incentivise productivity at the expense of environmental outcomes. As a farmer from the Northwoods Rewilding Network stated, *"Part of the problem with is at the moment under the current agricultural system, farmers are incentivised for farming every little bit of land and maximising productivity. So, we need to move away from farming every bit of the land and move into a more ecosystem-services-oriented approach."* Rethinking these priorities could help bring agricultural policy into better alignment with coexistence goals. Finally, the overall sentiment of different stakeholder groups towards

government schemes was determined from the interviews, showing an interesting pattern of response seen in **Figure 4**.

Crofters and Rewilders expressed the most hope for improvement of government schemes, whilst the majority of farmers were sceptical, and land managers shared mixed feelings.

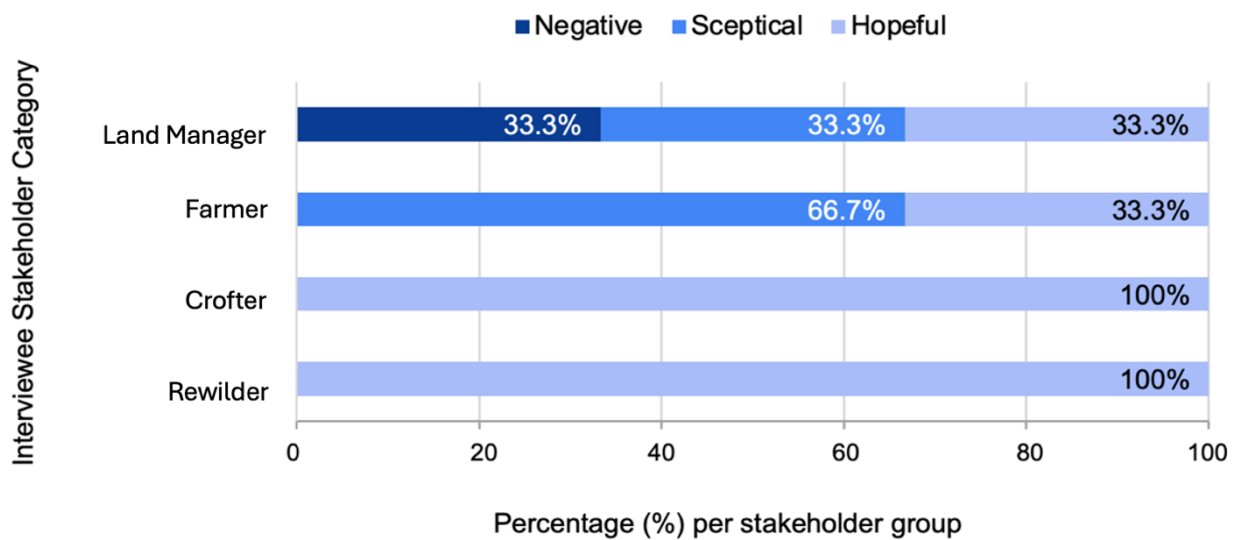


Figure 4: Feelings expressed by interviewees towards government environmental schemes per stakeholder group.

Chapter 5: Discussion

This thesis embarked on an investigation into the feasibility of establishing a dedicated Wildlife Coexistence Fund (WCF) for Scotland. Through a dual analysis of multiple successful international financial mechanisms that encourage HWC and the articulated motivations and concerns of Scottish farmers, crofters, land managers, and rewilding practitioners, this research has generated critical insights into the landscape of human-wildlife relations in Scotland. This chapter moves beyond the research findings of Chapter 4 to present an analytical interpretation, situating them within broader academic and local policy debates to outline their implications for the future of HWC in Scotland.

The discussion is structured to build a cumulative argument. It begins with a critical reflection on the methodological rigour of the study. It then synthesises the core principles of effective international schemes with the priorities voiced by Scottish stakeholders, arguing that while

successful funding principles have universal relevance, their application demands profound local adaptation. The chapter then dissects the systemic challenges revealed by stakeholders, moving beyond surface-level concerns to analyse the foundational issues of trust, power, and governance that define the Scottish context. Finally, it argues that a dedicated WCF is not merely an advantageous policy option, but an essential mechanism to bridge the profound gap between Scotland's ambitious biodiversity goals and the complex, lived realities of its rural landscapes.

5.1 Policy Transferability

A key challenge in conservation policy is the tendency towards "policy borrowing", where models that have succeeded elsewhere are adopted (Dolowitz & Marsh, 2000). However, such transfers can cause maladaptation if not carefully adapted to local contexts. The success of any conservation strategy fundamentally depends on its specific social, political, and ecological setting (Berzi et al., 2021; Redpath et al., 2013), and this study highlights two main shortcomings in international models that require careful examination for Scotland. The first is a shortfall in social justice: few international schemes explicitly aim to incorporate social justice or co-production. In Scotland's context, shaped by a unique history of land inequality and rural marginalisation, this is not an optional feature but an essential basis for legitimacy (Hamm et al., 2024; Schlosberg, 2007; Wightman, 2010). The second is an evaluation shortfall, where a widespread lack of thorough empirical assessment hampers the ability to measure the success of various funding mechanisms and link them to observable ecological and social outcomes (Miteva et al., 2012). By examining the perspective of Scottish stakeholder priorities, this thesis advances beyond policy borrowing to lay the groundwork for a Scottish WCF that is both evidence-based and, importantly, contextually legitimate.

5.2 Forging a New Framework: From Principles to Practice

The first research objective was to identify successful financial mechanisms, exemplified by other countries, that could effectively encourage HWC in Scotland. The analysis identified six recurrent characteristics of successful outcome-based schemes.

(1) Robust Stakeholder Involvement

This goes far beyond simply asking for opinions. It means moving from tokenistic consultation to genuine co-production, where stakeholders are active partners in designing, implementing, and governing the financial scheme. This concept is captured in Arnstein's 'Ladder of Citizen Participation', which differentiates between low-level tokenism and high-level citizen power (Arnstein, 1969).

In a Scottish context, this involves bringing farmers, crofters, land managers, and community groups to the table to co-create policy (Cordis EU, 2024). The importance of such deep involvement is a recurring theme in environmental management literature (Reed, 2008) and is seen as essential for resolving complex conservation conflicts (Redpath et al., 2013). When people have a real stake in creating the rules, it builds trust and ensures the scheme is practical and legitimate (Martin, Fischer & McMorran, 2023; Kansky et al., 2024).

(2) Clear and Measurable Outcomes

This is the core of a results-based model. Instead of paying for actions, the scheme pays for achieving a pre-agreed result. The effectiveness of any policy instrument hinges on the ability to evaluate it, which requires clear outcomes (Miteva, Pattanayak & Ferraro, 2012). These are often called "performance payments," where payments are linked directly to conservation success, such as the successful breeding of a target species (Zabel & Holm-Müller, 2008).

This approach directly links payments to tangible environmental benefits, a central principle in designing PES (Engel, Pagiola & Wunder, 2008). In Scotland, this is being explored through the POBAS projects (NatureScot, 2022; 2024a), reflecting a broader European interest in results-based interventions (EU CAP Network, 2024).

(3) Diversified Financial Mechanisms

Relying solely on a single source of funding makes a scheme vulnerable. Successful models often blend public funds with other sources, using a range of financial instruments to encourage coexistence (Dickman, Macdonald & Macdonald, 2011). This can include integrating different "ecosystem markets" (Reed et al., 2022) or developing novel tools like Conservation Impact Bonds, which leverage private investment for public good (Lynch & Kanter, 2023; Deshkan Ziibi Conservation Impact Bond Leadership Team, 2021).

This diversification creates financial resilience and sustainability. Examples of specific payment models, such as "Payments for Improved Ecostructure" for wolf coexistence in

Finland, show how tailored financial approaches can be developed for specific HWC challenges (Hiedanpää et al., 2016).

(4) Comprehensive Education and Awareness

This involves building a shared understanding and a common language around the conservation goals. Effectively resolving HWC depends on understanding and addressing the underlying social factors and human perspectives (Dickman, 2010). This requires moving beyond simple information campaigns to participatory "co-learning" and communication-based approaches that build trust and a common knowledge base (Kansky et al., 2024). This more holistic approach is vital for rethinking how we study and practice HWC (Pooley, Bhatia & Vasava, 2021).

(5) Conditional Payment Structures

This characteristic ensures accountability. Payments are directly and transparently tied to the achievement of measurable outcomes. The principle of conditionality is a cornerstone of effective PES design, ensuring that payments are only made when the agreed-upon environmental service is actually delivered (Engel et al., 2008).

This approach powerfully incentivises high performance and is exemplified by "conservation performance payments," which reward landholders based on conservation results (Zabel & Holm-Müller, 2008; Zabel, Bostedt & Engel, 2014). The specific attributes of these conditional contracts are a key area of study, as they determine how acceptable and effective agri-environment schemes are to farmers (Opdenbosch et al., 2024).

