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Guardians or executioners – navigating the ethics of deer control

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Phil Holland

I wish to thank the Kellogg Programme Investing Partners
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Executive Summary

This report investigates the ethical, ecological, and cultural complexities surrounding wild deer control in Aotearoa New Zealand. Using an autoethnographic method integrated with policy analysis and a wide-ranging literature review, it explores why deer control remains so persistently contested, despite clear evidence of the environmental damage caused by expanding feral deer populations. Framed around the central question, Guardians or executioners? Navigating the ethics of deer control, the report critically examines how ethical frameworks shape, constrain, or enable management decisions in a settler-colonial context.

Introduced in the 19th and 20th centuries, deer have shifted from protected game species to pervasive pests. Today, they occupy more than 44 percent of the country's land area, contributing to the decline of indigenous biodiversity, impeding native forest regeneration, and affecting productive land use (Mason & Allen, 2020). Although successive governments and agencies have undertaken control efforts, reinvasion, fragmented governance, and inconsistent investment have allowed deer populations to persist or expand in many regions.

This report weaves personal experience with academic critique to expose the moral tensions at the heart of contemporary deer control. Managing sentient animals through lethal means raises discomfort, resistance, and conflict, especially in rural and Māori communities. These tensions are not just policy obstacles; they reveal deeper misalignments between dominant control paradigms and the ethical, cultural, and ecological conditions in which they are applied.

Key themes include:

- The enduring influence of settler-colonial narratives that frame deer as either invasive threats or charismatic game animals.
- The emotional ambivalence and cultural complexity deer represent for many communities.
- The fragmented statutory environment that contributes to inconsistent and ineffective management across land types and jurisdictions.

Chapters 7 and 8 assess historical and contemporary control strategies, including iwi-led restoration projects, community-based catchment programmes, and commercial harvesting through Wild Animal Recovery (WARO). Chapter 9 introduces relational ethics, ecological justice, and kaitiakitanga as alternative frameworks for understanding and guiding decision-making. Chapter 10 presents six future-oriented models for deer control, each grounded in collaborative, context-sensitive practice. These chapters collectively argue for a pluralistic and adaptive strategy that reflects the diversity of New Zealand's landscapes and communities.

Key Findings and Recommendations

The report identifies several key findings that inform a new approach to deer management in Aotearoa New Zealand. First, ethical tensions are not peripheral but foundational. For deer control to maintain public legitimacy and long-term support, it must be conducted in ways that are humane, transparent, and culturally appropriate. Public discomfort and resistance are not merely obstacles to overcome but signals of deeper ethical concerns that must be addressed through inclusive practices.

Second, co-design with Māori and rural communities is essential. Initiatives such as the Raukūmara Pae Maunga Project illustrate the potential of place-based governance that aligns with Te Tiriti o Waitangi and incorporates local knowledge, values, and aspirations. These models offer powerful alternatives to top-down approaches and help ensure that management strategies are both socially legitimate and ecologically grounded.

Third, the complexity of deer management demands multiple concurrent approaches. No single model is sufficient. Effective outcomes will require a combination of landscape-scale coordination, iwi-led governance, catchment-level collaboration, and adaptive management hubs. These approaches must be responsive to different ecological conditions, land-use priorities, and community relationships.

Fourth, the way deer control is framed in public discourse has real consequences. Moving away from militaristic and adversarial metaphors toward a language of care and responsibility can create space for more constructive, pluralistic dialogue. This shift in narrative can reduce polarisation and foster broader public engagement with the ethical dimensions of environmental stewardship.

Finally, there is an urgent need for a coherent national deer strategy. Such a strategy should provide integrated direction that balances biodiversity outcomes, ethical responsibility, and Treaty obligations. Without national coordination, efforts will remain fragmented and inconsistent, limiting their long-term impact.

Ultimately, this report calls for a paradigm shift in how deer management is conceptualised and enacted. Rather than viewing it solely as a technical challenge, it must be recognised as an ongoing ethical practice rooted in care, cultural legitimacy, and ecological responsibility. Through this reframing, Aotearoa New Zealand can develop deer control systems that are not only effective but also just and enduring.

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To Federated Farmers, thank you for the generous support through the Leaders Scholarship. Without this backing, my participation in the programme would not have been possible. Your leadership and dedication to the rural sector continue to inspire me to contribute with the same courage and purpose.

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To all those I engage in my work in this space, from farmers to civil servants, policy makers to conservationists, thank you for your honesty, your passion, and your commitment to making Aotearoa a better place.

Finally, to my partner, Eleanor Steel, thank you for your patience, good humour, and enduring support. Your willingness to listen to extended monologues about deer control, and to entertain my many tangents with grace (without obviously rolling her eyes, making a good fist of convincing me that she is interested) means more than she knows.

A Note on the Use of Artificial Intelligence (AI)

Throughout the development of this project, I made considered use of ChatGPT as a tool to support clarity, consistency, and structure in my writing. Specifically, I used it to:

- Identify inconsistencies and gaps in argumentation or structure
- Rework drafts to improve grammar, coherence, and flow
- Test alternative framings or phrasings to sharpen key messages
- Assist with APA referencing by cross-checking formatting and suggesting citations where appropriate
- Reorganise content and refine summaries, conclusions, and recommendations
- Draft comparative models and policy summaries based on my original analysis and inputs.

Importantly, all content generated by ChatGPT was reviewed, edited, and critically assessed by me. The use of this tool was part of a broader writing and research process, and it did not replace original thought, fieldwork, or ethical reflection. I take full responsibility for the integrity and interpretation of the work presented.

Contents

Chapter 1. Introduction

The question of how we manage pest deer in Aotearoa New Zealand cannot be disentangled from the ecological, cultural, and political conditions in which that management takes place. Deer control is not merely a technical issue of population reduction; it is embedded in contested landscapes of meaning, authority, and responsibility. This introductory chapter establishes the scale of the deer problem and outlines its impacts across conservation, farming, and forestry. It also positions the inquiry within my own situated perspective as a policy advisor, land user, and engaged citizen.

By examining the personal and structural dimensions of deer control, including ecological urgency, the fragmentation of legal authority, and divergent public values, this chapter introduces the central research question: how do ethical beliefs shape, enable, or constrain deer management in a settler-colonial context? Drawing on autoethnography as a method, it argues for a reflexive, grounded approach that accounts for the lived experience of those involved in control efforts, and challenges dominant narratives about what counts as nature, harm, and care.

1.1 The Scale and Impact of Pest Deer in New Zealand

Pest deer have become a widespread and costly problem in Aotearoa New Zealand, adversely affecting farmland, forestry, and conservation areas. As introduced ungulates, deer are now present across much of the country and are increasingly recognised as a major biosecurity and land management challenge. However, perceptions of the severity of the problem vary significantly, depending on the values of those making the judgement and the biological and cultural context of the land the deer inhabit.

Despite sustained control efforts over many decades, deer populations continue to expand in many regions, often due to reinfestation across land boundaries. Private landowners and forestry companies have expressed frustration that reinvasion from neighbouring public conservation land can undermine localised control success. While the Department of Conservation (DOC)with its limited pest control budget has rightly prioritised ecologically sensitive areas within its large and diverse estate. The scale and complexity of its management responsibilities mean that full containment is challenging. Farmers bordering DOC-managed land frequently report deer incursions, reinforcing the importance of improved cross-boundary coordination and integrated, landscape-scale approaches to deer management (RNZ, 2024).

Extent of the problem

Deer now occupy more than 44% of Aotearoa New Zealand's land area, spanning vast tracts of conservation, forestry, and privately owned land (Warburton & Morriss, 2021). Seven species of deer have established wild populations, with red, fallow, and sika deer being the most prevalent.

According to the *Federated Farmers National Pest Survey* (2024), pest animals impose an estimated annual cost of $213 million on Aotearoa New Zealand's primary sector. Of this, $74 million is spent directly on control measures such as shooting, fencing, and other forms of management, while the remaining $139 million is attributed to lost production and pasture damage. Deer are identified as a significant contributor to these losses, particularly in hill and high country areas. More than 30% of surveyed farmers reported

that their current control efforts are insufficient to reduce herd sizes effectively, and that they are operating near the limits of their physical and financial capacity to manage the problem.

Impact on Farmland

On farmland, pest deer compete directly with livestock for pasture and water resources. They damage infrastructure, including fences and water systems, feast on fodder crops, hinder farmer conservation and regeneration efforts. These pressures reduce the land's stock-carrying capacity and increase farm operating costs. Many farmers face an ongoing cycle of costly control efforts that fail to deliver long-term results, largely due to reinvasion from neighbouring properties where landowners or managers prioritise other objectives.

Impact on the Forestry Sector

Deer also impose substantial costs on the forestry industry. Their browsing on seedlings causes poor survival and stunted growth, which in turn reduces forest productivity. Forestry companies must spend considerable resources on replanting and pest control. Deer are also known to strip bark from young and mature trees, which reduces the quality and value of timber.

Impact on the Department of Conservation

Deer are a major ecological threat to Aotearoa New Zealand's indigenous ecosystems and a significant financial burden to DOC. Their browsing activity prevents the regeneration of native forests by consuming seedlings and saplings of vulnerable species (Department of Conservation, 2022a). Their selective feeding alters forest composition and leads to the dominance of less palatable or invasive species, degrading the overall ecosystem balance (Allen, Forsyth, & Wright, E. 2021). DOC invests millions of dollars annually in control operations, including aerial culling, ground shooting, and fencing. Intensive efforts are focused on areas such as Fiordland, the Southern Alps, and the central North Island, where ecological degradation has been most severe (Department of Conservation, 2022a).

Without consistent and strategic control, these impacts are likely to escalate, undermining decades of conservation investment and threatening Aotearoa New Zealand's native biodiversity.

1.2 Who Am I and How It Shapes My Perspective

I write from a deeply embedded perspective as a European New Zealander, born in the United Kingdom but having lived in Aotearoa New Zealand for 63 of my 65 years. I am proud to identify with the statement, 'I am a Pākehā because I live in a Māori world,' a reflection often attributed to theologian Mike Grimshaw. My life experience spans farming, forestry, and extensive tramping across this country's landscapes. Although I have limited direct experience in deer hunting, I am academically trained in both ecology and social science and have worked across government and non-government sectors in policy roles.

I currently work as a policy advisor within a rural advocacy organisation, actively participating in a range of forums focused on addressing the pest animal challenges facing our land, ecosystems, and communities. This professional engagement is matched

by a personal commitment to seeking ecologically sound, socially just, and practically viable solutions to deer control. My background positions me as both an observer and participant in the intersecting worlds of conservation, land use, and rural governance. This article, and the inquiry it represents, emerges from that convergence of lived experience, professional responsibility, and intellectual curiosity.

1.3 Research Question: How Do Ethical Beliefs Impact Deer Control in NZ?

The research question: *Guardians or executioners: Navigating the ethics of deer control*, emerges from the complex and often contradictory roles that individuals and institutions occupy within wildlife management in Aotearoa New Zealand. The framing deliberately provokes tension. On one hand, conservation actors and rural landholders are cast as guardians of native biodiversity, tasked with protecting fragile ecosystems from the impacts of introduced species like deer. On the other, they are also agents of death, responsible for the widespread and often violent removal of sentient animals through methods such as aerial shooting, poisoning, and culling. This dual identity forces a deeper examination of the ethical frameworks, cultural narratives, and institutional logics that underpin contemporary deer control.

This research does not seek to resolve the ethics of killing in conservation through a simple moral calculus, but rather to interrogate how these roles are navigated in practice, emotionally, culturally and politically. To do so requires returning to first principles: not only asking what should be done but questioning how and why current systems of deer management have evolved as they have. It requires acknowledging that control practices are not simply technical responses to ecological data, but also historical artefacts shaped by colonial land-use patterns, economic incentives, cultural values, and institutional inertia.

By re-examining foundational assumptions, such as what constitutes a pest, what is meant by "ecological integrity," and who has the authority to decide, it becomes possible to uncover the limiting factors that have constrained effective and ethical control. Some of these limitations are material (for example funding, access, terrain); others are ideological (for example the privileging of Western scientific epistemologies over Indigenous ones, or the framing of deer as either wholly villainous or wholly noble). Still others are institutional: fragmented governance, inconsistent policy support, and contested mandates between the Department of Conservation, regional councils, hunters, iwi, and private landowners.

Through a methodologically reflexive and culturally situated analysis, this research asks not only what works, but what matters, and to whom. It engages with the tension between the pragmatic imperatives of biodiversity protection and the moral discomfort many feel about animal suffering, cultural dispossession, and the violence embedded in conservation practice. In this way, the research question serves both as a moral provocation and as a diagnostic tool. An invitation to consider how we might move beyond inherited scripts of control toward more inclusive, transparent, and ethically robust, approaches to managing deer in a settler-colonial context.

1.4 Why Autoethnography Is Appropriate for This Inquiry

Autoethnography is a qualitative method that weaves personal narrative with cultural critique, enabling the researcher to interrogate how lived experience reflects and shapes broader social, political, and ethical systems (Ellis, Adams, & Bochner, 2011). In choosing this method, I position myself not as an objective outsider but as a situated participant,

acknowledging that in the field of deer control, where because of its very nature ecological science, conservation ethics, rural identity, and colonisation intersect, any claim to neutrality is both untenable and ethically insufficient.

I am drawn to autoethnography because it allows me to surface the contradictions and moral discomforts that are often papered over by managerial or technocratic framings of wildlife control. For example, deer may be simultaneously seen as ecological threats and as emotionally resonant or culturally meaningful animals. These tensions cannot be meaningfully explored through methods that demand distance, detachment, or generalisation. They require a methodology that honours emotion, memory, and context, and that can hold space for conflicting values.

This choice is strongly influenced by my agreement with Thomas Nagel's critique of what he termed "the view from nowhere" (Nagel, 1986). The often-stated aspiration within Western science to produce knowledge that is entirely independent of the observer, a key hallmark of positivist traditions. This in my view, both philosophically flawed and politically naive. It obscures (often deliberately) the interests and assumptions of those in power and frequently marginalises voices and worldviews that fall outside dominant epistemologies. In contrast, autoethnography recognises that all knowledge is situated, and that reflexivity is not a weakness but a necessary condition for ethical inquiry.

This is especially important in the context of Aotearoa New Zealand, where pest control, land stewardship, and conservation are deeply entwined with the legacies of colonisation and ongoing debates about who has the authority to define 'nature', and to decide what should be protected or destroyed in its name. By writing from within my own experience, I seek to explore how these tensions play out in real-world decisions and relationships, including those between people, animals, and the state.

Autoethnography also aligns with decolonising and relational methodologies that recognise multiple ways of knowing, including Indigenous, experiential, and land-based knowledges (Smith, 2021; Tuck, E., & Yang, 2012). Rather than seeking distance, it invites proximity. Rather than suppressing emotion, it treats it as data. In this way, the method allows me to speak from my own place, while also seeking to connect that place to broader structures of meaning, power, and practice.

In short, I use autoethnography not because I believe my story is exceptional, but because I believe it is exemplary of a set of ethical and cultural dilemmas that are often left unspoken in policy and ecological discourse. By situating myself as both observer and participant, I hope to contribute not only knowledge but also accountability to the conversation.

1.5 Significance: Ecological Urgency, Public Debate, Cultural Tensions

Asking the question 'Guardians or executioners – navigating the ethics of deer control' is significant because it surfaces the moral, ecological, and political tensions at the heart of environmental management in Aotearoa New Zealand. This inquiry is both timely and necessary, given the complex and interwoven challenges of biodiversity loss, cultural values, and contested land use that continue to shape the national conversation around pest management.

First, the ecological urgency cannot be overstated. Introduced deer species continue to exert severe pressure on native ecosystems. They browse heavily on palatable native

plants, inhibit forest regeneration, and alter the structure and function of entire habitats (Nugent & Fraser, 2005-a). This degradation has cascading effects on biodiversity, undermining decades of conservation gains. Despite repeated attempts to control deer populations, through culling, fencing, Wild Animal Recovery Operations (WARO), and community hunting, densities remain high in many regions. The window to prevent irreversible ecological collapse in some areas, especially where deer densities are high and native regeneration is slow, is closing. As climate change accelerates ecological stress, effective deer control becomes not just important but urgent.

