

From Canada to Scotland: the incorporation of ethical wildlife control principles: a review.

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Review

From Canada to Scotland: The Incorporation of Ethical Wildlife Control Principles: A Review

Hannah Louise Moneagle

Law School, Robert Gordon University, Riverside Building, Garthdee Road, Aberdeen AB10 7QE, UK; h.moneagle@rgu.ac.uk

Abstract: In 2015, 20 experts from academia, industry, and non-governmental organisations on 5 continents agreed to a set of seven international principles for ethical decision making (“the principles”) in managing human–wildlife conflict. The principles have since been recognised in wildlife management policy and standards in parts of British Columbia, Canada. In 2022, the principles were introduced to the Scottish Parliament by means of a formal Motion lodged by Colin Smyth MSP. Smyth expressed the view that opportunities existed to integrate the principles into the Scottish Government’s strategic approach to wildlife management and its species licensing review. The (now former) Minister for Environment, Biodiversity and Land Reform at the Scottish Government, Mairi McAllan, stated in the Motion debate that followed that she was committed to working to understand how the principles could sit alongside the Scottish Government’s ambitious programme to protect animals and wildlife. The Hunting with Dogs (Scotland) Bill was introduced to the Scottish Parliament prior (February 2022) to the Motion debate but passed on 24 January 2023, following various debate and amendment stages. It offered parliamentarians the first opportunity to align wildlife-specific legislation with the principles. The Bill received Royal Assent on 7 March 2023 and is now the Hunting with Dogs (Scotland) Act 2023 (“The Act”). A review of The Bill (and subsequent Act) can assist in identifying where it could have aligned more closely with the principles to assist decision makers in understanding how to usefully incorporate the principles into future wildlife legislation and policy.

Keywords: wildlife; wildlife management; ethical principles; wildlife conservation; human–wildlife conflict; wildlife law; Scotland; legal protection



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1. Introduction

Dubois et al.’s (2017) principles for ethical wildlife control offer an “interdependent and step-wise set of principles” for managing human–wildlife conflict by modifying human practices when possible (Principle 1), justifying the need for control (Principle 2), having clear and achievable outcome-based objectives (Principle 3), causing the least harm to animals (Principle 4), considering community values and scientific information (Principle 5), including long-term systematic management (Principle 6), and basing control on the specifics of the situation (Principle 7).

The principles were recognised to an extent in British Columbia, as the British Columbia Society for the Protection of Cruelty to Animals (BC SPCA 2021) developed its AnimalKind Wildlife and Rodent Control (15) Standards for Wildlife Control Service Providers, as part of the AnimalKind Accreditation Program, based on the principles, with simplified wording: 1. Can the problem be mitigated by changing human behaviour?; 2. Are the harms serious enough to warrant wildlife control?; 3. Is the desired outcome clear and achievable and will it be monitored?; 4. Does the proposed method carry the least animal welfare cost to the fewest animals?; 5. Have community values been considered alongside scientific, technical, and practical information?; 6. Is the control action part of a systematic, long-term management program?; and 7. Are the decisions warranted by the specifics of the situation

rather than negative categorisation of animals? Wildlife control service providers who sign up for the accreditation program are periodically audited by the BC SPCA to ensure they are maintaining high welfare standards in line with the principles/standards.

The [Parks Canada Agency \(2021\)](#), a federal government agency with responsibility for land and marine parks, is also said to have used the principles to inform its eradication programs, specifically in relation to introduced species but including its biodiversity programs.

It is interesting that, after Canada, Scotland identified and resonated with the principles as a means of resolving human–wildlife conflicts following the introduction of the framework to parliamentarians via the Wild Animal Welfare Committee (“WAWC”) and to animal welfare charities following the release of Dubois et al.’s research. In its briefing note to the Scottish Parliament’s Rural Affairs, Islands and Natural Environment Committee’s workstream on animal welfare in 2021, the WAWC ([WAWC 2021](#)) highlighted that in its Programme for Government 2019 to 2020 ([The Scottish Government 2019a](#)), the Scottish Government announced that it intended to develop “A strategic approach to wildlife management to put animal welfare at the centre while protecting public health and economic and conservation considerations” and confirmed that it intended to publish a set of principles for this purpose in 2020. The WAWC recommended that the principles to be prepared by the Scottish Government should incorporate Dubois et al.’s principles in their entirety and that it could be “unhelpful and potentially confusing” for a different set of principles to be promoted. The WAWC continued that “a more strategic, over-arching review and the development of a framework for our interaction with wildlife in Scotland is overdue. Such a framework, capitalising on the opportunity that the recognition of animal sentience brings (animals were legally recognised in the UK as sentient beings through the [Animal Welfare \(Sentience\) Act \(2022\)](#)) would be hugely valuable and represent a significant and potentially world-leading opportunity” ([WAWC 2021](#)).

Since then, efforts to incorporate the principles in Scots law and policy have started to gather momentum. This is primarily due to a Motion ([The Scottish Parliament 2022a](#), S6M-03023) lodged in the Scottish Parliament by Colin Smyth MSP on 4 February 2022. The Motion touched upon the legal recognition of animals as sentient beings, together with the view that Scotland should lead the way in “sustainable and humane interaction with the wild animals in the environment”. It also highlighted the existence of opportunities within Scotland to integrate the principles into the Scottish Government’s strategic approach to wildlife management and its species licensing review.