(6) Adaptive Flexibility

Ecosystems are complex and dynamic, especially in a "changing world" (König et al., 2020). A rigid scheme is destined to fail. An adaptive approach requires regular monitoring and evaluation to learn what works and what doesn't, allowing for policy adjustments over time (Miteva et al., 2012; Berzi et al., 2021). The concept of "co-adaptation" suggests that as wildlife and human societies change, the policies governing them must also be able to evolve (Carter & Linnell, 2016). This capacity to learn and adapt is critical for managing complex and persistent conservation conflicts (Redpath et al., 2013).

Trust, Flexibility, and Co-Production

The most dominant theme to emerge from this research was the demand for a fundamental shift towards more meaningful stakeholder engagement. International scholarship consistently underscores that participatory approaches enhance the legitimacy and uptake of conservation interventions (Martin et al., 2023; Redpath et al., 2004). This was corroborated by three-quarters of the interviewed Scottish stakeholders, whose most frequent demand was for genuine, bottom-up engagement. Their clear frustration with top-down, disconnected policymaking signals a critical area for reform. This finding affirms that a Scottish WCF can only succeed if it is built on a foundation of authentic co-production, empowering land managers as equitable partners in the design, implementation, and governance of the fund. The pervasive criticism of existing schemes' rigidity, voiced by the majority of interviewees, further reinforces this point. The "one-size-fits-all" approach is seen as a direct affront to local ecological knowledge. Therefore, a WCF must replace inflexible prescriptions with adaptable, site-specific plans, explicitly trusting land managers as experts on their land. This shift from a prescriptive to an enabling model is the cornerstone of the cultural change required for a new generation of environmental policy in Scotland, which empowers land managers as equitable partners in the design, implementation, and ongoing governance.

Support, Accountability and Diversification

Stakeholders articulated profound cynicism regarding the "box-ticking" culture prevalent in current Scottish government schemes, perceiving them to be disconnected from tangible ecological and social benefits. This aligns with international evidence indicating that transparent, outcome-based models enhance land manager tolerance and engagement (Ravenelle and Nyhus, 2017). Profound cynicism regarding the "box-ticking" culture of current schemes was a unifying sentiment among stakeholders. This perception of a disconnect from tangible ecological outcomes highlights an acute need for accountability. In a nation grappling with both biodiversity decline and income precarity (Walton et al., 2023; Scottish Government, 2023), a WCF must be built on clear, co-developed, and realistic outcomes. This inclusive process of defining "success" is instrumental for cultivating the trust and accountability essential for adaptive management (Kansky et al., 2024; Redpath et al., 2013; Reed, 2008).

As discussed in section 2.4, academic literature increasingly critiques standalone compensation schemes for their inherent failure to address the root causes of human-wildlife conflict (Ravenelle and Nyhus, 2017; Bautista et al., 2019). Furthermore, this research strongly supports a move away from standalone compensation schemes, which are widely critiqued for failing to address the root causes of conflict (Ravenelle and Nyhus, 2017). Stakeholders demonstrated clear receptivity to outcome-based and hybrid financial models that blend baseline payments for good stewardship, tolerance payments for the presence of key species, and performance bonuses for verified ecological gains. The principle of linking payments to tangible outcomes, rather than simply reimbursing losses, is central to contemporary conservation finance frameworks (Zabel and Holm-MÜLLer, 2008; Zabel et al., 2014).

The interviews conducted revealed hopeful, albeit cautious, support for this approach among Scottish stakeholders. The expressed caution largely stems from the inherent unpredictability of natural systems, with participants expressing apprehension about being unfairly penalised for negative outcomes beyond their direct control. A layered approach could address this issue by providing a financial safety net while actively incentivising improvement. Additionally, by recognising and empowering existing environmental stewards, as advocated by Hamm et al. (2024), governments can not only promote local stewardship but also cultivate a cohort of trusted, local champions capable of advocating for coexistence within their communities. For Scotland, this implies that a WCF should integrate risk-sharing mechanisms and prioritise the rewarding of demonstrable efforts and nature-friendly practices; alongside additional incentives for positive ecological outcomes, consistent with the recommendations from NatureScot's POBAS pilots (2022).

The role of Education and Recognition

A WCF cannot succeed solely as a financial instrument; it must also build social capital. A powerful theme, raised by almost half of the interviewees, was the deep frustration over the perceived urban–rural disconnect and the feeling that their role as environmental stewards is profoundly undervalued. This finding confirms that HWC is as much a social and cultural challenge as it is an ecological one (Martin, 2023). Therefore, a Scottish WCF must incorporate a mandated public outreach component, designed to bridge this divide by celebrating the contributions of land managers and fostering a shared sense of collective responsibility for

Scotland's natural heritage. Multiple studies reinforce this idea, explaining that government-led initiatives tend to achieve greater success when they incorporate educational components that cultivate broad public buy-in (Dinnie and Holstead, 2018; Ezzine-de-Blas et al., 2016). Overall, a successful WCF must be conceptualised as a system that fosters a supportive community of practice, where social and financial incentives operate in synergy.

Systemic Barriers and the Politics of Land

While support for a well-designed fund was clear, the interviews illuminated deep-seated, systemic barriers that threaten to undermine any new initiative. These challenges reveal that the technical design must be accompanied by a willingness to confront the broader governance and political landscape. This issue was highlighted by two-thirds of interviewees who identified a trust deficit between key stakeholders and Scottish Government Schemes, citing inequities, administrative complexity, and unpredictable funding cycles as key drivers of cynicism and disengagement. These findings resonate with reports from the Scottish Government on the systemic barriers facing crofters and smallholders (Rural Affairs and Islands Committee, 2023).

This study also powerfully confirms that 'human-wildlife conflict' is often a proxy for deep-rooted human-human conflict (Peterson, 2010; Fletcher & Toncheva, 2021; Baynhman-Herd et al., 2018; Glikman et al., 2021). As illustrated by the majority of stakeholders who raised concerns about the disproportionate lobbying power of certain organisations and the polarisation of debates around land use. In Scotland, these dynamics are inextricably linked to the nation's history of land ownership and rural marginalisation (Wightman, 2010). The perception of regulatory capture by powerful unions, for example, is more than a policy disagreement; it reflects a pervasive feeling among smaller actors that the system is skewed and that the voices of the majority remain unheard. For a WCF to succeed in Scotland, it must be designed with a critical awareness of power imbalances, proactively creating inclusive spaces for dialogue that can begin to bridge these divides.

Improving State Relationships with Stakeholders

Beyond the pervasive frustration with current top-down approaches, the interviews uncovered a desire for a fundamentally new relationship with the state predicated on partnership, not paternalism. This aspiration can be understood through the lens of Sherry Arnstein's seminal 'Ladder of Citizen Participation' (1969). The consistent calls from stakeholders for co-production, peer-to-peer learning, and the recognition of existing stewardship are not merely requests for improved procedural mechanisms; they represent a collective demand to ascend this ladder. Stakeholders are seeking to move beyond the lower rungs of tokenistic consultation toward partnership and delegated power. Their expressed desire to actively shape their landscapes, rather than passive recipients of subsidies, resonates with academic discourse on rural development and environmental justice (Schlosberg, 2007). This research affirms the conclusions of scholars who identify empowered local leadership and inter-stakeholder dialogue as prerequisites for achieving sustainable and just outcomes (Boronyak et al., 2022; Redpath et al., 2013). In this context, a strategically designed WCF could help to embed co-governance principles, becoming a driver for social renewal, rebuilding trust, fostering collaboration, and creating a more equitable land management social contract in Scotland.

5.3 The Imperative for a Scottish Wildlife Coexistence Fund: Bridging the Policy-Practice Gap

A critical window of action has opened for Scotland. With the Agriculture and Rural Communities (Scotland) Act 2024 in the final revision stages before its commencement, now is the time to influence its direction, particularly regarding the Scottish Government's power to establish a wildlife funding mechanism. Scotland's primary funding tools for land management, such as agricultural subsidies, are largely misaligned with the nation's vital environmental objectives (Harper, 2021; Scottish Wildlife Trust, 2024). Existing government schemes create a gap between policy ambition and practical reality. To bridge this gap, a dedicated, national WCF is not just beneficial, but indispensable.

This study's findings can be systematically mapped onto the comprehensive "Conflict to Coexistence" (C2C) framework proposed by Gross et al. (2024).

(1) Policy and Governance

A WCF would address a significant policy vacuum by formally establishing HWC as a legitimate and adequately funded public good. Through a process of co-production with diverse stakeholders, it would foster a more inclusive and trusted governance structure than currently exists.

(2) Understanding Interactions

The fund would necessitate and support the enhanced monitoring of both wildlife populations and human attitudes, thereby providing the data required to comprehensively understand where and why interactions occur, and to adapt management strategies.

(3) Prevention

By incentivising and rewarding proactive stewardship (e.g., strategic habitat creation, wildlife corridor protection), the fund would shift the focus from reactively managing conflict to preventing it, and creating tolerance, aligning with a core recommendation from the literature (Dickman et al., 2011).

(4)Response

The proposition for a blended financial model incorporates conditional longer-term incentives and more immediate direct payments for tolerance, which would provide a fair, transparent, and rapid response to mitigate the economic impacts of negative interactions when they occur.