Second, the question arises within a context of public and political debate. Deer control, particularly the use of aerial 1080, night shooting, or large-scale eradication, regularly provokes public controversy. On one side are conservationists and ecologists arguing for rapid and uncompromising intervention. On the other are hunters, landowners, and communities who view deer as a recreational or economic asset, or even as a part of their cultural landscape. This polarisation can lead to policy paralysis, implementation delays, and eroded public trust. Asking this question surfaces the underlying values and assumptions shaping these debates and provides a framework for more nuanced, ethically informed dialogue (Green & Rohan, 2012a; Nugent, Morris & Warburton,2021).

Third, this question speaks to deep cultural tensions in how we relate to animals, land, and each other. The legacy of colonisation is embedded in the deer issue: deer were introduced by colonial settlers who sought to recreate the sporting traditions of Britain, while Indigenous ecosystems and governance systems were being suppressed (Park, 1995). Māori perspectives on stewardship (kaitiakitanga), food sovereignty (mahinga kai), and animal life challenge the binary framing of deer as either pest or resource (Roberts et al., 1995a; Jolly et al., 2022). Similarly, rural Pākehā communities may hold values shaped by land-based livelihoods, generational hunting, or a pragmatic ethos of coexistence. By explicitly addressing the roles of "guardian" and "executioner," this research invites reflection on how power, identity, and historical narrative influence who gets to speak, who gets to kill, and who gets to protect.

In summary, posing this question is significant because it enables a critical and constructive re-evaluation of the assumptions underpinning deer control. It opens a platform to interrogate not only what we do to deer, but also what these actions reveal about our collective identity, whose values are privileged, and the kinds of ecological and cultural futures we are prepared to envision and enact.

1.6 Brief Overview of Chapters

This report is structured into a sequence of interconnected chapters, each addressing the ethical, cultural, ecological, and institutional dimensions of deer control in Aotearoa New Zealand.

- Chapter 2 provides historical and ecological context for the deer problem, combining national data with the author's personal experiences in rural and conservation settings.
- Chapter 3 offers a comprehensive literature review, introducing conceptual frameworks such as wicked problems, landscape amnesia, biopolitics, and social licence. It also outlines the cultural and moral narratives that shape public and institutional attitudes toward deer.

- Chapter 4 reviews the statutory and regulatory environment for deer management, highlighting how fragmented legislation and inconsistent mandates across agencies contribute to policy inertia.
- Chapter 5 delves into ethical tensions, examining both public and personal responses to control practices. It discusses how compassion, cultural values, and the legacies of settler colonialism complicate moral consensus.
- Chapter 6 explores narratives of resistance, both passive and active, among stakeholders including hunters, farmers, Māori communities, and conservation advocates. It identifies how emotional, cultural, and political dynamics shape public reluctance to support control.
- Chapters 7 and 8 survey current and historical deer control efforts, evaluating the effectiveness of iwi-led restoration, commercial harvest (WARO), community catchment initiatives, and state-led operations. These chapters map what is working, where gaps remain, and how legitimacy is gained or lost.
- Chapter 9 synthesises patterns across previous chapters, highlighting critical gaps in coordination, data, and ethical coherence. It identifies opportunities for a more integrated and reflective deer management system.
- Chapter 10 reframes the ethical foundations of deer control using relational ethics, kaitiakitanga, and ecological justice. It proposes a pluralistic ethics of care as an alternative to dominant control-oriented frameworks.
- Chapter 11 presents systemic reform proposals, including a national ungulate management programme, legislative reform to enable wild meat use, and improved data governance. It concludes with reflections on policy implications and the author's own ethical journey through this complex terrain.
- Chapter 12 concludes the report with a reflection on deer control as a deeply ethical, cultural, and political challenge. It synthesises key insights from across the inquiry, emphasising the need for inclusive governance, culturally grounded approaches, and compassionate public dialogue. The chapter also traces the author's personal ethical transformation, moving from binary thinking toward a pluralistic and relational understanding of guardianship. It outlines practical implications for policy, communication, education, and practice, and identifies priorities for future research. The chapter closes by returning to the central ethical question, "Are we guardians or executioners?", and calls for a more honest, humble, and ethically grounded vision of environmental responsibility in Aotearoa New Zealand.

1.7 Note On the Language Used in This Article

As this article is written from a farmer's perspective, I will unapologetically use the term pest animal to describe feral individuals and populations of vertebrate species introduced to Aotearoa New Zealand since European settlement. While I acknowledge that some consider this term pejorative, particularly when applied to species like deer, I believe its use is necessary to provoke the kind of conversation this topic demands.

Similarly, I will generally avoid euphemisms that obscure the reality that reducing and maintaining pest populations at acceptable levels requires killing animals. Terms such as cull, pest control, and wildlife management can mask this reality and will be used sparingly in this discussion.

1.8 Definitions and Terminology

A lexicon of technical terms and phrases is commonly used by conservation professionals and insiders when discussing pest control and ecological management. These terms are often adopted uncritically, which can create confusion, especially for those not embedded in the sector. To ensure clarity, this article defines the following key terms:

Ecological Integrity

In Aotearoa New Zealand, ecological integrity is defined as the state in which an ecosystem can sustain its inherent processes, biodiversity, and functions over time. It reflects how closely an ecosystem resembles its natural state and its capacity to support native species and ecological processes (Department of Conservation, 2009; Ministry for the Environment, 2001; Roper-Lindsay, 2014). Preserving ecological integrity is a cornerstone of effective conservation.

Biodiversity

In the Aotearoa New Zealand context, biodiversity encompasses the variety of all living organisms, including native, endemic, and introduced species, along with the ecological systems and processes they form (Department of Conservation 2020a). Despite its high endemism, Aotearoa New Zealand's ecosystems also include naturalised introduced species. Managing biodiversity thus requires balancing indigenous conservation with ecological realities (McGlone et al., 2010).

Ecosystem

An ecosystem refers to a dynamic, interconnected system of living organisms, such as plants, animals, fungi, and microbes that interact with the physical environment, including soil, water, and climate. Aotearoa New Zealand's ecosystems are uniquely fragile due to its long geographic isolation and the resulting evolutionary distinctiveness of its species (Department of Conservation, 2020a).

Pest Animals

In Aotearoa New Zealand, pest animals are non-native species that negatively affect the environment, economy, or human health. These species pose significant threats to native biodiversity and ecosystems and can severely impact agriculture and forestry (Department of Conservation, 2020b). Native species evolved in isolation and are particularly vulnerable to introduced predators such as possums, stoats, and rats (Russell et al., 2015). Pest control is central to initiatives like Predator Free 2050, which aims to eradicate selected invasive species to protect native wildlife (Predator Free New Zealand, 2019).

Restoration

Restoration refers to the process of rehabilitating damaged or degraded ecosystems to a healthy, functioning state. In Aotearoa New Zealand, this involves reintroducing native species, restoring ecological processes, and enhancing habitats that have been altered by human activity, invasive species, or land-use change. Restoration is a critical tool in preserving Aotearoa New Zealand's unique biodiversity (Bennett et al., 2016).

Chapter 2. Deer Control in New Zealand: Context and Methodology Integration

Aotearoa New Zealand presents a globally unique situation with regard to the management of introduced wild animals, particularly grazing and browsing species. The country's high level of endemism, combined with an evolutionary history that includes very few naturally occurring terrestrial mammals, created an ecosystem that is especially vulnerable to the impacts of introduced herbivores. Unlike in their native habitats, these species face no natural predators in Aotearoa New Zealand, enabling their populations to grow unchecked and cause extensive ecological degradation (Nugent & Fraser, 2005-a).

This ecological distinctiveness directly informs my autoethnographic methodology, shaping the environmental and cultural landscape within which my positionality is formed. As both researcher and participant, my observations are grounded in a deep awareness of the fragility of Aotearoa New Zealand's native ecosystems and the enduring legacy of introduced species. This perspective also recognises the cryptic status of feral deer in Aotearoa New Zealand: they are simultaneously valued as a source of kai and recreational hunting, and reviled as a destructive pest across farmland, exotic forestry, and conservation areas.

Understanding this context enables a more self-aware, situated approach that acknowledges the entanglement of ecological history, cultural values, and personal experience.

2.1 Introduction of Deer

The deliberate introduction of deer, along with other game animals such as tahr, and chamois was a product of British colonial values and the social norms of Victorian England. These animals were released into Aotearoa New Zealand's wild landscapes to create a familiar hunting environment for settlers and to emulate the sporting traditions of the British elite (Parkes & Murphy, 2003). This colonial legacy continues to shape both the ecological and socio-political dimensions of wildlife management in Aotearoa New Zealand.

2.2 Home Grown Environmental Ethics

Indigenous Māori environmental ethics differ substantially from European traditions of conservation and hunting. Rather than being in direct opposition, these worldviews can be seen as overlapping in a Venn diagram-like relationship. Māori concepts such as kaitiakitanga (guardianship) and mahinga kai (customary food gathering) emphasise sustainable use, intergenerational responsibility, and the spiritual connections between people and the environment (Kawharu, 2000). These principles contrast with, but also complement, European-derived frameworks focused on preservation, game management, or recreational hunting. This ethical interplay is central to my methodological lens. As an autoethnographer engaging with deer control narratives, I am particularly attentive to how these differing yet overlapping systems of value influence discourse, management priorities, and my own reflexive engagement with both Māori and Pākehā perspectives on stewardship and hunting.

The rise of a modern hunter-gatherer subculture in Aotearoa New Zealand has been significantly influenced by both Māori food practices and settler traditions. This growing movement reflects a desire to reconnect with nature, source ethical meat, and uphold

cultural food practices. It has revitalised interest in wild food and challenged dominant narratives around pest control and land use (Anderson, 2019). This subculture also informs my own perspective as a researcher; I draw on personal experience and shared values within this community to critically examine how ideas of wildness, autonomy, and food ethics intersect with environmental policy and deer control practices.

2.3 The 1080 Debate

The use of 1080 (sodium fluoroacetate) as a tool for pest control remains one of the most polarising environmental issues in Aotearoa New Zealand. While it is scientifically validated as effective in controlling possums, rats, and stoats, its application often sparks fierce public opposition, particularly from hunting communities who argue it reduces game availability and poses risks to non-target species (Green & Rohan, 2012b). For many Māori, concerns around 1080 also intersect with issues of sovereignty, environmental justice, and the right to access kai.

In both my professional work and my autoethnographic research, I frequently engage with individuals and communities who hold diverse and often conflicting views on 1080. These interactions challenge me to critically reflect on how such tensions shape public discourse and inform my own situated understanding. Navigating this complexity is essential, not only to represent stakeholder voices with integrity, but also to explore the ethical dimensions of pest control policy in a way that respects Aotearoa's pluralistic values and histories.

2.4 The Exclusion of Māori from Environmental Decision-Making

Historically, Māori were excluded from decision-making processes concerning natural resource management. As Geoff Park (1995) and others have noted, this exclusion reflects broader patterns of colonial dispossession. However, there has been a slow but significant shift toward inclusion and co-governance in recent decades. Examples include the legal personhood status of Te Urewera and the evolving Treaty-based frameworks in DOC legislation (Muru-Lanning, 2021).

2.5 The Socio-Political Baggage of Colonisation

Colonisation brought with it not only new animal species but also the socio-political legacy of Britain's game laws, which restricted access to hunting and imposed harsh penalties for poaching, even when driven by hunger. These injustices struck a chord with many early settlers, who had direct or inherited experiences of such restrictions. In response, the introduction of game animals in Aotearoa New Zealand was, perhaps unsurprisingly, guided by more egalitarian ideals. The right to hunt was embraced as a democratic value and quickly became embedded in settler culture.

2.6 Ethical Considerations

In writing this article, I am conscious of the ethical responsibility I hold when reflecting on and representing the actions, perspectives, and identities of others, particularly hunters, conservation staff, iwi representatives, farmers, and community advocates. These individuals are not abstract subjects but colleagues, collaborators, and in many cases, friends. My engagement with them, whether through shared conversations, public meetings, or institutional processes, requires a commitment to respect, care, and ethical transparency.

First, although this report draws on lived experience, I will not include identifiable personal information, direct quotations, or private conversations unless I have received explicit consent. Where perspectives from others are referenced, they will be anonymised and contextualised to avoid misrepresentation. This protects the dignity and confidentiality of those who may not have agreed to be part of a published report.

Second, I acknowledge the power dynamics at play. As a trained ecologist, social scientist, and policy advisor, I occupy a position that carries authority in both technical and political discourse. This positionality obliges me to write with humility, ensuring that I do not claim to speak for others, particularly for Māori or rural communities and hunters, whose experiences and values may differ significantly from mine. I aim instead to speak with and alongside, recognising the multiplicity of truths and ethical frameworks in this space.

Third, I am aware of the potential for harm, particularly if critical reflections are interpreted as personal attacks or institutional indictments. To mitigate this risk, I will foreground systems-level critique over individual blame, and where challenges are discussed, I will strive to balance these with examples of good practice, good intent, or structural limitations.

Fourth, this work is guided by principles of kaupapa Māori research and decolonising methodologies, even though I write from a Pākehā perspective. This includes respecting Māori data sovereignty, recognising Indigenous knowledge systems, and avoiding appropriation. Where Māori views are referenced, I will rely on published sources or engage with those perspectives in a way that is respectful and situated within their appropriate cultural context.

Finally, I commit to reflexivity throughout the research process, not only in terms of my emotional and intellectual standpoint but also regarding the ethical impacts of what I write. Where possible, I will seek feedback from peers and community members involved in the deer control space to ensure the final text is both accurate and fair.

In summary, this project does not aim to provide a definitive ethical judgement but rather to open a reflective space where the moral, emotional, and political dimensions of deer control can be explored with honesty, integrity, and care for the people and environments involved.

2.7 Reflection on Challenges of Combining Subjective and Academic Lenses

Combining subjective experience with academic analysis is both a methodological strength and a challenge. Autoethnography calls for deep reflection, but total subjectivity is elusive. It is neither possible nor desirable to entirely escape the structured ways of thinking and validating knowledge that come with academic training. My background in ecology and policy often draws me toward analytical clarity, but this sometimes risks suppressing the emotional complexity and ethical ambiguity that lie at the heart of deer control.

I am emotionally connected not only to the land itself, its bush, hills, and waterways, but also to the people who live on it and work to care for it. This includes farmers and foresters managing competing pressures, conservationists undertaking hard decisions, and tangata whenua striving to honour ancestral relationships with whenua. Many do all these

things at once. My respect for their work creates a tension: I seek to critique systems without undermining the dignity or intentions of those navigating them daily.

This emotional and relational positioning can make it difficult to hold critical distance. At times I feel the pull to defend the people and places I care about, even as I interrogate the systems they operate within. Yet I believe this is precisely why autoethnography matters. It enables an analysis rooted in accountability, care, and complexity. Providing a way of seeing not just what is wrong or what is missing, but what is held in tension and what might be possible.

Chapter 3. Literature Review: Understanding the Ethical and Cultural Dimensions of Deer Control in New Zealand

This literature review critically examines the ethical and cultural dimensions that shape deer control in Aotearoa New Zealand. While the ecological impacts of introduced deer species are well-documented, their management remains a highly contested space in which scientific, moral, and political considerations intersect. As such, deer control cannot be understood solely through a technical or ecological lens; it requires engagement with diverse ethical frameworks, historical legacies, and socio-cultural narratives that influence both policy design and public reception.

The review draws upon interdisciplinary literature in environmental ethics, conservation biology, indigenous knowledge systems, and political ecology to explore the multiple, and often competing, ways in which deer are valued or problematised. It begins with the conceptualisation of pest control as a "wicked problem," before examining hunter ethics, Māori perspectives on introduced species, and the psychological and cultural barriers that affect public support for control initiatives. Further sections consider the ethical inconsistencies in species valuation, the structural constraints of short-term governance and vested interests, and the discursive politics that frame deer as either ecological threats or cultural assets.