(5)Mitigation

The fund would furnish land managers with the resources to implement a wide spectrum of mitigation measures, offering the flexibility to select appropriate tools for their specific context, ranging from physical deterrents to adaptive changes in husbandry practices.

(6) Monitoring

A WCF would necessitate pragmatic monitoring of both ecological and social outcomes. The tiered verification model suggested by stakeholders (integrating self-reporting, peer review, and independent audits) offers a balanced approach to ensuring accountability without excessive bureaucracy, thereby fostering continuous learning and iterative improvement.

By adopting this approach, a WCF could propel Scotland beyond its current limited and reactive posture towards wildlife in shared landscapes. It would provide a national framework to support farmers, crofters, and land managers in delivering a vital public service: a thriving, biodiverse landscape where human communities and wild species can coexist. It offers a tangible pathway to align Scotland's agricultural policy with its climate and nature goals, ensuring that the transition to a more sustainable land use system is both ecologically effective and socially just.

Chapter 7: Conclusion

As the state of global biodiversity continues to decline, it places limitations on our ability to address the climate crisis, an effort which depends on the restoration, resilience, and balance of ecosystems. Scotland, despite progressive commitments, is currently falling short of its targets under the Scottish Biodiversity Strategy. This failure risks undermining not only biodiversity but also the well-being of present and future generations. An expanding body of literature highlights that, to sustain growing populations and address increasing pressure on natural resources, societies must shift towards greater tolerance of wildlife and embrace more active roles as stewards of the natural world. Without this shift, efforts to restore biodiversity and stabilise climate systems will remain insufficient.

While the challenges are complex, the social and behavioural dynamics that shape human–wildlife interactions are increasingly well understood. There is a broad consensus that the social dimensions of coexistence must be addressed directly. This includes properly identifying the root causes of human conflict and improving tolerance towards wildlife through education and holistic financial incentives. Across many high-income countries, a range of financial mechanisms have been trialled and implemented with positive outcomes for HWC, suggesting potential for similar approaches in Scotland.

Given the continuing decline in Scotland's biodiversity and the growing uncertainty surrounding the future of farming, it is crucial to develop a clear, ambitious, and pragmatic plan to incentivise and support HWC among Scottish farmers, crofters, and land managers; those most directly situated in areas of potential wildlife interactions. This includes raising public awareness about the importance of investing in rural communities and agricultural

sectors that deliver wider societal benefits through HWC. The SRA's Rewilding Nation Charter advocates precisely for this type of investment, calling on the Scottish Government to commit meaningful resources, such as through a WCF that can deliver evidence-based, holistic initiatives. Such a fund must be shaped by the experiences, concerns, and motivations of those most affected, ensuring that any measures are effective, equitable and widely supported. Without genuine stakeholder buy-in, such efforts risk failure. At its core, a successful WCF must be grounded in meaningful collaborations, trust, and accountability, ensuring long-term success and efficient use of limited resources. The Scottish Government must act decisively. The urgency of the moment calls for clear, sustained action, moving beyond commitments towards meaningful implementation.

References

- Arnstein, S.R. (1969) 'A Ladder of Citizen Participation', *Journal of the American Institute of Planners*, 35(4), pp. 216-224.
- Austin, Z., Smart, J. C. R., Yearley, S., Irvine, R. J. & White, P. C. L. (2010) 'Identifying conflicts and opportunities for collaboration in the management of a wildlife resource: A mixed-methods approach', *Wildlife Research*, 37(8), pp. 647-657.
- Bautista, C., Revilla, E., Naves, J., Albrecht, J., Fernández, N., Olszańska, A., Adamec, M., Berezowska-Cnota, T., Ciucci, P., Groff, C., Härkönen, S., Huber, D., Jerina, K., Jonozovič, M., Karamanlidis, A. A., Palazón, S., Quenette, P.-Y., Rigg, R., Seijas, J., Swenson, J. E., Talvi, T. & Selva, N. (2019) 'Large carnivore damage in Europe: Analysis of compensation and prevention programs', *Biological Conservation*, 235, pp. 308-316.
- Baynham-Herd, Z., Redpath, S., Bunnefeld, N., Molony, T. & Keane, A. (2018) 'Conservation conflicts: Behavioural threats, frames, and intervention recommendations', *Biological Conservation*, 222, pp. 180-188.
- Berzi, D., Cerri, J., Musto, C. & Zanni, M. L. (2021) 'Use of European funds and ex post evaluation of prevention measures against wolf attacks (*Canis lupus italicus*) in the Emilia-Romagna region (Italy)', *Animals (Basel)*, 11(5), p. 1536.
- Boell, S. K. & Cecez-Kecmanovic, D. (2015) 'On being 'Systematic' in Literature Reviews in IS', *Journal of Information Technology*, 30(2), pp. 161-173.
- Booth, A., Sutton, A. & Papaioannou, D. D. (2016) *Systematic Approaches to a Successful Literature Review*. Second edition. Los Angeles: Sage, pp. 93-216.
- Boronyak, L., Jacobs, B., Wallach, A., Mcmanus, J., Stone, S., Stevenson, S., Smuts, B. & Zaranek, H. (2022) 'Pathways towards coexistence with large carnivores in production systems', *Agriculture and Human Values*, 39, pp. 47-64.
- Braczkowski, A. R., O'bryan, C. J., Lessmann, C., Rondinini, C., Crysell, A. P., Gilbert, S., Stringer, M., Gibson, L. & Biggs, D. (2023) 'The unequal burden of human-wildlife conflict', *Communications Biology*, 6, p. 182.
- Brinkmann, S. & Kvale, S. (2015) *InterViews: Learning the Craft of Qualitative Research Interviewing*. Third edition. Los Angeles: SAGE. pp. 1-28.
- Brown, C., McMorran, R. & Price, M. F. (2011) 'Rewilding - A New Paradigm for Nature Conservation in Scotland?', *Scottish Geographical Journal*, 127(4), pp. 288-314.
- Burton, R. J. F., Kuczera, C. & Schwarz, G. (2008) 'Exploring Farmers' Cultural Resistance to Voluntary Agri-environmental Schemes', *Sociologia Ruralis*, 48(1), pp. 16-37.
- Carolinian Canada (2025) *Conservation Impact Bond (CIB)*. Available at: <https://caroliniancanada.ca/cib> (Accessed: 23 May 2025).
- Carter, N. H. & Linnell, J. D. C. (2016) 'Co-Adaptation Is Key to Coexisting with Large Carnivores', *Trends in Ecology & Evolution (Amsterdam)*, 31(8), pp. 575-578.

Convention on Biological Diversity (2022) *Conference of the Parties to the Convention on Biological Diversity (CBD/COP/DEC/15/4)*. UNEP.

Cordis EU (2024) *Co-creating coexistence: Advancing policies, practices, and stakeholder engagement for integrating wildlife and livestock into sustainable multi-functional landscapes in Europe*. Available at: <https://cordis.europa.eu/project/id/101181958/de> (Accessed: 23 May 2025).

Coz, D. M., Young, J. C. & Gibbs, L. (2020) 'Conflicts over wildlife conservation: Learning from the reintroduction of beavers in Scotland', *People and Nature (Hoboken, N.J.)*, 2(2), pp. 406-419.

Deshkan Ziibi Conservation Impact Bond Leadership Team (2021) *The Deshkan Ziibi Conservation Impact Bond Project: On Conservation Finance, Decolonization, and Community-Based Participatory Research*. London, Canada: Western University.

Dickman, A. J. (2010) 'Complexities of conflict: the importance of considering social factors for effectively resolving human-wildlife conflict', *Animal Conservation*, 13(5), pp. 458-466.

Dickman, A. J., Macdonald, E. A. & Macdonald, D. W. (2011) 'Review of financial instruments to pay for predator conservation and encourage human–carnivore coexistence', *Proceedings of the National Academy of Sciences - PNAS*, 108(34), pp. 13937-13944.

Dinnie, E. & Holstead, K. L. (2018) 'The influence of public funding on community-based sustainability projects in Scotland', *Environmental Innovation and Societal Transitions*, 29, pp. 25-33.

Dolowitz, D. P. & Marsh, D. (2000) 'Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making', *Governance (Oxford)*, 13(1), pp. 5-23.

Engel, S., Pagiola, S. & Wunder, S. (2008) 'Designing payments for environmental services in theory and practice: An overview of the issues', *Ecological Economics*, 65(4), pp. 663-674.

EU CAP Network (2024) *Assessment of Results-Based Interventions: Final Report of Thematic Group 7*. Available at: <https://eu-cap-network.ec.europa.eu/sites/default/files/publications/2024-12/eu-cap-network-assessment-of-results-based-interventions-twg7.pdf> (Accessed: 23 June 2025).

European Commission LIFE Public Database (2019) *Toward better human coexistence with wolves*. Available at: <https://webgate.ec.europa.eu/life/publicWebsite/project/LIFE18-NAT-FI-000394/toward-better-human-coexistence-with-wolves> (Accessed: 23 June 2025).

European Network for Rural Development (2017) *Agri-environment-climate Measures explained*. Available at: https://ec.europa.eu/enrd/news-events/news/agri-environment-climate-measures-explained_en.html (Accessed: 23 June 2025).