Attention is also given to the normative implications of different control methodologies, particularly in relation to animal welfare, and the cultural significance of death and dying in pest management. The review concludes with a discussion of adaptive management and the role of social license in securing sustained and socially legitimate outcomes.

Collectively, these strands of literature highlight the need for a more self-aware and inclusive approach to deer management, one that recognises the ethical complexity of human–animal relationships and the locally grounded nature of environmental governance in post-colonial contexts.

3.1 Wicked Problems in Pest Control

Pest control in Aotearoa New Zealand is widely recognised as a wicked problem, a type of complex issue with no definitive solution, where stakeholder perspectives differ, and every intervention creates new consequences (Rittel & Webber, 1973). These problems resist simple technical fixes and instead require ongoing negotiation, reflection, and adaptation (Head & Alford, 2015). The ecological, cultural, and ethical complexity surrounding introduced deer populations makes their management emblematic of this dilemma.

3.2 Hunter Ethics and Moral Reasoning

Hunter ethics in Aotearoa New Zealand are shaped by cultural identity, respect for nature, and a strong moral code that guides interactions with wildlife, beyond what is legally required (Fraser, 2020). These ethics, although not formally codified, are widely respected and disseminated through groups like the New Zealand Deerstalkers' Association (NZDA, 2021). They emphasize principles such as fair chase, humane killing, environmental stewardship, social responsibility, and legal compliance. These norms often create internal conflict when hunters are asked to participate in large-scale culling programs or view deer as pests rather than valued game (Morris & Warburton, 2014).

3.3 Māori Ethics and Introduced Species

Māori hunting ethics, grounded in kaitiakitanga (guardianship) and mahinga kai (sustainable food gathering), offer a relational approach to deer management. Māori do not inherently reject introduced species but instead seek to manage them in ways that align with ecological balance and cultural values (Roberts et al., 1995a). Frameworks such as whakapapa, tapu, and rāhui inform culturally responsive deer management, integrating traditional knowledge into contemporary conservation (Harmsworth & Awatere, 2013; Jolly et al., 2022).

3.4 Psychological and Cultural Barriers: The Bambi Effect and Landscape Amnesia

Public opposition to deer culling is often shaped by emotional responses rooted in what is known as the Bambi Effect, a bias where charismatic animals receive more sympathy, influencing public attitudes and policy resistance (Herzog, 2010; Green & Rohan, 2012a). Simultaneously, landscape amnesia, a gradual loss of awareness about ecological degradation, leads people to accept heavily altered ecosystems as normal (Diamond, 2005; Pauly, 1995). These factors diminish urgency and complicate the social mandate for effective control.

3.5 Ethical Inconsistency: The Animal Farm Clause

The "Animal Farm clause", referencing Orwell's critique that "some animals are more equal than others," applies to Aotearoa New Zealand's pest management where species such as deer, horses, or cats are often protected or valued despite their ecological harm, while others like possums are aggressively eradicated (Nugent et al., 2021; Linklater et al., 2004). This inconsistency reveals cultural and political hierarchies in animal ethics and underlines the selective application of conservation logic.

3.6 Structural Constraints: Short-Termism and Vested Interests

Short-term political thinking, or short-termism, often prioritises quick results over ecological resilience, undermining pest control programs (Russell et al., 2015). Deer management suffers from intermittent funding, reactive strategies, and political reluctance to engage with controversial solutions. Moreover, vested interests, particularly from recreational hunting, tourism, and farming sectors can exert significant influence over deer policy, often at the expense of conservation outcomes (Memon & Weber, 2010; Brower, 2008).

3.7 Controlling the Narrative

The framing of deer, as either destructive pests or valued game animals, shapes public opinion and policy direction. Conservation agencies often frame deer as a crisis for native biodiversity, while hunting groups promote narratives of heritage, recreation, and sustainable harvest. Whoever "controls the narrative" determines the social license and legitimacy of management practices (Bell, 2020).

3.8 The Trouble with Wilderness and Fortress Conservation

Conservation in Aotearoa New Zealand has historically been influenced by Western ideals of pristine wilderness, excluding Māori from decision-making and often erasing Indigenous land use histories (Park, 1995; Cronon, 1996). While scholars like Mick Abbott argue for a shift toward inclusive conservation, emphasizing human-nature integration, co-governance, and the incorporation of mātauranga Māori (Abbott & Rewi, 2018).

3.9 Limits and Complexities of Restoration

Restoration efforts are constrained by the Humpty Dumpty effect, the idea that once ecosystems are broken, they cannot be fully restored (Egan & Howell, 2001). Ecological legacies of invasive species and extinction events impose lasting thresholds that complicate recovery (Hobbs, Higgs & Harris, 2009; Hobbs et al., 2009; Norton, 2009). Recognizing the limits to restoration forces us to reframe success, not as returning to an imagined past but, as building resilience in altered ecosystems.

3.10 Social License and Adaptive Management

Effective deer control requires social license, ongoing public and stakeholder acceptance of pest control programs (Crowley et al., 2017). Adaptive management offers a way forward, allowing flexible, evidence-based approaches that evolve over time and respond to community input and ecological feedback (Walters & Holling, 1990). However, such strategies require trust, collaboration, and a willingness to confront ethical discomfort.

3.11 Death and Dying in Vertebrate Pest Control

In vertebrate pest control, particularly for species like deer, animal welfare debates often overlook a key ethical distinction: death is the end of life, whereas dying involves the process leading up to death, including potential pain, fear, and suffering (Beausoleil et al., 2016). This distinction matters because many accepted control methods, such as poisoning or aerial shooting, vary greatly in how much suffering they inflict before death.

Aotearoa New Zealand's Animal Welfare Act (1999) requires that pest control be humane, reflecting the legal and ethical imperative to minimise suffering (Cowan & Waas, 2020). Aerial shooting, when carried out to best-practice standards, is relatively fast and humane, though concerns persist about wounding rates and animal distress (Warburton et al., 2012). In contrast, 1080 poisoning causes prolonged physiological distress, including vomiting and seizures, leading some to question its ethical acceptability despite its population-level effectiveness (Littin & Mellor, 2005).

From a Māori perspective, dying is not just a biological process but one imbued with cultural and spiritual meaning. Practices such as karakia and tapu recognise the significance of death and reinforce the need for respectful, intentional treatment of animals (Roberts et al., 1995a; Harmsworth & Awatere, 2013).

Public opposition often centres not on the fact that animals die, but how they die. The widespread discomfort with prolonged suffering reflects a shared ethical concern across many cultural worldviews. It highlights the need to evaluate pest control practices, not just for their outcomes but, for the experience of animals in their final moments.

Chapter 4. Statutory Environment for Deer Control

Deer control in Aotearoa New Zealand operates within a complex and fragmented statutory environment, shaped by multiple overlapping Acts and policy instruments. This highlights a broader structural issue: the absence of a unified and coherent national strategy for managing deer as both a valued recreational resource and an invasive species. The fragmented statutory environment creates overlapping jurisdictions, inconsistent mandates, and policy gaps that complicate efforts to implement integrated, landscape-scale management. This legal pluralism reflects and reinforces the conflicting societal values assigned to deer, impeding the development of a coordinated approach to their control.

While not exhaustive, the following summary highlights key legislative frameworks relevant to this context. The following summarises key Acts in alphabetical order:

4.1 Animal Welfare Act 1999

This Act recognises that animals are sentient beings capable of suffering. It requires pest control methods to be humane, supporting a shift towards non-lethal and ethical control strategies. Public scrutiny and best-practice guidelines increasingly reflect animal welfare concerns in pest management (Animal Welfare Act 1999; Hawkins et al., 2015; Cowan & Waas, 2020).

4.2 Arms Act 1983

This Act governs firearm possession and use, including for hunting. It mandates firearms licensing, restricts certain firearm types, and regulates safe storage and transport. These measures help ensure public safety and responsible hunting practices (Arms Act 1983).

4.3 Biosecurity Act 1993

The Biosecurity Act provides the legal foundation for managing pests and unwanted organisms. It enables the establishment of National and Regional Pest Management Plans (RPMPs), which may classify deer as pests where they harm ecological or agricultural values (Biosecurity Act 1993).

4.4 Conservation Act 1987

This Act empowers the Department of Conservation to manage and protect native ecosystems. Deer control is authorised as part of biodiversity conservation efforts. Section 4 requires the Act to be administered in line with the Treaty of Waitangi, thus necessitating consideration of Māori interests in deer management (Conservation Act 1987).

4.5 Food Act 2014

The Food Act regulates food safety in the handling and sale of wild game, including venison. It establishes standards for wild game processing and imposes risk-based measures on commercial operations (Food Act 2014).

4.6 Game Animal Council Act 2013

This Game Animal Council Act (2013) promotes sustainable management of game species like deer. It empowers the Game Animal Council to recommend control strategies, particularly where game animal populations threaten native biodiversity,

aligning recreational hunting with conservation goals (New Zealand Game Animal Council, 2019).

4.7 Resource Management Act 1991 (RMA)

The RMA provides the overarching framework for environmental management in Aotearoa New Zealand. It enables local authorities to control land use and implement regional pest management plans (RPMPs) in conjunction with the Biosecurity Act to address ecological damage caused by deer (Resource Management Act 1991).

4.8 Te Ara ki Mua (non-statutory)

Te Ara ki Mua is a strategic DOC framework aimed at improving deer and game animal management (Department of Conservation, 2021). It encourages collaboration with iwi and stakeholders to ensure biodiversity outcomes and inclusive decision-making.

4.9 Wild Animal Control Act 1977

This Act specifically classifies deer as wild animals and authorises control to protect indigenous ecosystems and farmland. It also provides for regulated hunting and the establishment of game management areas (Wild Animal Control Act 1977).

4.10 Wildlife Act 1953

The Act generally protects wildlife but exempts certain species, such as deer, under Schedule 5. Section 54 authorises DOC to control wildlife that causes environmental harm, facilitating deer population management (Wildlife Act 1953).

Chapter 5. The Ethical Landscape: Personal and Public

Deer control in Aotearoa New Zealand is not solely a matter of ecological science or technical intervention. It is also an ethical terrain, shaped by personal values, cultural identities, and contested narratives about land, belonging, and responsibility. This chapter explores the moral complexity of deer management by examining how ethical positions are formed, expressed, and challenged, both in public discourse and in my own lived experience.

By weaving together personal reflection and broader societal perspectives, this section situates deer control within a landscape of emotional ambivalence, cultural tension, and historical legacy. It argues that ethical responses to deer are not reducible to policy positions or scientific consensus, but instead reflect deeper engagements with care, discomfort, and identity. Through this lens, deer management becomes a site not only of ecological decision-making, but of moral negotiation, requiring reflexivity, empathy, and the courage to hold contradictory truths.

5.1 My Personal Ethical Landscape: Its Origins and Evolution

My ethical stance on deer control in Aotearoa New Zealand has evolved through a lifetime shaped by the land, my cultural inheritance, and ongoing exposure to political and ecological complexity. I am a Pakeha New Zealander, born in the UK but having lived here for over 60 years. My personal history includes working as a farmer, a forester, and a tramper. These roles have nurtured a deep emotional connection to the land and a respect for those who depend on it and strive to care for it.

A foundational moment in the formation of my environmental ethics came when I read Barry Crump's A Good Keen Man (Crump, 1960) at age 13. One passage in particular (p. 32) made a lasting impression:

> "Once it had been difficult to climb though the dense undergrowth on the ridges, but a few generations of deer, eating the young trees before they were more than a few inches high, chewing the bark quite high on some of the smaller trees, had altered that. Pigs scoffing the roots and berries and breaking up the ground had triggered soil erosion. The possums crawling all over the older trees, eating the bark and striping the leaves, had completed the job of making fine bush into potential desert. You could stand anywhere in this forest and see at least 100 yards through the trees completely unsupported by undergrowth or saplings. The old forest was being killed off, and the new one literally nipped in the bud."

This passage has always stuck with me. Around the same time, during my first tentative forays into the Kaweka Ranges, I thought it normal to walk easily across mossy forest floors littered with deer pellets, seeing 100 metres through beech forest on the Mackintosh Spur. It wasn't until I returned to the same area in the early 1980s, at the height of the venison boom to find an impenetrable jungle of saplings and understorey that the penny dropped. I suddenly understood what Crump had meant. The forest was recovering. That realisation sparked a lifelong awareness of how introduced species affect ecosystems, and of the human role in both ecological degradation and restoration.

My training in ecology and the social sciences has further exposed me to the conceptual and political tensions that underpin environmental policy. These disciplines encouraged

me to see beyond surface-level debates and into the ethical entanglements of conservation, colonialism, and human–animal relationships. I have come to understand that my views are shaped as much by cultural narratives as by ecological evidence.

Initially, my views on deer were pragmatic focusing on their impact on native ecosystems, the economics of farming, and the logic of pest control. However, over time, I have come to recognise the emotional and symbolic weight deer carry for different groups. Compassion, discomfort, and cultural identity all deeply influence how people engage with deer. What I once saw as a straightforward issue has revealed itself to be fraught with competing claims of justice, heritage, and responsibility.

Compassion for animals, including deer, has made me question (but not necessarily reject) the ethics of control methods like aerial shooting and poisoning. Discomfort arises not only from the methods themselves but from the moral dissonance between valuing biodiversity and inflicting suffering. These emotional responses are legitimate and must be accounted for in any ethical landscape.

My position is also coloured by the settler-colonial legacy that permeates land and wildlife management in Aotearoa New Zealand. The introduction of deer, their transformation from protected game to pest, and the resistance to their removal all reflect deeper struggles over whose values dominate our landscapes. As a Pākehā, I recognise the privileges and assumptions that come with my worldview and seek to remain open to perspectives grounded in tikanga Māori, mahinga kai, and kaitiakitanga.

In sum, my ethical position is neither fixed nor purely rational. It is the product of a life lived in relationship with land, people, and more-than-human beings. It has been shaped by work, education, cultural heritage, and by witnessing both the damage and the care people bring to the environments they inhabit. I no longer see deer control solely as a technical or ecological challenge but as a moral and cultural dialogue in which I am both participant and product.

5.2 How My Ethical Instincts Have Clashed with Deer Management Logic

Despite recognising the ecological necessity of controlling deer populations, I have often felt a personal and moral dissonance with the way deer management is carried out in practice. My ethical instincts, shaped by years of observing both environmental harm and recovery, sometimes pull in different directions from the prevailing logic of pest control.

The scientific rationale for deer management, grounded in protecting biodiversity, preventing erosion, and restoring native ecosystems is compelling and well-evidenced. However, the methods used to achieve these goals often conflict with my sense of compassion and justice. Aerial shooting, for example, may be efficient, but it can feel impersonal, brutal, and ethically opaque. Similarly, poisoning raises serious animal welfare concerns, particularly when it causes prolonged suffering or affects non-target species. These approaches clash with my deep discomfort around institutionalised forms of harm, even when applied to an introduced species.

Furthermore, I have seen how deer management logic can override or marginalise alternative value systems. For instance, while I support the goal of native forest regeneration, I am uncomfortable when policies ignore the importance of deer as a food source for rural communities or as part of customary harvest practices for some iwi. The

binary framing of deer as either pests or resources erases the cultural, economic, and emotional complexity of human–deer relationships.

This clash between ethical instinct and management logic also reflects broader questions about whose voices are heard in environmental governance. The technical language of biosecurity and pest control can mask deeper moral and cultural tensions. My instincts push me toward frameworks that respect emotional responses, acknowledge historical injustices, and allow for pluralism in values and practices.

In moments like these, I am reminded that ethics is not a fixed compass but a lived and evolving negotiation. I am learning to hold discomfort as a productive tension, and to advocate for deer management strategies that are ecologically necessary, but also socially just and ethically mindful.