Ezzine-De-Blas, D., Wunder, S., Ruiz-Pérez, M. & Moreno-Sanchez, R. D. P. (2016) 'Global Patterns in the Implementation of Payments for Environmental Services', *PloS One*, 11(3), p. e0149847.

Fiasco, V. & Massarella, K. (2022) 'Human-Wildlife Coexistence: Business as Usual Conservation or an Opportunity for Transformative Change?', *Conservation and Society*, 20(2), pp. 167-178.

Fletcher, R. & Toncheva, S. (2021) 'The political economy of human-wildlife conflict and coexistence', *Biological Conservation*, 260, p. 109216.

Frank, B., Glikman, J. A. & Marchini, S. (eds.) (2019) *Human-Wildlife Conflict and Coexistence: Theory and Practice*. Cambridge, UK: Cambridge University Press.

Glikman, J. A., Frank, B., Ruppert, K. A., Knox, J., Sponarski, C. C., Metcalf, E. C., Metcalf, A. L. & Marchini, S. (2021) 'Coexisting With Different Human-Wildlife Coexistence Perspectives', *Frontiers in Conservation Science*, 2, p. 642828.

Glass, J., Mc Morran, R. & Thomson, S. (2019) *The effects associated with concentrated and large-scale land ownership in Scotland: a research review*. Report prepared for Scottish Land Commission. Available at: https://www.landcommission.gov.scot/downloads/5dd7d807b8768_Research-Review-Concentrated-ownership-final-20190320.pdf (Accessed: 23 May 2025).

Gross, E., Jayasinghe, N., Dahal, S., Tenzin, S., Klenzendorf, S., Vannelli, K., Gils, E., Hilderink-Koopmans, F., Mcvey, D., Banasiak, N., Boron, V., Frances, D., Petrone, S., Elliott, W., Cranston, K., Clemens, K., Moore, J., Glikman, J., Kansky, R. & Kinnaird, M. (2025) 'C2C—conflict to coexistence: A global approach to manage human–wildlife conflict for coexistence', *Conservation Science and Practice*, 7(5), p. 13292.

Gross, E., Jayasinghe, N., Brooks, A., Polet, G. & Hilderink-Koopmans, F. (2021) *A Future for All: The Need for Human-Wildlife Coexistence*. Gland, Switzerland: WWF.

Hamm, J., Holmes, G. & Martin-Ortega, J. (2024) 'The importance of equity in payments to encourage coexistence with large mammals', *Conservation Biology*, 38(1), p. e14207.

Harper, M. (2021) 'Scotland lagging behind on agriculture reform', *RSPB Community*, 15 July. Available at: <https://community.rspb.org.uk/ourwork/b/martinharper/posts/scotland-lagging-behind-on-agriculture-reform> (Accessed: 23 May 2025).

Hemminger, K., Eriksson, L., Nilsson, L., Mansson, J., Koenig, H., Bellingrath-Kimura, S. D., Hallengren, A., Ostermann-Myashita, E.-F. & Kiffner, C. (2025) 'Farmers' tolerance for crop damage caused by wildlife: the role of compensation', *Wildlife Biology*, OnlineFirst. Available at: <https://doi.org/10.1002/wib.20015> (Accessed: 23 June 2025).

Hiedanpää, J., Kalliolevo, H., Salo, M., Pellikka, J. & Luoma, M. (2016) 'Payments for Improved Ecostructure (PIE): Funding for the Coexistence of Humans and Wolves in Finland'. *Environmental Management*, 58, pp. 518-533.

Holman, I. P., Harrison, P. A. & Metzger, M. J. (2016) 'Cross-sectoral impacts of climate and socio-economic change in Scotland: implications for adaptation policy', *Regional Environmental Change*, 16(1), pp. 97-109.

Holmes, G. (2011) 'Conservation's Friends in High Places: Neoliberalism, Networks, and the Transnational Conservation Elite', *Global Environmental Politics*, 11(4), pp. 1-21.

Horgan, F. G., Mundaca, E. A. & Crisol-Martínez, E. (2021) 'Emerging Patterns in Cultural Ecosystem Services as Incentives and Obstacles for Raptor Conservation', *Birds (Basel, Switzerland)*, 2(3), pp. 185-206.

Jones, G. (2018) *Support for Crofting: A report prepared for the Crofting Commission*. European Forum on Nature Conservation and Pastoralism. Available at: https://crofting.scotland.gov.uk/userfiles/file/research_publications/CC-Support-for-Crofting-FULL-REPORT.pdf (Accessed: 23 May 2025).

Jordan, N. R., Smith, B. P., Appleby, R. G., Eeden, L. M. & Webster, H. S. (2020) 'Addressing inequality and intolerance in human–wildlife coexistence', *Conservation Biology*, 34(4), pp. 803-810.

- Kansky, R., Maassarani, T. & Fischer, J. (2024) 'Participatory co-learning for human–wildlife coexistence: Reflections on a novel program applying systems thinking, nonviolent communication, and learning-based approaches', *Ambio*, 53(7), pp. 1479-1491.
- König, H. J., Kiffner, C., Kramer-Schadt, S., Fürst, C., Keuling, O. & Ford, A. T. (2020) 'Human–wildlife coexistence in a changing world', *Conservation Biology*, 34(4), pp. 786-794.
- Long, D. (2024). *Scottish Environment LINK statement on the end of the Bute House Agreement*. [Online] Scottish Environment LINK. Available at: <https://www.scotlink.org/scottish-environment-link-statement-on-the-end-of-the-bute-house-agreement/> (Accessed May 2025).
- Lynch, M. & Kanter, M. (2023) *Conservation Impact Bond: An innovative new tool for scaling collaboration and investment for landscape-scale conservation*. Ivey Centre for Building Sustainable Value & Carolinian Canada Coalition [Online]. Available at: <https://www.ivey.uwo.ca/media/3797473/cib-policy-brief-february-2022.pdf> (Accessed: 23 May 2025).
- Mack, G., Ritzel, C., Heitkämper, K. and El Benni, N. (2021), The Effect of Administrative Burden on Farmers' Perceptions of Cross-Compliance-Based Direct Payment Policy. *Public Admin Rev*, 81: 664-675.
- Madden, F. M. (2008) 'The Growing Conflict Between Humans and Wildlife: Law and Policy as Contributing and Mitigating Factors', *Journal of International Wildlife Law & Policy*, 11(3), pp. 189-206.
- Martin, A., Fischer, A. & McMorran, R. (2023) 'Who decides? The governance of rewilding in Scotland 'between the cracks': community participation, public engagement, and partnerships', *Journal of Rural Studies*, 98, pp. 80-91.
- Martin, A. R. (2023) *The governance of rewilding in Scotland: discourse, process, and practice*. PhD thesis. University of the Highlands and Islands.
- Miteva, D. A., Pattanayak, S. K. & Ferraro, P. J. (2012) 'Evaluation of biodiversity policy instruments: what works and what doesn't?', *Oxford Review of Economic Policy*, 28(1), pp. 69-92.
- Morehouse, A. T., Tigner, J. & Boyce, M. S. (2018) 'Coexistence with Large Carnivores Supported by a Predator-Compensation Program'. *Environmental Management*, 61(4), pp. 719-731.
- National Geographic Society (n.d.) *Keystone Species* [Online]. Available at: <https://education.nationalgeographic.org/resource/keystone-species/> (Accessed June 2025).
- Naturescot (2020) *Piloting an Outcomes Based Approach in Scotland (POBAS) project, Phase 1 report*. Available at: <https://www.nature.scot/doc/piloting-outcomes-based-approach-scotland-pobas-project-phase-1-report> (Accessed May 2025).
- NatureScot (2022) *Piloting an Outcomes Based Approach in Scotland (POBAS) project, Phase 2 report*. Inverness: NatureScot. Available at: <https://www.nature.scot/doc/piloting-outcomes-based-approach-scotland-pobas-project-phase-2-report> (Accessed May 2025).
- Naturescot (2023) *Beaver Management Report for 2022* [Online]. Available at: <https://www.nature.scot/doc/beaver-management-report-2022> (Accessed May 2025).

Naturescot (2024a) *Piloting an Outcomes Based Approach in Scotland (POBAS)* [Online]. Available at: <https://www.nature.scot/professional-advice/social-and-economic-benefits-nature/natural-capital/farming-nature/piloting-outcomes-based-approach-scotland-pobas> (Accessed May 2025).

Naturescot (2024b). *Sea Eagle Management Scheme 2024 – Report for Stakeholders* [Online]. Available at: <https://www.nature.scot/doc/sea-eagle-management-scheme-2024-report-stakeholders> (Accessed May 2025).

Naturescot (2025a). *Payments for goose management schemes* [Online]. Available at: <https://www.nature.scot/professional-advice/land-and-sea-management/managing-wildlife/managing-geese/payments-geese-management-schemes> (Accessed May 2025).

Naturescot (2025b). *Scottish Government Nature Restoration Fund (NRF)* [Online]. Available at: <https://www.nature.scot/funding-and-projects/scottish-government-nature-restoration-fund-nrf> (Accessed May 2025).

Natural Resources Institute Finland (2025) *LIFE BOREALWOLF: About the Project*. Available at: <https://www.luke.fi/en/projects/life-borealwolf/about-the-project#what-does-the-coexistence-of-people-and-wolves-mean> (Accessed: 23 May 2025).

Nutley, S. M., Walter, I. & Davies, H. T. O. (2007) *Using Evidence: How Research Can Inform Public Services*. Bristol: Policy Press.

Opdenbosch, H., Brady, M. V., Bimbilovski, I., Swärd, R. & Manevska-Tasevska, G. (2024) 'Farm-level acceptability of contract attributes in agri-environment-climate measures for biodiversity conservation'. *Journal of Rural Studies*, 112, p. 103448.

Pascual, U., Balvanera, P., Anderson, C. B., Chaplin-Kramer, R., Christie, M., Gonzalez-Jimenez, D., Martin, A., Raymond, C. M., Termansen, M., Vatn, A., Athayde, S., Baptiste, B., Barton, D. N., Jacobs, S., Kelemen, E., Kumar, R., Lazos, E., Mwampamba, T. H., Nakangu, B., O'farrell, P., Subramanian, S. M., Van Noordwijk, M., Ahn, S., Amaruzaman, S., Amin, A. M., Arias-Arevalo, P., Arroyo-Robles, G., Cantu-Fernandez, M., Castro, A. J., Contreras, V., De Vos, A., Dendoncker, N., Engel, S., Eser, U., Faith, D. P., Filyushkina, A., Ghazi, H., Gomez-Baggethun, E., Gould, R. K., Guibrunet, L., Gundimeda, H., Hahn, T., Harmackova, Z. V., Hernandez-Blanco, M., Horcea-Milcu, A. I., Huambachano, M., Wicher, N. L. H., Aydin, C. I., Islar, M., Koessler, A. K., Kenter, J. O., Kosmus, M., Lee, H., Leimona, B., Lele, S., Lenzi, D., Lliso, B., Mannetti, L. M., Mercon, J., Monroy-Sais, A. S., Mukherjee, N., Muraca, B., Muradian, R., Murali, R., Nelson, S. H., Nemoga-Soto, G. R., Ngouhouo-Poufoun, J., Niamir, A., Nuesiri, E., Nyumba, T. O., Ozkaynak, B., Palomo, I., Pandit, R., Pawlowska-Mainville, A., Porter-Bolland, L., Quaas, M., Rode, J., Rozzi, R., Sachdeva, S., Samakov, A., Schaafsma, M., Sitas, N., Ungar, P., Yiu, E., Yoshida, Y & Zent, E. (2023) 'Diverse values of nature for sustainability', *Nature*, 620(7975), pp. 813-823.

Pekor, A., Jansson, I., Seki, W. O., Rentsch, D., Spong, G., Sandström, C. & Nunan, F. (2020) 'In search of new modes of governance: The potential of conservation incentive payment policies to promote human-wildlife coexistence', in Nunan, F., Pekor, A. & Jansson, I. (eds.) *Conservation Incentive Payment Policies: Theory and Practice*. United Kingdom: Routledge, pp. 11-28.

Peterson, M. N., Birkhead, J. L., Leong, K., Peterson, M. J. & Peterson, T. R. (2010) 'Rearticulating the myth of human-wildlife conflict', *Conservation Letters*, 3(2), pp. 74-82.

Pongen, R. (2024) 'Keystone species: Ecological architects of biodiversity and stability: Review', *International Journal of Science and Research Archive*, 11(1), pp. 1137-1152.

- Pooley, S., Bhatia, S. & Vasava, A. (2021) 'Rethinking the study of human–wildlife coexistence', *Conservation Biology*, 35(3), pp. 784-793.
- Potter, J., Wetherell, M., Burgess, R. G. & Bryman, A. (1994) *Analyzing Discourse*. London: Routledge.
- Putnam, R.D. (2000) *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster. pp. 19-24.
- Ravenelle, J. & Nyhus, P. J. (2017) 'Global patterns and trends in human-wildlife conflict compensation', *Conservation Biology*, 31(6), pp. 1247-1256.
- Redpath, S. M., Arroyo, B. E., Leckie, F. M., Bacon, P., Bayfield, N., Gutiérrez, R. J. & Thirgood, S. J. (2004) 'Using Decision Modeling with Stakeholders to Reduce Human-Wildlife Conflict: a Raptor-Grouse Case Study', *Conservation Biology*, 18(2), pp. 350-359.
- Redpath, S. M., Young, J., Evely, A., Adams, W. M., Sutherland, W. J., Whitehouse, 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 (Amsterdam)*, 28(2), pp. 100-109.
- Reed, M.S. (2008) 'Stakeholder participation for environmental management: A literature review', *Biological Conservation*, 141(10), pp. 2417-2431.
- Reed, M. S., Curtis, T., Gosal, A., Kendall, H., Andersen, S. P., Ziv, G., Attlee, A., Fitton, R. G., Hay, M., Gibson, A. C., Hume, A. C., Hill, D., Mansfield, J. L., Martino, S., Olesen, A. S., Prior, S., Rodgers, C., Rudman, H. & Tanneberger, F. (2022) 'Integrating ecosystem markets to co-ordinate landscape-scale public benefits from nature', *PloS One*, 17(1), p. e0262131.
- Results Based Payment Network (2025a) *Ireland: The Burren Programme*. Available at: <https://www.rbpnetwork.eu/country-infos/ireland/the-burren-programme-9/> (Accessed: 23 June 2025).
- ResultsBased Payment Network (2025b) *Sweden: Conservation Performance Payments*. Available at: <https://www.rbpnetwork.eu/country-infos/sweden/conservation-performance-payments/> (Accessed: 23 June 2025).
- Result Based Payments Network (2025c) *Germany: Coordinated grassland bird protection*. Available at: <https://www.rbpnetwork.eu/country-infos/germany/coordinated-grassland-bird-protection-gemeinschaftlicher-wiesenvogelschutz-schleswig-holstein-48/> (Accessed: 23 June 2025).
- Rewilding Europe (2024) 'Proactive measures enhance human-wildlife coexistence in the Danube Delta', *Rewilding Europe*, 29 January. Available at: <https://rewildingeuropa.com/news/proactive-measures-enhance-human-wildlife-coexistence-in-the-danube-delta/> (Accessed: 23 June 2025).
- Ridley, D. (2012) *The Literature Review: A Step-by-Step Guide for Students*. Second edition. London: SAGE.
- Robbins, P. (2012) 'Conservation and control', in *Political ecology: A critical introduction*. 2nd edn. Chichester: Wiley-Blackwell, pp. 83-118.
- RSPB (2025) *Nature is in Crisis – But We Know the Solutions and We Know They Work*. Available at: <https://www.rspb.org.uk/our-work/policy-advocacy/nature-crisis-solutions/> (Accessed: 23 June 2025).

Rural Affairs and Islands Committee. (2023). *Stage 1 Report on the Agriculture and Rural Communities (Scotland) Bill*. The Scottish Parliament. (SP Paper 492) [Online]. <https://www.parliament.scot/chamber-and-committees/committees/committee-reports/rai/2024/3/18/stage-1-report-on-the-agriculture-and-rural-communities-scotland-bill> (Accessed May 2025).

Sasaki, S., Kubo, T. & Kitano, S. (2025) 'Prosocial and financial incentives for biodiversity conservation: A field experiment using a smartphone app', *Ecological Economics*, 230, p. 108506.

Schlosberg, D. (2007) *Defining Environmental Justice: Theories, Movements, and Nature*. Oxford: Oxford University Press.

Scott, J.C. (1998) *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven: Yale University Press. pp. 311-313.

Scottish Environment LINK (2025) *Farm for Scotland's Future 2022-2024*. Available at: <https://www.scotlink.org/link-campaigns/farm-for-scotlands-future/> (Accessed: 23 June 2025).

Scottish Government (2018) *A Future Strategy for Scottish Agriculture: Final Report*. Edinburgh: The Scottish Government.

Scottish Government (2021) *Hill, Upland and Crofting Farmer-led Group: Climate Change Evidence*. Edinburgh: Agriculture and Rural Economy Directorate.

Scottish Government (2023) *Results from the 2023 Agricultural Census* [Online]. Available at: <https://www.gov.scot/publications/results-scottish-agricultural-census-june-2023/> (Accessed May 2025).

Scottish Government (2024) *Forestry Grant Scheme* [Online]. Available at: <https://www.ruralpayments.org/topics/all-schemes/forestry-grant-scheme/> (Accessed May 2025).

Scottish Government (2024b) *Scottish Biodiversity Strategy to 2045* [Online]. Available at: <https://www.gov.scot/publications/scottish-biodiversity-strategy-2045/> (Accessed May 2025).

Scottish Government (2025a) *Agri-Environment Climate Scheme (AECS)* [Online]. Available at: <https://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/> (Accessed May 2025).

Scottish Government (2025b) *Future Farming Investment Scheme* [Online]. Available at: <https://www.ruralpayments.org/topics/all-schemes/ffis/> (Accessed May 2025).