5.3 Public and Media Narratives: Alignment and Dissonance

These tensions are also reflected, though often unevenly, in the public and media narratives surrounding deer in Aotearoa New Zealand. Public and media portrayals of deer are shaped by competing narratives that alternately amplify or downplay the ethical complexity of deer control. On one hand, mainstream environmental reporting and Department of Conservation campaigns often frame deer as ecological villains, symbolising unchecked colonisation and posing existential threats to native biodiversity. These narratives support urgent, sometimes militaristic, responses that prioritise ecological restoration at all costs.

On the other hand, lifestyle media, hunting magazines, and rural voices on social media platforms often romanticise deer as noble creatures and valued game animals. These outlets emphasise deer's role in recreational hunting, customary food gathering, and the construction of rural identity. Human-interest stories or profiles of hunter-conservationists challenge the simplicity of the pest narrative.

My ethical instincts find partial resonance in both spheres. I empathise with the ecological urgency expressed in conservation campaigns, but I also understand the emotional and cultural attachments articulated in rural and hunting communities. Where I diverge from dominant media portrayals is in their tendency toward reductionism, either vilifying deer or valorising them, without acknowledging the layered, often contradictory ethics at play. Few public narratives make room for discomfort, ambiguity, or the need to integrate multiple worldviews.

This mismatch between personal ethics and public discourse reinforces my belief that deer management should not be framed purely as a technical issue. Instead, it must be approached as a complex cultural and moral challenge, demanding inclusive dialogue, empathetic listening, and ethical imagination.

5.4 How Compassion, Discomfort, And Cultural Identity Shape Attitudes to Deer

Compassion is a central driver of both support for and opposition to deer control in Aotearoa New Zealand. Many people, both urban and rural feel a strong emotional aversion to lethal control methods, particularly aerial shooting and poisoning. These approaches are often perceived as inhumane or impersonal (Beausoleil et al., 2016). Some recreational hunters and members of the public view deer as noble, charismatic animals, and even as part of a "wild game heritage," which can evoke resistance to their framing as pests (Gibbs, 2010). Emerging ethical frameworks like compassionate

conservation advocate for minimising harm to individual animal, even those deemed invasive thus challenging dominant utilitarian pest control paradigms (Wallach et al., 2018).

Discomfort surfaces when individuals are asked to reconcile conflicting values, or when control methods appear at odds with personal or societal ethics. Even those who understand the ecological necessity of deer control may experience profound emotional unease, particularly in response to industrial-scale or impersonal methods. Some landowners and conservationists prefer to avoid discussing or witnessing such actions, creating a psychological and political distance from the practice (van Dooren, 2014). Discomfort may also arise from perceived inconsistencies, for example, the simultaneous regulation of deer farming and classification of wild deer as pests, or uneven enforcement of control measures.

Cultural identity plays a significant role in shaping responses to deer. Māori perspectives are diverse but often rooted in kai sovereignty, reciprocal relationships with land, and holistic ecological values. Some iwi view deer as an important food resource; others support their removal to enable native forest regeneration (Roberts et al., 1995b). For many Pākehā New Zealanders, deer are intertwined with colonial hunting traditions and rural self-reliance, symbols of independence and egalitarian access to public lands (Ruru, 2018a). These perspectives can be at odds with urban conservationist priorities that centre on biodiversity and ecological purity. The tensions are embedded within wider legacies of colonisation, contested authority, and differential access to land and resources (Park, 1995; Awatere et al., 2017).

In sum, public attitudes toward deer reflect a complex interplay of compassion for animals, ethical discomfort with control, and deeply rooted cultural identities. These emotional and ethical dimensions complicate pest management efforts. Any effective and just policy response must address these complexities through inclusive engagement, recognition of diverse worldviews, and the implementation of humane, culturally sensitive control strategies.

5.5 Unpacking Beneath the Surface: Emotional Politics, Settler-Colonial Logics, and Biopower

Beneath surface-level debates about deer control lies a deeper contest over moral legitimacy, identity, and authority over life and land in Aotearoa New Zealand. Public attitudes are shaped not only by ecological information or policy design but also by affective and historical undercurrents, many of which remain unspoken or denied.

Affective Landscapes and Emotional Politics

Environmental governance is increasingly understood as shaped by emotion; grief, guilt, nostalgia, and anger, as much as by science or law (Head, 2016; van Dooren, 2014). Compassion for deer reflects broader discomfort with state-sanctioned killing, especially where it challenges people's sense of self as moral, humane actors. This tension echoes Plumwood's (2000) assertion that Western conservation often struggles to acknowledge emotional and ethical complexity, particularly in managing non-native species. What appears as resistance to pest control may, in many cases, represent an effort to preserve moral coherence in an era of ecological crisis.

Settler-Colonial Ecologies and Legacies of Control

Deer management operates within the settler-colonial framework that continues to shape Aotearoa New Zealand's landscapes. Deer were introduced by colonial governments, initially protected as game, and later reclassified as pests. This trajectory mirrors broader shifts in authority over land; who belongs, whose values are dominant, and whose practices are legitimised (Park, 1995; Ruru, 2018b). Control efforts thus become more than ecological actions; they are moments of cultural reckoning. For some Pākehā, discomfort with killing deer reflects an unresolved cognitive dissonance: the simultaneous roles of settler and steward. For many Māori, responses to deer are framed through tikanga, mahinga kai, and kaitiakitanga, the ethics that reflect relational responsibility rather than dominion (Roberts et al., 1995b).

Biopolitics and the Right to Kill

Drawing on Foucault's (2003) concept of biopower, deer control can be understood as a mechanism by which the state decides who lives and who dies, not just in biological terms, but symbolically, by elevating or marginalising cultural worldviews. Pest control policies not only prioritise certain species but also legitimise particular relationships with nature. This is compounded when lethal methods are applied without meaningful community consultation, reinforcing perceptions of top-down authority and exclusion (Povinelli, 2011).

Conclusion

What may seem like straightforward policy questions about deer control often conceal complex emotional, historical, and political dynamics. Unpacking these tensions reveals that effective deer management must be more than ecologically sound, it must also be emotionally intelligent, culturally inclusive, and politically astute. Ethical deer control requires not only technical expertise but also reflective governance that acknowledges our shared, contested, and evolving relationships with the natural.

Chapter 6. Resistance and Reluctance

Efforts to manage wild deer in Aotearoa New Zealand are rarely met with straightforward acceptance. Despite robust ecological evidence and institutional support for deer control, these initiatives frequently encounter a complex web of resistance, reluctance, and ethical ambivalence. This resistance does not stem solely from ignorance or denial, but rather from a collision of worldviews, each with its own logic, legitimacy, and emotional weight. Farmers, hunters, urban conservationists, and animal rights advocates articulate divergent and sometimes conflicting values that challenge the dominant conservation narrative. Their objections are not only about methods or outcomes, but about fairness, autonomy, tradition, and trust. This chapter explores these narratives and expressions of discomfort, showing how ethical tensions surface in public debates, policy standoffs, and personal dilemmas, including my own. Understanding these resistances is essential not only for refining deer management strategies but for ensuring that conservation practice remains culturally legitimate, morally accountable, and socially durable.

6.1 Narratives of Resistance: Diverse Logics and Lived Realities

Despite widespread scientific and institutional consensus on the ecological harm caused by wild deer, resistance to their control persists across multiple social groups. These resistances are not simply reactions to specific policies or practices but reflect deeper conflicts over values, identity, land use, and power.

Farmers: Practicality and Perceived Futility

Many farmers support deer control in principle but resist centrally driven or bureaucratic approaches they perceive as impractical, inconsistent, or misaligned with rural realities. Resistance is often grounded in frustration that significant investment in fencing and culling on private land is seen as futile due to continual reinvasion from neighbouring conservation estates viewed as unmanaged source areas (Radio New Zealand, 2024; Federated Farmers, 2024). Farmers may also view top-down regulatory interventions, such as mandatory pest control or fencing standards as lacking empathy for the cost pressures, labour shortages, and operational constraints of farming life. In some cases, farmers see deer not only as a pest but also as a potential food or income source, complicating their relationship with control programmes.

Hunters: Identity, Autonomy, and Cultural Legitimacy

Recreational hunters, particularly those aligned with the New Zealand Deerstalkers Association (NZDA), often resist being cast as passive actors in pest control or as contributors to ecological decline. Instead, they position themselves as ethical stewards of the land, capable of managing deer populations sustainably through regulated hunting (Fraser, 2020; NZDA, 2021). Resistance arises when control programmes, especially aerial 1080 operations or commercial WARO (Wild Animal Recovery Operations) which are perceived to undermine access, erode traditional ethics, and diminish the role of hunting as a culturally meaningful form of land stewardship. For many hunters, resistance is also about autonomy: the right to hunt, to self-regulate, and to challenge conservation strategies they perceive as elitist, urban-centric, or ideologically driven.

Urban Conservationists: Ethical Ambivalence and the Bambi Effect

Among urban conservation supporters, resistance tends to centre not on the need for control but on the methods. The emotional symbolism of deer as majestic, charismatic animals can evoke the so-called "Bambi Effect," where public sentiment overrides ecological rationale (Herzog, 2010; Green & Rohan, 2012b). Aerial shooting, poisoning, and mass culling may appear brutal or morally unacceptable to those whose connection to nature is shaped by media, urban parks, or ecotourism rather than direct, hands-on experience with ecological systems or pest management. This resistance is often amplified on social media, where graphic images or misinformation can rapidly erode public trust in conservation agencies and generate polarised debate. For some, ethical discomfort is compounded by a limited understanding of ecological processes, resulting in simplified narratives that frame deer as innocent victims and cullers as executioners.

Animal Rights Activists: Sentience, Rights, and Non-Violence

Animal rights groups resist deer control on principled ethical grounds, rejecting any form of lethal control as a violation of animal rights. Their resistance is not contingent on the environmental impact of deer but is rooted in the belief that sentient animals have an intrinsic right to life and freedom from harm (Littin & Mellor, 2005). These groups often advocate for non-lethal alternatives such as fertility control, translocation, or fencing, and reject utilitarian arguments that justify suffering for ecological gain. From this standpoint, state-sponsored culling is viewed as morally indefensible, with scientific justifications dismissed as utilitarian and ethically flawed. Animal rights narratives frequently intersect with broader critiques of anthropocentrism, speciesism, and the industrialisation of environmental management.

Conclusion

These narratives of resistance challenge dominant deer control discourses and reveal the contested moral terrain in which conservation operates. They illustrate that opposition is not always rooted in denial of ecological damage but in competing visions of how humans ought to relate to animals, landscapes, and each other. Recognising these perspectives is essential for developing ethically robust and socially legitimate pest management strategies that are not only ecologically sound but also culturally resonant and democratically accountable.

6.2 Expressions of Discomfort: Moral, Cultural, and Political Reactions

People in Aotearoa New Zealand express discomfort with deer control methods, particularly aerial shooting and poisoning, through a range of emotional, cultural, ethical, and political responses. These expressions manifest in public discourse, media commentary, community opposition, and policy resistance, and they reveal the complex moral terrain that underpins conservation in a settler-colonial context.

Emotional Responses and Moral Discomfort

Aerial shooting, where deer are killed from helicopters, often triggers visceral reactions, especially when footage or images are circulated in media or online. People describe such scenes as emotionally distressing or evocative of militarised violence, even when the practice is conducted professionally and ethically. This discomfort frequently stems from the visual and emotional impact of seeing large animals killed en masse, often without visible recovery of meat or use of the animal. The speed, scale, and impersonality of aerial

shooting may appear to violate intuitive moral principles about fairness and respect for life (Fraser, 2020; Herzog, 2010).

Poisoning, especially with 1080 (sodium fluoroacetate), generates even more intense public opposition. Critics express concern about the potential for prolonged suffering, non-target kills (including pets, birds, and native species), and contamination of water or kai sources. Māori communities, in particular, have voiced concerns about the cultural and spiritual impacts of 1080 on whenua (land) and mahinga kai (traditional food gathering) (Green & Rohan, 2012b; Muru-Lanning, 2021). Despite scientific support for its efficacy, many people express deep unease about using chemical agents to manage living animals.

Cultural and Ethical Objections

For recreational hunters and rural communities, discomfort with control methods is often linked to values of stewardship, fair chase, and ethical harvest. These groups typically favour ground-based hunting where the animal is stalked, and the meat is used. Methods that result in carcasses left to rot in the bush which is common in aerial culling are seen as wasteful and disrespectful (NZDA, 2021; Morris & Warburton, 2014). Hunters may also feel alienated when control is outsourced to contractors or the state, undermining their sense of agency and connection to the land.

Animal welfare advocates express discomfort on principled grounds. They oppose lethal methods entirely, arguing that sentient animals should not suffer, regardless of their species or ecological impact. These groups often advocate for non-lethal alternatives such as immunocontraception or exclusion fencing, even when these are technically or economically unviable on a broad scale (Littin & Mellor, 2005).

Discomfort is also expressed through political protest, submissions to government, and public campaigns. Opposition to 1080 has included petitions, protests, and direct action, such as the sabotage of bait drops or vandalism of DOC signage. Social media platforms have become amplifiers of these sentiments, enabling emotionally charged narratives to spread widely, often regardless of scientific consensus.

Policymakers and conservation staff regularly report encountering hostility or resistance during public consultations, especially in regions where deer or other pest species are culturally valued or economically important. In response to anticipated backlash, agencies sometimes delay or dilute policy despite strong ecological justifications.

Conclusion

Discomfort with deer control methods in Aotearoa New Zealand is not just about techniques, it is about meaning. It reflects tensions between science and emotion, efficiency and ethics, tradition and innovation. Addressing these discomforts requires not only technical justification, but moral dialogue, cultural empathy, and more transparent, participatory approaches to wildlife governance.

6.3 Conceptual Foundations: Are We Starting from the Wrong Place?

A fundamental problem in Aotearoa New Zealand's deer control discourse lies not just in the strategies we adopt, but in the very language and conceptual frameworks we use to justify and design those strategies. The terms and assumptions that form the foundation of deer management policy are often misunderstood, imprecise, or misleading, and in some

cases, conceptually flawed. These framings risk fostering false expectations and promoting goals that may be ecologically unrealistic and socially unviable.

A striking example appears in the Interim Ruahine Deer Management Plan (Department of Conservation 2025), which identifies its primary objective as ensuring that "deer are managed to ensure the ecological integrity and biodiversity values of the Ruahine Forest Park are protected." The plan defines ecological integrity (or ecological health) as a condition in which "an ecosystem is considered to be healthy and have 'integrity' when it hosts all the native plants and animals typical of the area, and when ecological processes are functioning well."

This definition, while intuitively appealing, raises several issues. First, it presumes a static, pre-disturbance ecological baseline, a concept increasingly questioned in contemporary ecological thinking. Ecosystems are dynamic by nature, and many have been permanently altered by species introductions, climate change, and habitat fragmentation (Hobbs, Hallett, Ehrlich & Mooney 2009; Norton, 2009). In such a context, the notion that an ecosystem can be returned to a fixed historical state, complete with all "native" species may be unrealistic, and possibly counterproductive as a policy goal (Egan & Howell, 2001).

Second, the definition does not acknowledge the persistence and ecological entrenchment of introduced species like deer. While their impacts on vegetation and biodiversity are well-documented (Allen et al., 2021; Forsyth et al., 2010), deer have nonetheless become part of many ecological systems. Simply asserting their exclusion as necessary for ecological integrity fails to consider the nuanced realities of novel ecosystems (Standish et al., 2013).

Finally, such definitions can obscure value judgments as scientific facts. They imply a consensus around what an "intact" or "healthy" ecosystem should look like, when in fact this is deeply contested. Māori perspectives, for example, may not view introduced species solely as threats, but as part of evolving landscapes managed through principles such as kaitiakitanga and mahinga kai (Roberts et al., 1995b; Jolly et al., 2022). Ignoring these perspectives in favour of Western conservation ideals, like restoring a presumed ecological "integrity," risks alienating communities and undermining social license.