Scottish Land Commission (2021) *Legislative Proposals to Address the Impact of Scotland's Concentration of Land Ownership: A Discussion Paper from the Scottish Land Commission*. Edinburgh: Scottish Land Commission.

Scottish Rewilding Alliance (2023) *Pathways Towards a Rewilding Nation* [Online]. Available at: https://www.rewildingscotland.org.uk/assets/pdf/Pathways_towards_a_rewilding_nation.pdf (Accessed: 23 June 2025).

Scottish Rewilding Alliance (2024) *Rewilding Nation Charter: Supporting Evidence*. [Online]. Available at: <https://www.rewildingscotland.org.uk/assets/pdf/rewilding-nation-charter-supporting-evidence.pdf> (Accessed: 23 June 2025).

Scottish Wildlife Trust (2024) 'Starting with the Basics: An In-Depth Look at the Potential of Scotland's Farm Payments to Help Tackle the Nature and Climate Crisis' [Online]. Available at: <https://scottishwildlifetrust.org.uk/2024/12/starting-with-the-basics-an-in-depth-look-at-the-potential-of-scotlands-farm-payments-to-help-tackle-the-nature-and-climate-crisis/> (Accessed: 23 May 2025).

Thomas, D. R. (2006) 'A General Inductive Approach for Analyzing Qualitative Evaluation Data', *The American Journal of Evaluation*, 27(2), pp. 237-246.

U.S. Fish & Wildlife Service (2025) *Wolf Livestock Loss Demonstration Project Grant Program* [Online]. Available at: <https://www.fws.gov/service/wolf-livestock-loss-demonstration-project-grant-program> (Accessed: 23 May 2025).

UK Government (2025) *Guidance: Countryside Stewardship Higher Tier actions*. Edited by DEFRA [Online]. Available at: <https://www.gov.uk/government/publications/countryside-stewardship-higher-tier-get-ready-to-apply/countryside-stewardship-higher-tier-actions> (Accessed: 23 May 2025).

Voigt-Heucke, S. L., Müller, M. & Rostin, J. (2023) 'How Citizen Science Projects Contribute to Urban Biodiversity Monitoring and Conservation Frameworks—A German Case Study', *Citizen Science: Theory and Practice*, 8, p. 30.

Walton, P., O'Brien, D., Smart, J., Burns, F., Basset, D., Bradfer Lawrence, T., Foster, S., James, B. D., Mancini, F., Mordue, S., Pakeman, R. J., Simkin, J., Stanbury, A. J. & Towers, M. (2023) *State of Nature Scotland 2023*. The State of Nature Partnership [Online]. Available at: https://stateofnature.org.uk/wp-content/uploads/2023/09/TP25999-State-of-Nature-main-report_2023_FULL-DOC-v12.pdf (Accessed: 23 May 2025).

Webster, H. (2025) 'Sheep are a costly burden to Scottish landscape', *The Sunday Times*, 27 June [Online]. Available at: <https://www.thetimes.com/uk/scotland/article/sheep-are-a-costly-burden-on-the-scottish-landscape-mgsvt89wj> (Accessed: 23 May 2025).

Whitehead, T. & Hare, D. (2025) 'A shifting baseline theory of debates over potential lynx and wolf reintroductions to Scotland', *Ambio*, OnlineFirst. Available at: <https://doi.org/10.1007/s13280-024-00216-7> (Accessed: 23 May 2025).

Wightman, A. (2010) The Poor Had No Lawyers: Who Owns Scotland and How They Got It. *The Edinburgh law review*. 15 (2), 329–331.

Wightman, A. (2024) Who Owns Scotland 2024: A Preliminary Analysis [Online]. Available at: https://andywightman.scot/docs/WOS_2024_PRELIM_v2.pdf (Accessed May 2025).

Wynne-Jones, S., Strouts, G., O'neil, C. & Sandom, C. (2020) 'Rewilding – Departures in Conservation Policy and Practice? An Evaluation of Developments in Britain', *Conservation and Society*, 18(1), p. 89.

Zabel, A., Bostedt, G. & Engel, S. (2014) 'Performance Payments for Groups: The Case of Carnivore Conservation in Northern Sweden', *Environmental & Resource Economics*, 59(4), pp. 613-631.

Zabel, A. & Holm-Müller, K. (2008) 'Conservation Performance Payments for Carnivore Conservation in Sweden', *Conservation Biology*, 22(2), pp. 247-251.

Zimmermann, A. et al. (2020) Levels of conflict over wildlife: Understanding and addressing the right problem. *Conservation science and practice*. [Online] 2 (10).

Appendices

I. Interview Guide & Justifications

Interview Guide for Stakeholders on Wildlife Coexistence Funding

Introductory context before recording starts:

"Hello (Interviewee name), I'm a masters student from the University of Edinburgh collaborating with the Scottish Rewilding Alliance and Rewilding Britain on a research project for my thesis. Thank you so much for agreeing to take part in this interview. As you know from our correspondence, I'm researching how a Wildlife Coexistence Fund could be implemented in Scotland to support both biodiversity and rural livelihoods and enable coexistence. This interview should take about 30–40 minutes. I just want to reassure you that even though you've signed the consent form, you can choose to stop participating at any moment, as it is still completely voluntary. Everything you say will be anonymous, and if you need to stop at any time, please let me know."

"Now that all the admin is done, I will be starting the recording of the transcript. Is that alright with you?"

Recording starts once interviewee consents

1) Can you tell me a bit about your role and experience with the land and wildlife?

- **Justification:** This introductory question aims to establish rapport and contextualize the interviewee's perspective. Understanding their professional and personal connection to land and wildlife is crucial for interpreting their responses, as their lived experience heavily influences their views on coexistence (Jordan et al., 2020).

2) What types of wildlife presence is there in your area, and have there been any changes over time?

- **Justification:** This question helps to identify the specific human-wildlife interactions relevant to the interviewee's context, including potential changes due to species reintroduction or population shifts (Coz et al., 2020; Whitehead & Hare, 2025). Knowing the species involved and the history of their presence can reveal the perceived intensity and nature of coexistence challenges and opportunities, which can influence an individual's willingness to engage in HWC initiatives (Dickman, 2010).

3) How would you describe 'human-wildlife coexistence'?

- **Justification:** The concept of 'human-wildlife coexistence' is multifaceted and can be interpreted differently across contexts and stakeholders (Peterson et al., 2010; Glikman

et al., 2021). Exploring their understanding of the term is essential to ensure a shared foundation for discussion and to identify any prevailing perceptions or misconceptions that might influence their perspectives on funding mechanisms. While the literature often highlights mutual benefits, local understandings may prioritize different aspects (Pooley et al., 2021).

4) What's your perspective on coexistence with wildlife in your context, and is it something you consider important?

- **Justification:** This probes the interviewee's individual attitudes and values towards living with wildlife. These attitudes are complex, influenced by direct experiences (positive or negative), cultural background, and perceived impacts on livelihoods (Dickman, 2010; Boronyak et al., 2022). Understanding their personal stance is vital for gauging their potential openness to, or resistance against, different coexistence strategies and funding approaches. It also helps to assess awareness of the broader ecological or economic benefits of coexistence (König et al., 2020).

5) Are you aware of existing financial mechanisms or legislation that encourage human-wildlife coexistence in Scotland?

- **Justification:** This question assesses the interviewee's knowledge of the current policy and financial landscape in Scotland. While some existing policies may indirectly influence HWC, explicit, comprehensive schemes and legislation directly promoting HWC are currently limited in Scotland, often focusing on specific species or reactive measures (Scottish Wildlife Trust, 2024; Scottish Environment LINK, 2025). This question helps to identify any local schemes or interpretations not widely documented, or to confirm the perceived policy gap.

6) What is your experience, if any, with wildlife-related government schemes/policies? (e.g., compensation schemes)

- **Justification:** Direct experience with existing schemes, particularly compensation, provides valuable insights into their practical effectiveness and perceived fairness. The literature widely criticizes isolated compensation schemes for inherent limitations such as moral hazard, bureaucratic inefficiencies, lack of transparency, and a tendency to address symptoms rather than root causes of conflict (Ravenelle & Nyhus, 2017; Bautista et al., 2019; Redpath et al., 2013; Dickman et al., 2011). Exploring direct experiences can validate or nuance these documented criticisms within the Scottish context.

7) Do you feel that current support systems are fair or sufficient in helping people manage the challenges and opportunities of living with wildlife? Why or why not?

- **Justification:** This question directly assesses the perceived adequacy and equity of current support mechanisms. Existing research suggests that current farm funding in

Scotland, largely inherited from EU Common Agricultural Policy, disproportionately benefits larger landowners and provides insufficient incentives for biodiversity or HWC for smallholders and crofters (Scottish Environment LINK, 2025; Scottish Wildlife Trust, 2024). This question allows for the collection of qualitative data to corroborate or challenge these findings from a stakeholder perspective, highlighting where current systems fall short or succeed.

8) What do you think about the idea of rewarding people for actions that support coexistence and ecosystem restoration, rather than just compensating for losses?