If deer management is to be effective, it must begin with more honest and inclusive conversations about what we are trying to achieve, and why. We must critically examine the language and assumptions embedded in our management plans and ensure that the concepts we use are not only ecologically sound but socially legitimate and adaptable to a changing world.

6.4 How and Where Ethical Barriers Appear

Ethical barriers to deer control in Aotearoa New Zealand are not confined to individual discomfort or ideological resistance; they often manifest institutionally, through policy inertia, contested public spaces, and community-level opposition. These expressions of ethical resistance influence the trajectory and implementation of control programmes, frequently resulting in delays, diluted policies, or abandoned initiatives.

Policy Delays and Institutional Hesitancy

Government agencies and councils often hesitate to implement control measures when they anticipate significant public pushback. This is particularly evident in areas where deer are culturally or economically valued. Ethical concerns such as the perceived inhumanity of control methods or potential harm to customary food sources can stall or alter policy proposals, even when ecological evidence is strong. Officials may engage in protracted consultation processes or delay public announcements to avoid controversy, creating uncertainty that undermines both policy coherence and on-the-ground conservation action. This hesitation reflects a broader institutional challenge: how to navigate ethical pluralism in a politically accountable way.

Social Media Backlash and Polarised Narratives

Social media plays a powerful role in amplifying ethical resistance. Graphic imagery, along with emotionally charged stories, and simplified narratives about deer control, particularly around 1080 poison and aerial shooting, circulate widely, often with little contextual information. While some campaigns are grounded in legitimate ethical concerns, others spread misinformation or conflate conservation efforts with cruelty, incompetence, or conspiracy. The result is often polarisation, where conservation staff and pest control workers are vilified and nuanced dialogue becomes difficult. Agencies may respond with defensive communications or scaled-back operations, fearing reputational damage.

Community-Level Resistance and Procedural Ethics

At the community level, ethical resistance often emerges through formal submissions, local protests, or disengagement from consultation processes perceived as tokenistic. In some regions, opposition to deer control intersects with broader distrust of government, historical grievances over land use, or cultural disconnection from state-led conservation models. When communities feel that their values, knowledge systems, or lived experiences are not being acknowledged, ethical objections harden into political resistance. This is especially pronounced in rural and Māori communities, where relationships with land and animals are shaped by stewardship traditions and economic realities that differ from mainstream conservation frameworks.

Conclusion

Ethical concerns about deer control are not merely individual moral reactions, they are collective forces that shape policy outcomes, institutional behaviour, and public discourse. Where these concerns are ignored or inadequately addressed, they manifest as delay, backlash, or resistance. Recognising and engaging with these ethical dynamics is not a peripheral task; it is central to designing deer management strategies that are effective, trusted, and socially legitimate.

6.5 My Experiences Engaging with These Groups and Having the Same Tensions

My professional and personal life has repeatedly brought me into contact with the tensions and resistances outlined above. As someone who has worked in farming, forestry, policy advisory roles, and ecological research, I have both observed and embodied the contradictory positions that surround deer control in Aotearoa New Zealand.

In my policy work, I have sat in meetings with farmers frustrated by the perceived double standard of being required to control deer while nearby public land remains unmanaged. Their resistance was not rooted in denial but in a pragmatic awareness of futility and economic stress. I have empathised with their concerns while also advocating for stronger, landscape-scale coordination while walking the line between empathy and ecological urgency.

In conversations with recreational hunters, I have encountered deep attachment to the ethics of fair chase and food sovereignty. I've listened as they voiced frustration at being cast as obstacles to conservation, despite their commitment to ethical harvest and land stewardship. I have felt the tension between their lived experience and the generalisations embedded in some policy frameworks.

I have also engaged with urban conservationists, whose passion for native biodiversity often sits alongside discomfort with lethal methods. In community consultation settings, I have seen firsthand how a well-placed image, or an emotionally resonant anecdote, can reshape public opinion in ways that science alone cannot. I have learned that it is not enough to present data. We must speak to values, emotions, and identities.

Perhaps most challenging have been moments when I have felt all these tensions within myself. I support deer control. I have seen the devastation deer can cause in native forests. But I have also felt discomfort watching aerial culling footage and reading reports of poisoned carcasses. I have walked among recovering bush thick with saplings, remembering how easy it once was to walk across the forest floor, and I have both celebrated and mourned that change.

These experiences have taught me that ethical clarity is rarely achieved through distance or detachment. It comes from sitting with complexity, from listening, and from being willing to question even those strategies I support. They have also reinforced my conviction that deer control must be approached not only as a technical and ecological task but as a deeply human one, shaped by culture, emotion, and contested moral visions.

Chapter 7. What is working now

In the face of the ethical tensions, contested values, and divergent stakeholder interests outlined in previous chapters, it is essential to recognise the practical, collaborative, and evolving efforts already contributing to deer and pest management, as well as ecological restoration, across Aotearoa New Zealand.

While no single approach provides a complete solution, a range of programmes, led by government agencies, iwi, private landowners, commercial operators, and community groups, are delivering measurable outcomes on the ground. These initiatives reflect not only ecological priorities but also economic realities, cultural relationships, and social innovations. This chapter highlights what is currently working, examining diverse contributions from the Department of Conservation and regional councils, the Wild Animal Recovery Operations system, iwi-led restoration efforts, recreational and commercial hunters, farmers, and catchment collectives. It also considers large-scale biodiversity programmes such as Predator Free 2050 and island-based deer eradication, exploring how integrated, locally grounded, and ethically conscious strategies can offer durable paths forward.

7.1 Current Pest Control Programmes

7.1.1 Department of Conservation and Regional Councils

The Department of Conservation and regional councils are key public-sector actors in deer management in Aotearoa New Zealand. Their efforts focus primarily on controlling deer populations to prevent ecological degradation, particularly in native forests where deer browsing can significantly impact plant regeneration and biodiversity.

Department of Conservation is responsible for managing deer on public conservation land, which comprises approximately one-third of Aotearoa New Zealand's land area. Deer are recognised by DOC as a major ecological threat due to their impacts on forest structure, native understorey plants, and regeneration processes (Department of Conservation, n.d.- a).

The Department's deer control operations include aerial culling, ground-based hunting, fencing, and monitoring of deer populations. In the 2022–2023 financial year, DOC allocated around NZD 13 million to the control of large browsing mammals, including deer, goats, and pigs (Federated Farmers, 2024). These operations are prioritised in ecologically sensitive areas such as Fiordland, the Kaimanawa Ranges, and the central North Island, where deer densities are high and their impacts severe (Department of Conservation, 2022a).

Regional councils complement DOC's work by managing deer impacts on private and Māori land, often in partnership with landowners, iwi, and community groups. Their role is particularly important in regions where deer are spreading beyond traditional habitats or where populations are not yet fully established.

Regional councils also facilitate the development and implementation of Regional Pest Management Plans (RPMPs), which may designate deer as pests in specific zones and direct resources toward their control. These efforts are often coordinated with Biosecurity New Zealand and community catchment groups.

Together, DOC and regional councils provide the regulatory, operational, and funding backbone for Aotearoa New Zealand's deer control strategy. While their budgets are modest compared to private sector contributions, their coordination roles, access to public lands, and biodiversity mandates make them essential players in reducing deer impacts across the landscape.

7.1.2 Wild Animal Recovery Operations

All Wild Animal Recovery Operations (WARO) operators are required to hold a permit issued by the Department of Conservation) when operating on public conservation land. These permits outline the specific areas where operations may occur, establish seasonal restrictions to avoid public holidays and sensitive wildlife periods, and include conditions relating to flight paths and landings to minimise environmental and recreational disturbance (Department of Conservation, 2022c). Operators must also submit detailed harvest reports, specifying species, quantities, and locations of recovered animals.

WARO is primarily conducted via helicopter-based aerial hunting, with carcasses winched out for processing into venison and other commercial products. All operations must follow strict meat handling protocols in accordance with Ministry for Primary Industries (MPI) food safety standards (Ministry for Primary Industries, 2023). To reduce ecological and cultural risks, access to sensitive areas such as native bird nesting sites and wāhi tapu is restricted. Coordination with DOC is essential to avoid conflicts with recreational land users and other stakeholders (Department of Conservation, 2022b).

While WARO can be commercially viable, particularly when wild animal densities are high and venison prices are strong, profitability is influenced by variable factors such as fuel and labour costs, terrain, weather, and market demand. Operators are required to pay concession fees to DOC, which typically include an application fee, annual administration costs, and a charge based on flight hours or the number of animals recovered. Higher fees may apply for operations in ecologically sensitive or high-demand areas (DOC, 2022b).

WARO provides a mechanism for landowners to collaborate with commercial operators to manage wild animal populations, particularly deer. Aotearoa New Zealand Game Animal Council. (2023b). While operations on private land do not require the same level of oversight from DOC as those on public land, they are still subject to MPI food safety regulations and can only proceed with the explicit consent of the landowner (MPI, 2023). In some cases, WARO operators pay a fee to the landowner for each carcass recovered, securing the right to access and hunt a particular area. In others, landowners grant free access in exchange for the pest control benefits the operators provide (Department of Conservation, 2022b).

7.1.3 Raukūmara Pae Maunga Restoration Project

The Raukūmara Pae Maunga Restoration Project is a landmark iwi-led initiative focused on the ecological and cultural revitalisation of the Raukūmara Ranges in Aotearoa New Zealand. Led by Te Whānau-ā-Apanui and Ngāti Porou in partnership with the DOC, the project exemplifies a collaborative approach to conservation grounded in the values of *kaitiakitanga* (guardianship) and *mātauranga Māori* (Māori knowledge systems) (Department of Conservation, 2020c; Raukūmara Pae Maunga, n.d.-a). It seeks to restore the *mauri* (life force) of the Raukūmara by weaving traditional ecological knowledge with modern scientific conservation practices. Central to this ethos is intergenerational

stewardship, with a strong focus on empowering local communities, particularly *rangatahi* (youth) through education, employment, and involvement in restoration work (New Zealand Herald, 2024).

One of the project's most significant achievements is the implementation of extensive pest control across approximately 150,000 hectares. Control efforts target invasive species including possums, deer, goats, rats, and stoats, which threaten native biodiversity (Department of Conservation, 2020c). These actions are designed to protect vulnerable species such as the *whio* (blue duck), *kākā*, *kererū*, and Hochstetter's frog, whose habitats have been degraded by browsing and predation (Department of Conservation, 2022b).

The project has also generated substantial social and economic benefits. It has created at least 23 direct jobs with additional seasonal employment, while also providing conservation training to build local capacity (Radio New Zealand, 2022). By involving local *whānau* and *hapū* in on-the-ground operations, the initiative strengthens community ownership and revitalises cultural ties to the land (Gisborne Herald, 2023a).

Education and outreach play a central role in the project's success. The Raukūmara Roadshow, for example, brings conservation education to schools across the East Coast, fostering a deeper understanding of *kaitiakitanga* and environmental values among younger generations (New Zealand Herald, 2024).

Implementation has not been without challenges. The use of aerially distributed 1080 toxin for pest control has raised community concerns, particularly around environmental and food safety. In response, the project team has engaged in extensive consultation, maintained transparent communication, and implemented rigorous environmental monitoring to build public trust and ensure ecological and cultural safeguards (Gisborne Herald, 2023b; Department of Conservation, 2020b).

Overall, the Raukūmara Pae Maunga Restoration Project represents a model for indigenous-led conservation. By aligning Māori environmental ethics with national biodiversity objectives, it not only aims to restore a severely degraded landscape but also to rebuild cultural resilience and affirm *tino rangatiratanga* (self-determination) in environmental governance (Raukūmara Pae Maunga, n.d.-b).

7.1.4 New Zealand Deerstalkers Association (NZDA) and Other Recreational Hunters

Recreational hunters, including members of the NZDA, make a substantial contribution to deer population control across Aotearoa New Zealand. The NZDA has more than 12,000 members spread across 48 branches nationwide and represents a significant portion of the country's organised hunting community (New Zealand Deerstalkers Association, n.d.). Together with unaffiliated recreational hunters, they are estimated to harvest approximately 135,000 wild deer each year (New Zealand Game Animal Council, 2023a).

This level of harvest provides important ecological benefits by helping to reduce browsing pressure on native forests, which is essential for the regeneration of indigenous plant species. However, the effectiveness of recreational hunting varies considerably depending on location, access, and hunter effort. For example, research from Pureora Conservation Park found that recreational hunters tend to disproportionately target male deer, which has limited effect on reducing population growth rates because female deer

(hinds) are responsible for reproduction (Department of Conservation n.d.-b; Fraser et al., 2000).

Despite these limitations, recreational hunters play a vital role, particularly in areas where commercial or Department of Conservation-led control is not feasible. Their efforts are often sustained, volunteer-based, and carried out at no cost to the taxpayer (New Zealand Deerstalkers Association, 2021). Moreover, recreational hunting fosters strong community engagement and a culture of stewardship over public and private lands.

In summary, while recreational hunting alone may not achieve full ecological restoration, it remains a critical component of Aotearoa New Zealand's deer management strategy, complementing commercial operations and professional culling through its widespread reach and community-driven ethos.

7.1.5 Farmers and Foresters

Farmers and foresters in Aotearoa New Zealand play a pivotal role in deer control, particularly across private lands where state-led management is limited or absent. Their contributions are essential in mitigating both the ecological impacts of browsing on native vegetation and the economic damage caused to pastures and commercial forests.

According to the 2024 Federated Farmers National Pest Survey, feral animals, including deer, cost Aotearoa New Zealand farmers an estimated NZD 213 million per year. This includes approximately $74 million in direct pest control costs (averaging NZD 5.45 per hectare) and $139 million in production losses (approximately $10.22 per hectare) (Federated Farmers, 2024). These figures highlight the significant investment that private landowners make in pest management, much of which involves the control of feral deer populations.

Farmers commonly deploy a combination of culling and fencing to manage deer impacts, particularly to safeguard high-value crops and pasture. Despite these efforts, many report ongoing reinvasion from adjacent conservation lands, illustrating a broader need for coordinated, landscape-scale management.

Foresters also report substantial impacts from deer. Browsing by deer slows plantation growth, damages saplings, and undermines forest regeneration. As a result, forest owners and managers employ active deer control measures such as targeted helicopter hunting, exclusion fencing, and contracted culling operations. These interventions are critical to protecting long-term forest productivity and biodiversity values (New Zealand Institute of Forestry, 2024).

Despite their substantial private investments, farmers and foresters often express concern that their efforts are undermined by insufficient pest control on public conservation land. The Department of Conservation currently spends around $13 million annually on controlling large browsing mammals such as deer, goats, and pigs, a figure dwarfed by private sector spending (Federated Farmers, 2024).

In summary, Aotearoa New Zealand's farmers and foresters are key actors in national deer control efforts. Through ongoing investment, land stewardship, and collaboration with regional pest management programmes, they contribute significantly to protecting native ecosystems and maintaining the economic viability of rural industries.

7.1.6 Catchment Groups

Several catchment groups across Aotearoa New Zealand play an active role in deer control as part of their broader environmental management initiatives. These community-led groups collaborate with landowners, iwi, regional councils, and government agencies to mitigate the ecological and agricultural impacts of feral deer.

The *Makarewa Headwaters Catchment Group* in Southland has taken steps to reduce feral deer and pig numbers following ecological surveys that revealed extensive populations. Their efforts aim to protect native bush remnants and improve water quality by reducing grazing pressure and soil disturbance (Farmers Weekly, 2023).

The Waikato, *King Country River Care* a collective of over 300 farmers, has integrated deer control into their catchment-wide farm planning and biodiversity strategies. Working alongside iwi and the DOC, the group seeks to balance productive farming with ecological restoration (King Country River Care, n.d.).

The *Otago Catchment Community* acts as an umbrella body for 24 catchment groups across the Otago region. While their primary focus includes water quality and land management, many of the member groups incorporate wild animal control, including deer, into their environmental action plans (Otago Catchment Community, n.d.).

The *Waimatā Catchment Group* near Gisborne also includes deer control in its efforts to restore the health of the Waimatā River and its surrounding ecosystems. Their work combines pest management with planting, fencing, and community engagement to reduce pressures on native biodiversity (Waimatā Catchment Group, n.d.).

Similarly, the *Pohangina Catchment Care Group* in the Manawatū supports deer control as part of its efforts to enhance native habitats and prevent further degradation of bush remnants and riparian margins (Pohangina Catchment Care Group, n.d.).

These examples demonstrate the proactive and collaborative role catchment groups play in regional deer management. Their efforts complement national strategies and reflect the importance of locally driven solutions in managing the impacts of invasive species.

7.1.7 Department of Conservation's Tahr Control Programme

The Department of Conservation's Tahr Control Programme is a targeted effort to reduce Himalayan tahr populations on public conservation land, particularly in the Southern Alps. Introduced in 1904, Himalayan tahr have caused significant ecological damage to alpine ecosystems through heavy browsing (Caughley, 1970; Department of Conservation, 2020c). Operating under the 1993 Himalayan Thar Control Plan, the programme uses aerial and ground-based hunting to target ecologically sensitive areas (Department of Conservation, 1993).

In 2020, DOC removed 7,481 tahr, focusing efforts on national parks with zero-density goals (Department of Conservation, 2020a). The programme is governed through the Tahr Plan Implementation Liaison Group, which comprises representatives from DOC, Ngāi Tahu, recreational hunters, and environmental groups (Department of Conservation, 2024). It is guided by collaborative planning and adaptive management principles, adjusting population targets based on ongoing ecological monitoring (Department of Conservation, 2020e).

While the programme is ecologically effective, it has drawn criticism from recreational hunters concerned about reduced access to mature bull tahr and the impacts on hunting tourism (New Zealand Deerstalkers Association, 2020). The future success of the programme will depend on DOC's ability to balance biodiversity goals with the cultural and economic interests of stakeholders

7.1.8 Battle for the Birds and Predator Free 2050

Aotearoa New Zealand's Battle for the Birds (BFTB) and Predator Free 2050 (PF2050) are two of the world's most ambitious biodiversity programmes, aimed at protecting native species from invasive predators such as rats, stoats, and possums. BFTB, launched in 2014, uses aerial 1080 and trapping to suppress predator outbreaks linked to beech mast events (Predator Free New Zealand, 2019). It has shown success, with increased bird nesting rates and drastically reduced predator activity in treated areas (Department of Conservation,2013 & 2015)

PF2050, launched in 2016, shifts from suppression to full eradication of key predators by mid-century. Supported by government, iwi, science, and communities, it combines innovation with large-scale trials and grassroots trapping networks. Over one million hectares are now under predator control, and more than 2,000 community groups are involved.

Despite progress, both initiatives face criticism, particularly over the use of 1080 and PF2050's feasibility. Concerns include animal welfare, environmental risks, and the exclusion of feral cats from PF2050's targets. Achieving the 2050 goal will require sustained investment, technological breakthroughs, and public support.

Together, BFTB and PF2050 exemplify Aotearoa New Zealand's bold approach to conservation, blending science, policy, and community action (Orillion, n.d.), though their success hinges on addressing ecological and ethical complexities.

7.1.9 Island Eradication of Deer

Island-based deer eradication in Aotearoa New Zealand has become one of the country's most effective conservation strategies, enabling large-scale restoration of native biodiversity. By removing browsing mammals from offshore islands with low reinvasion risk, these operations have significantly improved forest structure, regeneration, and native species recovery (Nugent & Fraser, 2005-a; Mark & Baylis, 1991). Methods include aerial and ground hunting, detection dogs, and genetic monitoring, with successful efforts in Fiordland and other conservation areas reducing deer to undetectable levels (Macdonald et al., 2019). The isolation of islands provides a natural biosecurity barrier, making these gains durable and cost-effective compared to mainland control (Parkes & Murphy, 2003).

Despite scientific success, these programmes are not without controversy. Recreational and cultural groups argue that eradication represents a cultural loss, excluding human–nature relationships that value deer as game (Clarke, 2011). Economic concerns also arise, particularly in regions where deer hunting supports tourism and livelihoods (Fraser, 2001). Animal welfare objections focus on aerial culling, although research shows it can be humane when properly executed (Nugent & Fraser, 2005-a). Additionally, past programmes have often lacked iwi or hapū involvement, raising questions about legitimacy as conservation governance moves toward bicultural models (Jolly et al., 2022).

In summary, island deer eradication offers lasting ecological benefits but must be balanced with cultural inclusion, ethical practice, and transparent governance to maintain its legitimacy and impact.

7.1.10 Learning from Australia: The National Feral Deer Action Plan

Australia's National Feral Deer Action Plan (2023–2028) offers a useful point of comparison for deer management in Aotearoa New Zealand, particularly in its emphasis on early intervention, coordinated action, and shared responsibility. Developed under the auspices of the Centre for Invasive Species Solutions, the plan seeks to mitigate the growing ecological, agricultural, and cultural impacts of six species of feral deer across Australian landscapes. It outlines a national framework to prevent further spread, reduce population densities, and protect biodiversity, agricultural production, and cultural values (Centre for Invasive Species Solutions, 2023).

Key features of the plan include multi-jurisdictional cooperation, consistent data collection, and support for innovative control methods such as aerial thermal shooting and fertility suppression trials. The plan also emphasises community engagement, recognising that long-term success requires landholder support, indigenous inclusion, and alignment with regional land management priorities.

While the Australian context differs in terms of deer species, land tenure, and legislative frameworks, the plan demonstrates the value of national coordination, cross-sector partnerships, and proactive investment in emerging technologies. Its integrated approach offers insights for Aotearoa New Zealand, where deer management remains fragmented and often reactive. Australia's model underscores the importance of unified goals, sustained funding, and strong governance structures in managing invasive ungulates across large and diverse landscapes.

7.2 Historical pest control programmes

7.2.1 State-Supported Pest Control in New Zealand

Aotearoa New Zealand's approach to managing invasive mammal populations has historically relied on coordinated, state-supported systems. Among the most notable were the rabbit boards (operational mainly between the 1940s and 1980s) and the government-funded deer culling programmes (1932–1954). Both represent robust attempts to mitigate ecological and agricultural damage caused by introduced herbivores and offer useful comparisons in terms of structure, funding, and outcomes.

Rabbit Boards: Local Governance and Central Support

Rabbit boards were established under the Rabbit Nuisance Act 1867 and further empowered by the Rabbit Nuisance Amendment Act 1947. By 1946, over 100 boards were active, covering approximately 7.3 million hectares (Te Ara, n.d-a.). These boards were locally administered and funded through levies on landowners, often supplemented by central government subsidies. The 1947 amendment also introduced a "killer policy," prioritising eradication over the commercial use of rabbits, and created the Rabbit Destruction Council to coordinate control nationally (MacLean A, 2020).

Rabbit boards were successful because they integrated four key components: centralised strategic oversight, dedicated funding, strong legislative authority, and grassroots participation from landowners (MacLean A, 2020). Their achievements in reducing rabbit

densities and limiting spread across agricultural landscapes were widely acknowledged. However, they were dissolved in 1989, and their responsibilities were transferred to regional councils as part of broader governmental reforms.

Government Deer Culling (1932–1954): Centralised Professionalism

The Government Deer Culling Programme was initiated in 1932 under the Department of Internal Affairs and later managed by the New Zealand Forest Service. It was a direct response to the ecological devastation caused by unchecked deer populations introduced in the late 19th century. Between 1932 and 1954, government-employed hunters culled between 1.4 and 3 million deer, mainly red deer, across large tracts of public land (Te Ara, n.d -b.; Fagan, 2013).

Hunters were paid a base wage and received bonuses for each deer tail submitted as proof of kill. Infrastructure such as huts and tracks was built to support operations in remote areas. These efforts were highly effective in reducing deer densities and promoting forest recovery. However, funding and public support for mass culling declined by the 1980s, and the programme was phased out.

Comparison and Legacy

Both rabbit boards and the deer culling programme succeeded because of clear mandates, consistent funding, central coordination, and enforcement powers. Rabbit boards were more decentralised, involving landowner co-investment and local accountability, whereas deer culling was a top-down, government-delivered service focused on public land. Both systems delivered measurable reductions in pest animal populations and demonstrable ecological benefits.

The dismantling of both systems in the late 20th century, rabbit boards through governmental restructuring and deer culling due to budgetary and ideological shifts, left a vacuum that has yet to be fully addressed by modern pest control frameworks. In some areas, their removal has been followed by pest animal resurgence, prompting renewed calls for integrated, landscape-scale management (MacLean, 2020; Department of Conservation, 2022a).

7.2.2 Live Capture and the Rise of Commercial Deer Farming

Between the 1970s and 1990s, Aotearoa New Zealand experienced a significant decline in wild deer populations, largely driven by high international demand for venison and the emergence of helicopter-assisted live deer capture. These factors temporarily transformed deer from ecological pests into valuable economic assets. Although these activities were never part of a coordinated control programme, it is worth reflecting on how economic incentives, particularly high market prices contributed to a substantial reduction in the feral deer population (Bowler, 2000; Nugent & Fraser, 2005a).

High Venison Prices and Incentivised Harvesting

Concurrently, the emergence of European markets, particularly Germany, for wild-sourced venison created a commercial incentive for ground and aerial hunting (Clarke, 2011). Venison exports became highly lucrative throughout the 1980s, with wild deer recovery for meat generating substantial income for private contractors, often referred to as "chopper boys."

This economic environment drove intensive deer harvesting. During the peak of the wild venison trade in the early 1980s, it is estimated that over 100,000 deer were being killed annually for export (Nugent & Fraser, 2005-b). This period saw a measurable reduction in wild deer densities in accessible areas and contributed to a temporary stabilisation of ecological impacts.

Live deer capture

Live deer capture emerged in the early 1970s as a groundbreaking solution to wild deer overpopulation. Helicopter-based netting and herding operations, pioneered by figures such as Sir Tim Wallis, enabled the extraction of deer from remote and rugged landscapes (Caughley, 1983; Nugent & Fraser, 2005-a). Captured deer were sold to establish deer farms, leading to the formalisation of a new agricultural sector. By the late 1970s, thousands of deer were being live-captured annually for breeding stock (Nugent & Fraser, 2005-b).

The government recognised this as a tool for both pest control and economic development. In 1970, the first official deer farming licence was issued, and by the mid-1980s, over 1,000 deer farms operated across the country (Deer Industry New Zealand, n.d.). This approach provided an alternative to traditional culling, aligning commercial incentives with ecological outcomes by reducing the wild deer population through extraction rather than eradication.

Collapse of the Export and Live Capture Markets

By the late 1980s and early 1990s, both the venison and live deer capture markets in New Zealand collapsed due to several converging factors. Initially, the rapid expansion of the domestic deer farming industry led to the saturation of breeding herds, significantly reducing demand for live-captured wild deer (Deer Industry New Zealand, n.d.).

At the same time, venison prices fell sharply, driven by market volatility, oversupply, and a growing European preference for farmed, quality-controlled meat over wild-sourced product (Fraser, 2001). This market downturn was compounded by international trade barriers, currency fluctuations, and tightening food safety regulations, all of which constrained export volumes. A further blow came with a high-profile U.S. court case in the early 1990s, when Robin Rottman contracted toxoplasmosis after consuming undercooked New Zealand venison in Colorado. The resulting legal settlements, exceeding US$1 million, heightened international concerns over the safety of wild game meat (New Zealand Herald, 2001; The Independent, 1994). Although the case occurred in the United States, its impact reverberated through other key markets such as Germany, where buyers became increasingly wary of reputational risk and consumer liability.

While farmed venison exports recovered and continued to grow, the wild venison sector never regained its former standing (Knight, 2003). These events marked a turning point in the global perception of wild game from New Zealand, exposing systemic vulnerabilities in traceability and health assurance. Finally, advances in fencing and the transition to closed farming systems made reliance on wild stock economically unviable. As a result, the aerial recovery industry collapsed, and wild deer populations began to rebound in less accessible and unmanaged areas (Nugent & Fraser, 2005-b).

Conclusion

The 1970s–1990s period was a defining era in Aotearoa New Zealand's deer management history. The alignment of economic incentives with pest control objectives led to a substantial, if temporary, reduction in wild deer populations. However, the eventual collapse of both the live capture and venison export markets exposed the fragility of market-based control systems and underscored the need for integrated, long-term pest management strategies.

Chapter 8. Analysis – Patterns, Gaps, and Opportunities

8.1 Introduction

This chapter critically assesses what is working in deer control in Aotearoa New Zealand and where key gaps remain. It draws on a diverse array of initiatives led by government agencies, iwi, community groups, commercial operators, and recreational hunters that are actively contributing to reducing deer impacts. It also considers the broader biodiversity and invasive species context, including integrated predator control strategies and island eradication efforts. By analysing these efforts collectively, this chapter identifies emerging patterns of success, structural barriers to progress, and opportunities for more cohesive, equitable, and adaptive deer management going forward.

To synthesise these findings, the following table maps the diverse actors and initiatives currently contributing to deer control in Aotearoa New Zealand. It highlights the scale and focus of each effort, identifies key strengths, and notes persistent limitations. This comparative summary provides a foundation for assessing the broader landscape of deer management, revealing both complementary strengths across sectors and the structural gaps that hinder cohesive, long-term impact.

Table 1: Current Deer Control Contributions in Aotearoa New Zealand

Actor/Initiative	Scale & Focus	Key Strengths	Limitations & Challenges
Department of Conservation	National – public conservation land	Ecologically targeted control; national biodiversity mandate	Limited budget; social license issues (esp. around 1080 and aerial culling)
Regional Councils	Regional – including private and Māori land	Policy frameworks (RPMPs); coordination with landowners and iwi	Variable capacity and commitment; gaps in long-term funding
WARO	Commercial – remote and rugged terrain	Efficient large-scale culling; venison recovery; DOC-regulated	Profit-driven model; limited coverage; environmental & cultural sensitivities
Raukūmara Pae Maunga Project	Iwi-led – 150,000 ha of public land	Integrates mātauranga Māori, community jobs, youth engagement	Some public resistance to toxins; logistical complexity
NZ Deerstalkers Association & Recreational Hunters	National – widespread public land	Community stewardship; cost-effective; strong identity-based engagement	Ineffective population control at scale; male-biased harvest patterns
Farmers and Foresters	Private land – national	High investment; combined control and fencing; production loss mitigation	Reinvasion from public land; insufficient public support or coordination
Catchment Groups	Regional – landscape-focused collaborations	Local ownership; integrated farm and biodiversity planning	Variable deer-specific expertise; resource-intensive to scale
DOC Tahr Control Programme	Alpine regions – tahr-focused	Strong governance model; adaptive monitoring; cultural inclusion (Ngāi Tahu)	Ongoing contention with hunters; balancing biodiversity and tourism
Predator Free 2050 & Battle for the Birds	National – predator-focused biodiversity strategy	Innovation; community mobilisation; proof of concept for landscape restoration	Limited integration of herbivore management; contested toxin use
Island Eradication Programmes	Isolated offshore islands	Permanent biodiversity gains; low reinvasion risk	Lack of iwi partnership in some efforts; ethical, recreational, and economic concerns
Australia's Feral Deer Action Plan	National – Australia-wide coordination	National strategy; tech adoption; multi-stakeholder collaboration	Early-stage implementation; context-specific species and governance

8.2 Conclusion: Toward an Ethically Grounded, Ecologically Coherent Deer Management Strategy

The analysis reveals that while Aotearoa New Zealand has a rich and growing portfolio of deer and other pest control initiatives, these efforts are currently dispersed, unevenly resourced, and often limited by cultural, institutional, and ecological fragmentation. What emerges is not a failure of intent or innovation, but a need for more collaborative and integrated approaches across landscapes, worldviews, governance structures, and ethical frameworks.