- **Justification:** This question directly probes the interviewee's receptiveness to outcome-based funding models, which are increasingly advocated in conservation literature as an alternative to traditional, input-based approaches (Austin et al., 2010; Pekor et al., 2020). Such approaches aim to incentivize proactive, long-term coexistence by linking payments to verified positive outcomes rather than just offsetting damages (Zabel & Holm-Müller, 2008). Their insights are crucial for understanding the social viability of such a shift in Scotland.

9) What types of support or incentives do you think would be most helpful or well-received to encourage coexistence in your context?

- **Justification:** This question aims to generate practical and context-specific recommendations for policy development. Understanding what forms of support resonate most with stakeholders is critical for designing effective, equitable, and locally appropriate funding mechanisms that encourage adoption of pro-coexistence practices and align with the concept of just transitions (Hamm et al., 2024; Kansky et al., 2024). These insights will directly inform the policy recommendations section of the dissertation.

10) Are there any concerns or challenges you see with implementing an outcome-based approach to funding wildlife coexistence?

- **Justification:** Identifying potential barriers and challenges is as important as identifying opportunities for successful implementation. Concerns might include measurement difficulties, bureaucratic complexities, issues of trust, or unintended consequences (Pekor et al., 2020). Anticipating these challenges based on stakeholder perspectives will allow for the development of more robust and resilient policy recommendations for a Wildlife Coexistence Fund in Scotland (Dolowitz & Marsh, 2000).

11) Is there anything else you'd like to share that you think is important when thinking about how to improve support for wildlife coexistence in Scotland?

- **Justification:** This open-ended question provides interviewees an opportunity to introduce unanticipated themes, elaborate on previous points, or highlight issues

important to them but not covered by the structured questions. This can reveal novel insights or underscore the salience of certain factors that might otherwise be overlooked (Brinkmann & Kvale, 2015).

“I will end the recording now.” “Thank you so much, I appreciate you taking this time to chat with me. I’ll be in touch in a couple of weeks once the interview has been transcribed. You’re very welcome to request a copy, and if you’d like, you’ll have the opportunity to review it, make any amendments, or withdraw any part of your contribution.”

References

- Austin, Z., Smart, J. C. R., Yearley, S., Irvine, R. J. & White, P. C. L. (2010) 'Identifying conflicts and opportunities for collaboration in the management of a wildlife resource: A mixed-methods approach', *Wildlife Research*, 37(8), pp. 647-657.
- Bautista, C., Revilla, E., Naves, J., Albrecht, J., Fernández, N., Olszańska, A., Adamec, M., Berezowska-Cnota, T., Ciucci, P., Groff, C., Härkönen, S., Huber, D., Jerina, K., Jonozovič, M., Karamanlidis, A. A., Palazón, S., Quenette, P.-Y., Rigg, R., Seijas, J., Swenson, J. E., Talvi, T. & Selva, N. (2019) 'Large carnivore damage in Europe: Analysis of compensation and prevention programs', *Biological Conservation*, 235, pp. 308-316.
- Boronyak, L., Jacobs, B., Wallach, A., Mcmanus, J., Stone, S., Stevenson, S., Smuts, B. & Zaranek, H. (2022) 'Pathways towards coexistence with large carnivores in production systems', *Agriculture and Human Values*, 39, pp. 47-64.
- Brinkmann, S. & Kvale, S. (2015) *InterViews: Learning the Craft of Qualitative Research Interviewing*. Third edition. Los Angeles: SAGE.
- Coz, D. M., Young, J. C. & Gibbs, L. (2020) 'Conflicts over wildlife conservation: Learning from the reintroduction of beavers in Scotland', *People and Nature (Hoboken, N.J.)*, 2(2), pp. 406-419.
- Dickman, A. J. (2010) 'Complexities of conflict: the importance of considering social factors for effectively resolving human-wildlife conflict', *Animal Conservation*, 13(5), pp. 458-466.
- Dickman, A. J., Macdonald, E. A. & Macdonald, D. W. (2011) 'Review of financial instruments to pay for predator conservation and encourage human–carnivore coexistence', *Proceedings of the National Academy of Sciences - PNAS*, 108(34), pp. 13937-13944.
- Dolowitz, D. P. & Marsh, D. (2000) 'Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making', *Governance (Oxford)*, 13(1), pp. 5-23.
- Glikman, J. A., Frank, B., Ruppert, K. A., Knox, J., Sponarski, C. C., Metcalf, E. C., Metcalf, A. L. & Marchini, S. (2021) 'Coexisting With Different Human-Wildlife Coexistence Perspectives', *Frontiers in Conservation Science*, 2, p. 642828.
- Hamm, J., Holmes, G. & Martin-Ortega, J. (2024) 'The importance of equity in payments to encourage coexistence with large mammals', *Conservation Biology*, 38(1), p. e14207.

Jordan, N. R., Smith, B. P., Appleby, R. G., Eeden, L. M. & Webster, H. S. (2020) 'Addressing inequality and intolerance in human–wildlife coexistence', *Conservation Biology*, 34(4), pp. 803-810.

Kansky, R., Maassarani, T. & Fischer, J. (2024) 'Participatory co-learning for human–wildlife coexistence: Reflections on a novel program applying systems thinking, nonviolent communication, and learning-based approaches', *Ambio*, 53(7), pp. 1479-1491.

König, H. J., Kiffner, C., Kramer-Schadt, S., Fürst, C., Keuling, O. & Ford, A. T. (2020) 'Human–wildlife coexistence in a changing world', *Conservation Biology*, 34(4), pp. 786-794.

Pekor, A., Jansson, I., Seki, W. O., Rentsch, D., Spong, G., Sandström, C. & Nunan, F. (2020) 'In search of new modes of governance: The potential of conservation incentive payment policies to promote human-wildlife coexistence', in Nunan, F., Pekor, A. & Jansson, I. (eds.) *Conservation Incentive Payment Policies: Theory and Practice*. United Kingdom: Routledge, pp. 11-28.

Peterson, M. N., Birckhead, J. L., Leong, K., Peterson, M. J. & Peterson, T. R. (2010) 'Rearticulating the myth of human-wildlife conflict', *Conservation Letters*, 3(2), pp. 74-82.

Pooley, S., Bhatia, S. & Vasava, A. (2021) 'Rethinking the study of human–wildlife coexistence', *Conservation Biology*, 35(3), pp. 784-793.

Ravenelle, J. & Nyhus, P. J. (2017) 'Global patterns and trends in human-wildlife conflict compensation', *Conservation Biology*, 31(6), pp. 1247-1256.

Redpath, S. M., Young, J., Evely, A., Adams, W. M., Sutherland, W. J., Whitehouse, 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 (Amsterdam)*, 28(2), pp. 100-109.

Reed, M. S. (2008) Stakeholder participation for environmental management: A literature review. *Biological conservation*. [Online] 141 (10), 2417–2431.

Ritzel, C., Mack, G., Portmann, M., Heitkämper, K., & El Benni, N. (2020). Empirical evidence on factors influencing farmers' administrative burden: A structural equation modeling approach. *PloS one*, 15(10), e0241075. <https://doi.org/10.1371/journal.pone.0241075>

Scottish Environment LINK (2025) *Farm for Scotland's Future 2022-2024*. Available at: <https://www.scotlink.org/link-campaigns/farm-for-scotlands-future/> [Accessed May 2025].

Scottish Wildlife Trust (2024) 'Starting with the Basics: An In-Depth Look at the Potential of Scotland's Farm Payments to Help Tackle the Nature and Climate Crisis', 10 December. Available at: <https://scottishwildlifetrust.org.uk/2024/12/starting-with-the-basics-an-in-depth-look-at-the-potential-of-scotlands-farm-payments-to-help-tackle-the-nature-and-climate-crisis/> [Accessed May 2025].

Whitehead, T. & Hare, D. (2025) 'A shifting baseline theory of debates over potential lynx and wolf reintroductions to Scotland', *Ambio*, OnlineFirst. Available at: <https://doi.org/10.1007/s13280-024-00216-7> [Accessed May 2025].

Zabel, A. & Holm-Müller, K. (2008) 'Conservation Performance Payments for Carnivore Conservation in Sweden', *Conservation Biology*, 22(2), pp. 247-251.

II. Policy Brief created for the SRA for Scottish Parliament Members

Human–Wildlife Coexistence in Scotland: A New Funding Mechanism

As Scotland pursues ambitious biodiversity and climate targets, a significant gap remains in its policy framework: the absence of targeted support for **human-wildlife coexistence**. While farmers, crofters, and land managers are essential for ecological stewardship, current systems often portray their role as bearing the disproportionate costs of living with wildlife, which can harm the human-wildlife dynamic in Scotland rather than promoting positive incentives for coexistence. This is a critical issue because, without effective mechanisms to encourage and reward coexistence, the vital work of nature recovery is hindered. Unlike reactive compensation, which simply reimburses for losses, or short-term mitigation techniques like fencing, which may not address underlying social tensions, coexistence-incentivisation is a proactive approach that uses financial mechanisms, such as outcome-based payments, to reward land managers for actively promoting tolerance and biodiversity.