There are strong foundations to build upon. Agencies like the Department of Conservation and regional councils are deploying targeted interventions in high-value ecological areas. Iwi-led programmes such as the Raukūmara Pae Maunga project demonstrate the power of mātauranga Māori, tino rangatiratanga, and intergenerational stewardship. Private landowners, catchment groups, WARO operators, and recreational hunters all contribute materially and symbolically to deer control, albeit with differing motivations and outcomes. National initiatives like Predator Free 2050 provide a model for aspirational, cross-sector collaboration, while island eradications illustrate what can be achieved through sustained, boundary-defined effort.

8.2.1 Challenges

However, across these efforts, several persistent challenges stand out.

a) Lack of a unifying national strategy

Unlike predator control, which benefits from national vision (e.g., PF2050), deer control lacks an overarching framework to align goals, responsibilities, and investment. This undermines coherence and limits large-scale ecological gains.

b) Social and ethical contestation

Public discomfort with lethal control methods, particularly aerial culling and toxins like 1080, continues to erode social license. These methods, though effective in certain contexts, require greater transparency, ethical justification, and community dialogue if they are to be retained as legitimate tools.

c) Unequal burden sharing

Farmers and foresters bear substantial costs of deer impacts, both in lost productivity and in funding control measures, while often seeing limited support or reciprocation from public land managers. This contributes to resentment and fragmented efforts across property boundaries.

d) Underutilisation of Māori leadership and knowledge systems

While iwi-led projects are growing, they remain the exception rather than the norm. A truly bicultural management strategy would centre Māori perspectives not as stakeholders to be consulted, but as partners in governance and epistemology.

e) Lack of integration with predator and herbivore control

Despite similar ecological goals, deer and predator management remain siloed in policy and practice. This weakens the systemic effectiveness of both, especially in areas of shared ecological vulnerability like forest understorey and alpine ecosystems.

f) Inadequate long-term funding and monitoring

Many initiatives rely on short-term funding, New Zealand Game Animal Council. (2023b). volunteer labour, or ad hoc partnerships. Without sustained investment in monitoring and adaptive management, success is often localised and difficult to replicate or scale.

8.2.2 Opportunities

Yet these gaps also reveal the shape of future opportunities. Drawing from successful models both within Aotearoa New Zealand and abroad, such as Australia's National Feral Deer Action Plan, there is a clear path toward a more coherent, collaborative, and ethically informed deer management strategy.

Such a strategy would include:

a) A national deer management framework

That provides overarching goals, regional adaptation, and cross-jurisdictional governance.

b) Treaty-based partnerships with iwi and hapū

That enable co-design, shared authority, and alignment with cultural values and mātauranga Māori.

c) An ethical toolkit for decision-makers

That includes social license assessment, community consultation processes, and welfare-based evaluations of control methods.

d) Greater emphasis on integrated ecological management

Where deer control is coordinated alongside predator management, forest regeneration, and climate resilience.

e) A long-term investment plan

That matches the scale of the problem and supports innovation in control technologies, monitoring, and social engagement.

In short, Aotearoa New Zealand needs not only better tools, but better conversations: about what we value, whom we listen to, and how we act together. The future of deer management must be ecological and economic, but it must also be cultural, ethical, and democratic. That is the opportunity that now presents itself.

Chapter 9. Reframing the Ethics of Control

9.1 Introducing Alternative Ethical Framings: Relational Ethics, Ecological Justice, and Kaitiakitanga

Conventional narratives and approaches to deer control in Aotearoa New Zealand often rely on utilitarian logic; seeking to balance biodiversity gains with financial cost and social acceptability. While effective for setting technical policy goals, such framings often overlook the deeper moral, cultural, and emotional dimensions that shape how people relate to animals, land, and ecosystems. To address these gaps, this section introduces three alternative ethical frameworks: *relational ethics, ecological justice, and kaitiakitanga*, each offering a more nuanced and inclusive foundation for thinking about deer management in a contested and culturally diverse landscape. The following points outline three complementary ethical frameworks that offer richer, more inclusive approaches to deer control.

9.1.1 Relational ethics

That move away from viewing animals and ecosystems as abstract problems or resources and instead recognises them as part of a complex web of interdependence. This perspective foregrounds mutual responsibilities between humans and non-human nature, emphasising care, reciprocity, and attentiveness to the lived experience of all beings (Haraway, 2008; Plumwood, 2000). In the context of deer control, relational ethics helps explain the emotional ambivalence many people feel, such as the simultaneous respect for deer as majestic animals and concern over their ecological impact. This framework resonates strongly with earlier reflections in Chapter 5 on public discomfort with lethal control methods and on the affective and moral complexities expressed by hunters, conservationists, and rural landowners. By reframing deer not simply as pests but as beings embedded in human–ecological relationships, relational ethics supports more empathetic, pluralistic, and culturally aware approaches to management.

9.1.2 Ecological justice

That extends the concept of justice beyond human society to include the rights and intrinsic value of ecosystems, species, and future generations (Schlosberg, 2007; Whyte, 2018). It calls for fairness in who bears the burdens of environmental harm and who gets to make decisions about ecological futures. This framework foregrounds the need to balance biodiversity protection with social equity, recognising, for example, the economic burden borne by farmers and the cultural and spiritual ties iwi have to the land. In Aotearoa New Zealand, ecological justice aligns with evolving legal and governance models such: as the co-governance of Te Urewera and the legal personhood of the Whanganui River, which acknowledge the agency of natural entities and embed Māori values in environmental decision-making (Charpleix, 2018; Ruru, 2018b). It is also reflected in current provisions of the Resource Management Act (RMA), which require the recognition of Māori interests and support participatory planning processes (Ministry for the Environment, 2020). However, these commitments may be at risk under the proposed 2025 RMA reforms, which could weaken the statutory basis for ecological and cultural considerations (New Zealand Government, 2023).

9.1.3 Kaitiakitanga

As both an ethical principle and a governance practice, embodies a Māori worldview of guardianship, reciprocity, and intergenerational responsibility (Roberts et al., 1995b; Harmsworth & Awatere, 2013). It offers not only a moral orientation but also an alternative framework for environmental management, one that centres relational accountability rather than dominion or control. Unlike instrumentalist models that frame ecosystems as resources to be managed, kaitiakitanga recognises the mauri (life force) of land, water, and species, and the duty to care for them as kin. A practical example of this approach can be seen in the Raukūmara Pae Maunga Restoration Project, where iwi-led governance combines mātauranga Māori with ecological science to restore the mauri of degraded forest ecosystems while empowering local communities and rangatahi (Gisborne Herald, 2023a; Department of Conservation, 2020d). Kaitiakitanga thus presents a culturally rooted, spiritually grounded, and ecologically responsive ethic for managing introduced species such as deer in Aotearoa New Zealand.

9.2 Reflecting on Ethical Shifts: Personal and Collective

My ethical position on deer control has not been static. Early in my career, I adopted a largely pragmatic view: deer were a pest, and their control was a necessary means to restore native ecosystems. Over time, however, exposure to community resistance, Māori perspectives, and my own emotional reactions complicated this stance. I came to see deer not merely as ecological disruptors, but as participants in a landscape shaped by colonial history, human values, and ethical ambiguity.

Others have shared similar shifts. Farmers initially resistant to mandatory control measures have, through local partnerships, begun to see deer control as part of wider land care responsibilities. Hunters who once resisted all forms of aerial culling have engaged in dialogue with conservationists and iwi, recognising the need for culturally and ecologically aligned solutions. These shifts often occur not through confrontation, but through relationship: walking the land together, sharing stories, witnessing change.

9.3 Ethics in Practice: Case Studies of Grounded Engagement

The Raukūmara Pae Maunga Restoration Project offers a powerful example of ethics in practice. By placing kaitiakitanga and mātauranga Māori at the heart of its strategy, it reframes control as care, and pest management as cultural restoration. The project's emphasis on intergenerational knowledge, youth engagement, and whānau employment illustrates how ethical action can be both locally grounded and ecologically effective.

In Northland, the regional council's commitment to a deer-free landscape is paired with deep engagement with hapū and community stakeholders. Their approach combines early detection with open dialogue, positioning deer control as a shared responsibility rather than a bureaucratic imposition.

Catchment groups across the country also provide fertile ground for ethical innovation. By integrating pest management into broader land and water stewardship efforts, they enable ethical reflection to emerge organically through practice. These examples demonstrate that ethics are not only theorised, but they are also lived and enacted.

9.4 Justifying and Communicating Ethical Control

Effective control must not only be technically justified, but it must also be ethically legitimate. To achieve this, we need a framework for ethical justification that includes:

a) Necessity

Control must be linked to clear, evidence-based ecological goals.

b) Proportionality

The intensity and method of control must be appropriate to the threat posed.

c) Legitimacy

Decisions must be made through inclusive processes that honour Treaty obligations and diverse knowledge systems.

d) Transparency

Agencies must clearly communicate what is being done, why, and with what expected outcomes.

e) Responsiveness

Strategies must be open to revision based on new evidence, community feedback, and ethical reflection.

Communication plays a crucial role. Rather than relying solely on technical reports or prescriptive messaging, ethical communication should use narrative, imagery, and lived experience. Showing forest regeneration through time-lapse imagery, sharing voices from hunters, rangers, and rangatahi, and acknowledging discomfort rather than denying it, all contribute to public trust and moral engagement.

9.5 Pathways Forward: Integrating Ethics, Ecology, and Lived Experience

Drawing together the lessons from previous chapters, I propose five pathways forward for ethically grounded deer management in Aotearoa New Zealand:

a) Reframe control as care

Shift the language and practice of deer control from eradication to stewardship. Emphasise the restoration of mauri and ecological balance rather than simply removing a threat.

b) Embed ethics from the outset

Include ethical reflection and community dialogue at the planning stage of any control initiative, not as an afterthought but as foundational design.

c) Support Māori leadership and tino rangatiratanga

Move beyond consultation to co-governance, enabling iwi and hapū to lead, define, and deliver on their own terms.

d) Create public spaces for ethical learning

Establish forums, workshops, and storytelling platforms that foster dialogue between hunters, conservationists, farmers, and the public. Normalize ethical ambiguity and shared reflection.

e) Monitor ethical integrity

Alongside ecological indicators, track indicators of ethical robustness, such as community consent, cultural alignment, and equity of impact.

By embracing ethical complexity, rather than simplifying or avoiding it, we can develop a deer management strategy that is not only ecologically sound but morally credible. This means recognising that control is never just about animals, it is about the kind of people, policies, and relationships we choose to cultivate in response to a shared environmental challenge.

Chapter 10. Potential models for deer control programmes

10.1 Key Features, Rationale, and Precedents for Potential Models

Deer control is a 'wicked problem', complex, contested, and lacking a single, definitive solution. As such, no one-size-fits-all approach is possible.

Outlined below are six plausible models. Each draw on examples of what is currently working, identifies persistent gaps, and incorporates the ethical and cultural complexities explored in earlier chapters.

The first table in this section (Table 2) provides a structured summary of six potential models for deer control in Aotearoa New Zealand. Each model is presented with its key features, rationale, and real-world precedents.

Table 2: Key features, rationale, and precedents for six proposed deer control models

Model		Key Features	Rationale	Precedents
1	Integrated Landscape-Scale Management	Cross-boundary collaboration; multi-agency coordination; shared funding and data platforms; co-designed governance.	Overcomes fragmentation in land tenure and control efforts; supports unified strategy and shared responsibility for outcomes.	Predator Free 2050 partnerships; Otago and Northland regional pest plans.
2	Iwi-Led Co-Governance Frameworks	Led or co-designed by iwi and hapū; governance based on kaitiakitanga and mātauranga Māori; pathways for rangatahi employment and community empowerment.	Supports tino rangatiratanga and aligns with Treaty obligations; strengthens legitimacy and equity in environmental governance.	Raukūmara Pae Maunga Restoration Project; Te Urewera Board.
3	Catchment-Based Community Collaboration	Control integrated with catchment environmental planning; peer-to-peer learning among landowners; use of subsidised or volunteer culling teams.	Builds on existing relationships and community networks; enhances social licence and local ownership of deer control.	Makarewa Headwaters Group; King Country River Care.
4	Incentivised Private Sector Partnerships	Structured partnerships with WARO or hunters; access agreements and potential payments for ecosystem services; public recognition for stewardship.	Aligns conservation with financial incentives; rewards proactive management and engages broader resource base.	Private WARO access agreements; QEII Trust covenants with pest conditions.
5	Ethical Adaptive Management Hubs	Regional pilots testing humane, culturally appropriate strategies; oversight panels with iwi, ethicists, scientists, hunters; transparent feedback mechanisms.	Ensures ethical and culturally acceptable practice; promotes accountability and public trust through inclusive oversight.	Tahr Plan Implementation Liaison Group; DOC adaptive research projects.
6	Dual-Track Management (Harvest and Ecological Zoning)	Cross-boundary collaboration; multi-agency coordination; shared funding and data platforms; co-designed governance.	Overcomes fragmentation in land tenure and control efforts; supports unified strategy and shared responsibility for outcomes.	Predator Free 2050 partnerships; Otago and Northland regional pest plans.

This overview draws from cross-sector experience and highlights the diverse governance approaches and operational strategies currently emerging across regions. Together, these models reflect the multi-dimensional nature of the deer control challenge, requiring ecological effectiveness, cultural legitimacy, ethical grounding, and collaboration across institutions and communities. These models are grounded in observed practice and tailored to address the intersecting ecological, cultural, and governance dimensions of deer management.

10.1.1 Integrated Landscape-Scale Management

Effective deer management in Aotearoa New Zealand increasingly requires a landscape-scale approach that crosses boundaries between land tenures and jurisdictions. This model is built on collaboration across public conservation land, private farmland, and Māori-owned whenua. It involves multi-agency coordination, with the Department of Conservation (DOC), regional councils, iwi authorities, farmers, recreational hunters, and commercial operators all playing a role. Critical enabling features include shared funding mechanisms, co-designed governance structures, and integrated data platforms that support transparent planning, real-time decision-making, and adaptive management. When these elements align, they create the foundation for enduring, system-level change.

Fragmented land tenure and uncoordinated pest control remain among the greatest barriers to long-term success. Isolated or piecemeal efforts often struggle to achieve ecological thresholds or prevent reinvasion, particularly in transitional zones between public and private land. A coordinated landscape-scale model enables a more strategic allocation of resources, the alignment of diverse objectives, and a shared sense of responsibility for biodiversity outcomes. It also provides a platform for embedding social, cultural, and ecological values into decision-making in a more balanced and integrated way.

There are already promising examples that demonstrate how this approach works in practice.

10.1.2 Iwi-Led Co-Governance Frameworks

A transformative approach to deer management must place Māori leadership, knowledge, and governance at its centre. Programmes grounded in kaitiakitanga (guardianship) and mātauranga Māori (Māori knowledge systems) reflect longstanding relationships between iwi, hapū, and the environment. When iwi and hapū lead or co-design management frameworks, these initiatives are more likely to reflect holistic values and generate culturally resonant outcomes. In addition to advancing ecological restoration, iwi-led approaches often integrate goals around rangatahi employment, community resilience, and cultural revitalisation, reinforcing the social foundations of conservation work.

This model directly supports tino rangatiratanga (self-determination) and is consistent with the principles of Te Tiriti o Waitangi. It affirms the status of iwi and hapū as tangata whenua and enduring stewards of the land, recognising their right to determine how invasive species should be managed within their rohe. By embedding Māori values into governance and operational design, such frameworks respond to historical exclusions in

environmental decision-making and enhance the legitimacy, equity, and ethical integrity of deer control programmes.

Recent initiatives illustrate the feasibility and impact of this approach.

10.1.3 Catchment-Based Community Collaboration

This model embeds deer control within wider catchment-scale environmental planning, enabling it to align with water quality goals, biodiversity restoration, and land-use management. It supports peer-to-peer learning among landowners, where knowledge is shared through informal networks and field days, reinforcing social norms around stewardship. Control activities may be carried out by subsidised professional teams or local volunteers, enhancing both cost-efficiency and community engagement. This approach strengthens local ownership of pest issues and builds social licence by situating deer control within existing community values and relationships. Successful examples include the Makarewa Headwaters Group and King Country River Care, where collective action and landowner leadership have driven integrated pest and land management outcomes.

10.1.4 Incentivised Private Sector Partnerships

This strategy fosters structured partnerships between landowners and the private sector, particularly Wild Animal Recovery Operations (WARO) or recreational hunters. Agreements may include access protocols, harvest expectations, and potential payments for ecosystem services such as native forest protection or water quality improvements. These partnerships can be reinforced by recognition programmes that publicly acknowledge ecological stewardship and proactive pest control. By aligning financial incentives with conservation goals, this model supports sustained engagement and widens the resource base for deer control. Precedents include WARO access agreements on private land and QEII National Trust covenants that include pest management obligations as part of long-term conservation efforts.

10.1.5 Ethical Adaptive Management Hubs

This model establishes regional pilot sites that trial humane, culturally appropriate, and scientifically grounded deer control methods. Oversight panels comprising iwi representatives, ethicists, scientists, and hunters ensure that diverse perspectives are included in programme design and delivery. Transparent communication, public engagement, and iterative feedback mechanisms are key features, helping to address concerns about animal welfare, cultural acceptability, and trust in government. These hubs act as learning laboratories for ethical pest control, supporting innovation while maintaining accountability. Existing models include the Tahr Plan Implementation Liaison Group and DOC's adaptive research programmes, which demonstrate how cross-sector collaboration can guide contested wildlife management.

10.1.6 Dual-Track Management (Harvest and Ecological Zoning)

This approach uses spatial zoning to balance ecological protection with the recognition that deer are also valued as a resource by some stakeholders. In high-priority conservation areas, deer may be managed under zero-tolerance regimes, while in other zones, sustained harvest may be permitted under agreed protocols. This dual-track framework allows for different tools and rules depending on ecological sensitivity, land-use goals, and community preferences. It also provides a basis for monitoring, evaluation, and

adjustment over time. The Ruahine Deer Plan and the zoning framework under the Tahr Management Plan are examples of how zoned strategies can reduce conflict and better reflect New Zealand's diverse landscapes and landowner values.

Toward a Plural Strategy: Comparative Models of Deer Control

These six models are not mutually exclusive; rather, they represent a suite of complementary approaches that can be adapted to the unique ecological, social, and governance conditions across Aotearoa New Zealand. Their diversity reflects the reality that no single model can address all dimensions of the deer management challenge. The following table summarises each model according to its primary goals, governance structure, and anticipated implementation challenges. This comparative overview helps clarify the strengths and trade-offs inherent in each approach, offering a practical foundation for integrated, context-sensitive strategies.

To support practical decision-making, the second table compares the six deer control models according to their primary goals, governance structures, and implementation challenges. This comparative analysis does not rank the models but instead clarifies their complementary strengths and limitations. It provides a strategic lens through which policymakers, practitioners, and communities can assess which models, or combination of models, are most appropriate for their specific ecological and social contexts.

Table 3: Summary of Deer Control Models in Aotearoa New Zealand

Model		Primary Goals	Governance Approach	Potential Challenges
1	Integrated Landscape-Scale Management	Align deer control with regional biodiversity and land-use plans	Led by regional councils with iwi and stakeholder input	Inconsistent capacity and commitment across regions
2	Iwi-Led Co-Governance Frameworks	Embed mātauranga Māori and rangatiratanga in decision-making	Iwi authority with DOC and community partnership	Requires resourcing, time, and enduring trust
3	Incentivised Private Sector Partnerships	Leverage private and public investment for targeted control	Joint governance board with farmers, industry, and DOC	Power imbalances and accountability risks
4	Ethical Adaptive Management Hubs	Use real-time data and flexible response mechanisms	Science-led teams involving policymakers and communities	High data demands and institutional buy-in
5	Catchment-Based Community Collaboration	Build grassroots capacity through local planning and action	Landowner-driven with council facilitation and funding	Scaling beyond initial success; coordination complexity
6	National Strategic Control Programme	Provide a nationally coordinated approach with standardised goals	Central government leadership with devolved implementation	May overlook local needs or cultural differences

Chapter 11. System Changes for Coordinated Deer Control

This chapter explores necessary system-level changes to support more effective and equitable deer management in Aotearoa New Zealand. While a patchwork of regional efforts, sector initiatives, and cultural practices currently shape deer control, sustained progress will require a coordinated national response that addresses structural, legal, and knowledge-based barriers. The Wild Animal Management National Coordination Group, established by the Department of Conservation, is already working to address three of the most significant issues identified in this report: the national data deficit, the regulatory barriers under the Food Act, and the constraints around the use of toxins. This chapter outlines key proposals, institutional reforms, and opportunities for collaboration that together form the backbone of a more integrated national deer control system.

11.1 Wild Animal Management National Coordination Group

To support more cohesive national direction while respecting regional and cultural diversity, DOC has established the Wild Animal Management National Coordination Group. (Department of Conservation, 2021) This forum brings together a wide array of stakeholders, including iwi and hapū, recreational and commercial hunting interests, conservation NGOs, landowners, and research institutions, to prioritise and coordinate collective action. While it does not directly implement control operations, the group plays a crucial role in aligning efforts, sharing knowledge, and fostering collaboration across the fragmented wild animal management landscape. Its existence signals a shift toward more inclusive, integrated governance in an area long characterised by institutional silos and sectoral divides.

11.2 Addressing the Data Deficit in Feral Deer Control

Despite decades of control efforts, there is still a significant data deficit in the management of feral deer populations in Aotearoa New Zealand. Accurate, up-to-date information on deer distribution, abundance, and impacts is essential for strategic planning, yet current monitoring efforts remain patchy and often reactive. Many regions lack systematic population surveys or standardised monitoring protocols, leading to inconsistent datasets that are difficult to compare or integrate. This information gap impairs the ability to target control effectively, assess the outcomes of interventions, or allocate funding based on ecological need (Nugent & Choquenot, 2004; Forsyth, Coomes, Nugent & Hall., 2010).

A further challenge lies in the common use of kill numbers, particularly aerial cull or recreational harvest data, as a proxy for population trends. While such figures are readily available and politically convenient, they do not reliably indicate deer density or impact. High kill rates may reflect concentrated effort in a particular area, not an overall increase in population size. Conversely, declining kill rates might signal fewer deer, or reduced hunter effort, poorer access, or other non-demographic factors (Parkes & Murphy, 2003).

As Deborah Stone (2012) notes in *Policy Paradox*, data are not neutral; they are shaped by the narratives, assumptions, and institutional contexts in which they are collected. In the case of feral deer, privileging kill statistics over ecological indicators reflects a broader policy tendency to prioritise quantifiable outputs over meaningful outcomes.

11.3 Use of Toxins

While controversial, the use of toxins may need to be reconsidered as a tool to reduce deer populations to ecologically manageable levels, particularly in areas where other control methods are impractical or insufficient. Currently, there are no toxins specifically registered for deer control in Aotearoa New Zealand under the Agricultural Compounds and Veterinary Medicines (ACVM) Act. However, sodium fluoroacetate (1080) is widely used for the control of possums and rats and has a known lethal effect on deer when deer-repellent is not added (Eason et al., 2011).

In many predator control operations, deer repellent is added to 1080 baits to minimise non-target impacts on deer populations. One option, therefore, is to selectively remove deer repellent from 1080 baits in areas where deer control is also a management objective. This has been trialled in some areas with mixed success and significant social resistance, particularly from hunting communities and iwi who value deer for cultural or recreational reasons.

The absence of deer-specific toxicants means that any use of poisons for deer control is inherently tied to broader predator control programmes. This raises ethical and ecological considerations about by-kill and target specificity and reinforces the need for robust public consultation and clear communications. Development or registration of a deer-specific toxin may be a future avenue for research but would need to be carefully weighed against welfare concerns, environmental safety, and public acceptability.

11.4 Reforming the Food Act and Toxin Regulations to Enable Wild Game Meat Use

Current legislative and regulatory frameworks in Aotearoa New Zealand significantly constrain the legal harvesting, processing, and distribution of wild game meat, particularly from animals such as deer, pigs, and goats culled for conservation or pest control purposes. Two key barriers are the Food Act 2014 and the regulatory settings around toxin use, both of which limit the ability to realise the potential economic, cultural, and sustainability benefits of utilising wild-sourced meat.

Under the Food Act 2014, wild animals hunted for recreational, or population control purposes cannot enter the commercial food chain unless processed under strict controls by certified game depots and licensed operators (MPI, 2023a). These requirements, while important for food safety, are often too costly or impractical for smaller operations, community-based control efforts, or iwi-led projects. The result is widespread carcass wastage, undermining ethical imperatives for respectful use of animal life, as well as economic opportunities for rural communities (Norton et al., 2020).

In tandem, toxin regulations, particularly those governing the use of sodium fluoroacetate (1080) and other poisons, create further constraints. When toxicants are used in deer or pig control programmes, the resultant carcasses are considered unsafe for human consumption, removing any potential for meat recovery (Eason et al., 2011).

Addressing these challenges will require:

Amendments to the Food Act 2014 to enable low-risk, certified models for wild game donation or limited commercial sale, particularly through iwi and community processors.

Guidance and investment in non-toxic control zones where meat recovery can be safely prioritised.

Collaboration with MPI, DOC and food safety experts to ensure protocols meet health standards without creating insurmountable compliance barriers.

Such reforms would enable a more integrated and culturally respectful approach to deer and ungulate management, reduce waste, and support economic and food security outcomes, particularly in rural and Māori communities (Awatere et al., 2018).

11.5 Proposal: A National Ungulate Management Programme

In some circles a nationally coordinated, regionally delivered control programme for ungulates, specifically deer, pigs, and goats is proposed. This model draws on the structure and demonstrated success of the Wilding Conifer Control Programme (MPI, 2021). These species cause extensive ecological degradation and economic loss across Aotearoa New Zealand, yet current control measures are inconsistent, fragmented, and under-resourced (Parkes & Murphy, 2003; Forsyth et al., 2018).

The Ministry for Primary Industries (MPI) would serve as the national lead agency, responsible for strategic oversight, inter-agency coordination, funding distribution, and national-level monitoring and evaluation. A national steering group would be established, including representatives from DOC, Regional Councils, Māori organisations, the farming and forestry sectors, the hunting and recreation community, and ecological research institutions.

All land tenures, Crown, private, and Māori-owned, would be treated equitably within the programme. Under this model, DOC would no longer act as the default lead agency but instead operate as a landholder among others, with the same responsibilities and expectations (Green & Clarkson, 2006).

Regional Councils would take the lead in local delivery, with responsibilities including contract management, community and stakeholder engagement, and alignment with Regional Pest Management Plans (RPMPs). Local strategies would be adapted to reflect regional ecological and cultural conditions.

Control operations would occur across all land tenures to ensure landscape-scale coherence and to reduce reinvasion risks. A diverse implementation network would be used, combining accredited contractors, iwi and hapū-led teams, community conservation groups, and approved recreational hunter partnerships. This multi-actor model enables flexibility, strengthens social licence, and supports local employment and capacity building (Nugent, Buddle& Knowles 2011).

The programme would require a commitment to long-term funding over a 10–15 year horizon. Consistent investment is essential to support ongoing control operations, infrastructure development, community engagement, and monitoring.

11.6 Reintroducing Grazing on Public Conservation Land as a Deer Control Tool

Another idea that is circulating is the reintroduction of extensive grazing on selected areas of Public Conservation Land (PCL) presents a strategic opportunity to contribute to feral deer control, while delivering wider ecological and fiscal benefits. In regions where deer and other ungulates are proliferating and damaging native ecosystems, managed

grazing could act as a complementary tool to reduce pest animal pressure, particularly when combined with obligations for active deer management by lessees.

This proposal applies only to areas of PCL with a history of grazing, where land has been shaped by pastoral use and where ecological stability may be enhanced, not undermined, by low-intensity farming (Allen et al., 2016; Monks et al., 2019). Reintroducing grazing through updated lease arrangements could incentivise private investment in pest and weed control, offsetting costs currently borne by DOC.

A reformed lease or licence instrument would need to be long-term (ideally 25 years), secure, and linked to performance conditions such as pest control targets. Legislative changes may be required to enable this model under the Conservation Act 1987, which currently limits leasing unless exclusive possession is necessary for operational reasons. Aligning PCL grazing frameworks with those in the Land Act 1948 would offer a more appropriate mechanism.

Although reintroducing grazing may be controversial in some conservation circles, this proposal reflects the growing need for integrated, tenure-neutral models of pest management in Aotearoa New Zealand, especially for managing widespread, mobile species such as deer (Forsyth et al., 2010).

Chapter 12. Conclusion

12.1 Summary of key insights

This inquiry confirms that deer control in Aotearoa New Zealand is not simply a technical or ecological challenge, it is an inherently ethical, cultural, and political issue. Effective management cannot rely on ecological data alone. It must also engage with cultural legitimacy, emotional intelligence, and inclusive governance processes. Stakeholders, including farmers, hunters, iwi, conservationists, and urban publics, hold diverse, and often deeply held, ethical perspectives. Resistance to control measures is not necessarily ignorance or obstruction; it frequently reflects legitimate concerns regarding method, fairness, history, and identity.

Chapters 7 and 8 highlighted a range of successful, often collaborative responses, iwi-led restoration projects, commercial wild animal recovery operations (WARO), Department of Conservation initiatives, and community-led catchment groups. These case studies demonstrate that meaningful outcomes are possible when actions are grounded in trust, partnership, and locally appropriate strategies. Historical models such as Rabbit Boards and the venison recovery era illustrate the power of pragmatism, coordination, and government support at scale, lessons with ongoing relevance.

12.2 A reflection on my personal journey and changes in my ethical stance

This research and my involvement in pest management has challenged and reshaped my own ethical stance. Ethical clarity, I have found, rarely arises from detachment. It emerges through discomfort, contradiction, and dialogue with those whose values differ from our own. Deer have come to symbolise more than ecological threat, they represent a site of contested memory and unresolved grief about colonisation, ecological loss, and the emotional weight of killing.

As someone trained in ecology and policy, yet shaped by rural life and community, I have occupied multiple, sometimes conflicting, ethical positions. This journey has pushed me beyond binary thinking, pest or taonga, science or culture, toward a more compassionate and pluralistic vision of what ethical deer control could be.

12.3 Implications: for pest control policy, public communication, education

This report offers a number of implications for the future of deer management and environmental governance in Aotearoa New Zealand:

- Policy: Develop inclusive, co-designed frameworks that acknowledge diverse ethical positions, particularly Māori values and rural lived experience.
- Communication: Reframe public messaging away from militaristic metaphors and toward language that fosters empathy, nuance, and moral clarity.
- Education: Support programmes that cultivate ecological literacy and ethical reflection among practitioners, students, and the wider public.
- Practice: Prioritise humane methods, community participation, and integrated landscape-scale planning.

12.4 Limitations and areas for future research

This research has limitations inherent in autoethnography. It is partial, situated, and emotionally engaged. While this enriches the analysis, it also means that generalisability is limited. Further research could:

- Conduct empirical studies to better understand public attitudes across demographic, cultural, and regional contexts.
- Evaluate the long-term effectiveness of Māori-led management models and their interaction with national policy frameworks.
- Track the ecological, social, and ethical outcomes of integrated control programmes, especially those that incorporate non-lethal methods.
- Examine how ethical literacy among environmental professionals influences trust-building and programme legitimacy.

12.5 A closing reflection

This project began with a question: Are we guardians or executioners? It concludes not with a definitive answer, but with a deeper appreciation for the ambiguity embedded in that question. We are both. We are responsible for protection, and we are agents of harm. But if we can acknowledge this tension honestly, and act with humility, care, and transparency, we may transform this dual role into one of ethical guardianship.

In such a role, the act of killing, when truly necessary, can be guided by sorrow rather than pride. And the work of restoration can be measured not only in hectares cleared, but in trust restored, relationships nurtured, and futures imagined.

Chapter 13. References

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