What is Human-Wildlife Coexistence?

"A sustainable though dynamic state, where humans and wildlife co-adapt to sharing landscapes and human interactions with wildlife are effectively governed to ensure wildlife populations persist in socially legitimate ways that ensure tolerable risk levels". It is seen as a more holistic approach than the reductive "conflict" narrative, recognising that interactions are linked to complex socio-ecological systems and influenced by historical grievances and power dynamics.

This policy brief recommends establishing a Scottish Wildlife Coexistence Fund (WCF) to motivate and reward land managers for adopting proactive, locally tailored coexistence strategies. This proposal is based on research that examined successful international human-wildlife coexistence schemes and interviewed key Scottish stakeholders to determine their concerns and motivations for such a fund. The research found promising evidence supporting outcome-based schemes that are equitable, adaptable, and co-designed with local communities. The study findings present evidence to support the creation of a wildlife coexistence funding lever within the Agricultural and Rural Communities (Scotland) Act 2024, which is intended to enhance both ecological and community resilience.



Why Scotland Needs a Wildlife-Coexistence Fund



A Scottish WCF would be a crucial instrument for aligning policy with practice, offering multiple benefits for both nature and people. The research supporting this brief drew on successful international models and key stakeholder interviews, providing a clear blueprint for this fund. It addresses the significant gap between Scotland's ambitious climate and biodiversity goals and the realities of its agricultural and rural landscapes. The fund would formally recognise farmers, crofters, land managers, and rewilding practitioners as vital partners in conservation.

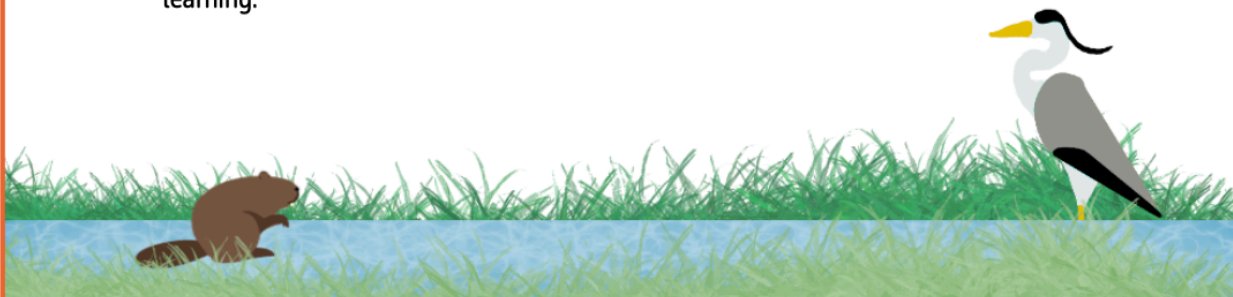
As noted by many interviewees, government policy often does not reflect the urgency of the climate and biodiversity crises. This proactive approach would mitigate negative human-wildlife interactions by sharing the risks and costs of coexistence, promoting locally led innovation and stewardship, and building trust in land-use change. Ultimately, a WCF is a tangible pathway to close the policy-practice gap, ensuring that Scotland's transition to a more sustainable land use system is both ecologically effective and socially just.

Research Findings

- **What lessons can Scotland draw from international, government-led, outcome-based approaches to wildlife coexistence?**

A review of international outcome-based coexistence programmes reveals six core principles, closely aligned with Gross et al's (2025) Conflict-to-Coexistence (C2C) framework produced for the World Wildlife Fund (WWF). These principles link specific design elements to each C2C element.

1. **Understanding interactions** requires a participatory design involving local stakeholders.
2. **Effective policy and governance** are supported by clear, measurable outcomes.
3. **Prevention** is achieved through proactive land-use strategies and education.
4. **The response** element focuses on providing support for managing acute conflict.
5. **Mitigation** involves conditional payments and tolerance support.
6. **Monitoring** and adaptation are addressed through continuous feedback and adaptive learning.



- **What are the key concerns and motivations of key Scottish stakeholders regarding the development of a Wildlife Coexistence Fund?**



Interviews with key Scottish stakeholders, including crofters, farmers, land managers, and rewilding practitioners, revealed a complex mix of concerns and motivations regarding the development of a Wildlife Coexistence Fund.

A primary concern for participants was the rigidity of current government schemes, which are often perceived as a "one-size-fits-all" approach unsuited to Scotland's diverse local landscapes and seasonal variations. This lack of flexibility, combined with burdensome bureaucratic processes and inaccessible application systems, was highlighted as a significant barrier to participation. Stakeholders also expressed concern over what they see as insufficient funding to tackle the scale and pace of the biodiversity and climate crises, and they pointed to a persistent power imbalance and disagreements among different stakeholder groups over land management decisions.

Despite these challenges, strong motivations for reform emerged from the interviews. Stakeholders expressed a desire for new schemes that prioritise peer collaboration and shared learning within farming and crofting communities. There was also a strong call for greater public education to raise understanding of nature and food systems, which they believe is crucial for building broader support for their work. Participants also emphasised the importance of a fund that would provide recognition for existing biodiversity-friendly practices rather than just demanding new ones. Many were open to the idea of hybrid schemes that combine base payments with additional rewards for achieving specific outcomes, seeing this as a promising way to provide both stability and incentive for environmental stewardship.



Features of a Successful Funding Scheme for HWC



- 1. Prioritise Participation & Co-design:** Schemes should be co-designed with land managers and communities to reflect place-based values and realities, which aligns with the C2C element of "Understanding Interactions".
- 2. Ensure Equity:** The schemes should include tiered payments and simplified applications to support smallholders and those in marginalised regions or with limited resources, which aligns with the C2C element of "Policy & Governance".
- 3. Tiered & Blended Incentive Payments:** Funding should combine baseline support payments with outcome-based bonuses for measurable ecological improvements (e.g., biodiversity bonuses). It should also combine tolerance payments with funding for coexistence infrastructure (e.g., fencing, guardian animals), which aligns with the C2C elements of "Mitigation & Prevention".
- 4. Fund Education and Outreach:** Invest in education, intergenerational programs, and farmer-to-farmer knowledge exchange. This also includes raising public awareness about land use, biodiversity, and food systems to reduce rural-urban antagonism, aligning with the C2C element of "Prevention".
- 5. Implement Flexible Monitoring:** A mixed system of outcome verification, including self-reporting, peer review, and random audits, should be used to distribute and reduce administrative burden. Examples include camera traps, participatory mapping, and community-led surveys, which align with the C2C element of "Monitoring & Adaptive Management".
- 6. Guarantee Long-Term Support:** Multi-year funding (10–35 years) is essential to build trust, enable planning, and support ecosystem recovery, aligning with the C2C elements of "Response & Adaptive Management".
- 7. Link to Land Reform and Justice:** The fund should be embedded within broader efforts to decentralise decision-making, avoid limiting actions to land ownership and support community empowerment, which aligns with the C2C element of "Policy & Governance".



Conclusion: A Call to Action

A Scottish Wildlife Coexistence Fund would be a crucial instrument for aligning policy with practice, offering multiple benefits for both nature and people. The fund would close critical funding gaps in biodiversity and rural/agricultural policy and formally recognise crofters, farmers, land managers and rewilding practitioners as vital partners in conservation. By sharing the risks and costs of coexistence, it would prevent conflict escalation, promote locally led innovation and stewardship, and build trust in nature-restoration and rewilding initiatives. Ultimately, this fund would support Scotland's just transition by fostering equitable ecological resilience within agricultural and rural communities.

This holistic approach is indispensable for delivering a thriving, biodiverse landscape where human communities and wild species can genuinely coexist. Given the continued decline in Scotland's biodiversity, a clear, ambitious, and pragmatic plan is crucial to incentivise and support human-wildlife coexistence among those most directly situated in areas of potential wildlife interactions. The crucial question is whether the government will move beyond aspirational commitments to implement the equitable, practical, and durable measures required for genuine human-wildlife coexistence

This Policy Brief is a working Draft and is currently being finalised in co-production with the Scottish Rewilding Alliance and will be updated and available on their website in September 2025.

References

- Gross, E., Jayasinghe, N., Dahal, S., Tenzin, S., Klenzendorf, S., Vannelli, K., Gils, E., Hilderink-Koopmans, F., Mcvey, D., Banasiak, N., Boron, V., Frances, D., Petrone, S., Elliott, W., Cranston, K., Clemens, K., Moore, J., Glikman, J., Kinsky, R. & Kinnaird, M. (2025) 'C2C—conflict to coexistence: A global approach to manage human-wildlife conflict for coexistence', *Conservation Science and Practice*, 7(5), p. 13292.
- Pooley, S., Bhatia, S. & Vasava, A. (2021) 'Rethinking the study of human-wildlife coexistence', *Conservation Biology*, 35(3), pp. 784-793.
- Navarrete Zur O. (2025) 'Encouraging Human-Wildlife Coexistence in Scotland: Key Stakeholder Perspectives and International Lessons to Design a New Coexistence Funding Mechanism'. MSc Thesis, School of Geosciences, The University of Edinburgh.