The Motion was debated in the Scottish Parliament on 31 May 2022 ([The Scottish Parliament 2022b](#)), and Smyth introduced it by setting out the view shared by many animal welfare charities that the current approach to wildlife management is too often “ad hoc and can be illogical and often unscientific”. He continued that attitudes towards wild animals differ significantly to those towards domestic or farmed animals, with protections varying from species to species, circumstance to circumstance, even though all animals are recognised as sentient. Smyth argued that there are still too many examples of appalling cruelty and, in a modern progressive society, a new, better approach is needed. He acknowledged that there would always be wildlife management interventions that would mean harm to some animals but indicated that the work of several animal welfare charities in Scotland identified the lack of a consistent approach to those interventions and the lack of a process that guides decisions around if, when, and how those interventions take place to ensure they are ethically led, are evidence-based, and prioritise animal welfare. Smyth highlighted that the principles offer such a framework and indicated that a review of NatureScot’s (previously Scottish Natural Heritage) “Wildlife Management Framework: A Guide to Making Decisions on Wildlife Management” ([SNH 2014](#)) would offer the opportunity to incorporate the principles into wildlife policy and place them at the heart of the Scottish Government’s approach to wildlife management.

NatureScot introduced its “Wildlife Management: A Shared Approach—Concordat” in 2020 ([NatureScot 2020](#)) as a means of adopting a collaborative approach to wildlife

management across stakeholder agencies. For the purpose of the Concordat, wildlife management is defined as “the deliberate and targeted intervention by people to change the population, structure or distribution of wild species, particularly terrestrial mammals and birds”. Those who signed up to the shared approach included the Association of Deer Management Groups, British Association for Shooting and Conservation, British Deer Society, Cairngorms National Park Authority, Game and Wildlife Conservation Trust, Loch Lomond and Trossachs National Park Authority, National Farmers Union Scotland, NatureScot, Royal Society for the Protection for Birds, Scottish Association for Country Sports, Scottish Countryside Alliance, Scottish Gamekeepers Association, Scottish Land and Estates, Scotland’s Rural College, and Woodland Trust Scotland, all of whom have used lethal wildlife management control methods.

Scotland’s (now former) Minister for Environment, Biodiversity and Land Reform, Mairi McAllan, confirmed in the Motion debate ([The Scottish Parliament 2022b](#)) that there “is much she agrees with in the principles” and advised that she is committed to working to understand how the principles can “sit alongside the ambitious programme of work that the Government is taking forward to protect our animals and our wildlife”.

The Scottish Government released its “Programme for Government 2022 to 2023” ([The Scottish Government 2022a](#)) in September 2022, which confirmed that the Wildlife Management (Grouse) Bill (now the Wildlife Management and Muirburn (Scotland) Bill, introduced 21 March 2023) would be introduced during the corresponding parliamentary year, with the Hunting with Dogs (Scotland) Bill (“[The Bill](#)” 2023) continuing with parliamentary scrutiny. The Bill was the first piece of wildlife legislation to come after the principles emerged in Scotland and, thus, presented the Scottish Government’s first opportunity to incorporate the principles therein and align the legislation thereto. This came at a time when the Scottish Government also confirmed its commitment to reversing biodiversity’s decline and restoring Scotland’s natural environment, stating its determination that Scotland should be at the forefront of the world’s efforts to reverse the decline and that it would use its powers to support farmers and land managers to protect and enhance biodiversity as part of this. Farmers and land managers are at the forefront of wildlife management, which not only includes actions carried out under explanation of protecting livestock and crops but also shooting and “country sports” ([SLE 2022](#)).

With McAllan’s public commitment to working with the principles to understand how they can sit alongside the Government’s programme of work, this paper seeks to understand how effectively the principles were used as a framework during the evolution of The Bill and identify whether opportunities were missed to more fully incorporate the principles therein; this is an opinion held by Smyth, who felt that The Bill offered the occasion to “lead the way in sustainable and humane interaction with wild animals” ([The Scottish Parliament 2022a](#), S6M-03023).

The purpose of this paper is not to further review the principles as already set out and explained by [Dubois et al. \(2017\)](#) but to use The Bill as a case study to demonstrate the opportunities presented to incorporate the principles into evolving legislation following McAllan’s public commitment to work with them. This provides a useful practical example as to how decision makers both in the Scottish Government and the wider devolved governments across the UK can translate the principles for future use.

The principles are not explained in any depth herein, so the context for this paper should be taken from [Dubois et al. \(2017\)](#). Similarly, reference is made throughout to the ([Animal Welfare \(Sentience\) Act \(2022\)](#)), and readers should separately acquaint themselves with the detailed purpose of this legislation should context be required.

2. Results: The Hunting with Dogs (Scotland) Bill

2.1. Background

The Hunting with Dogs (Scotland) Bill (“[The Bill](#)” 2023) was passed by the Scottish Parliament on 24 January 2023. It received Royal Assent to become an Act on 7 March 2023. The purpose of this piece of legislation is to make provision about the prohibition of

hunting wild mammals using dogs and in relation to trail hunting; many are more familiar with reference to these activities in the context of “fox hunting”; large en masse organised hunts with foxes, hares, and other wild mammals being chased and killed by packs of dogs. Such traditional “countryside pursuits” or “sports” are generally no longer viewed as acceptable by the Scottish population. McAllan stated, when introducing The Bill to the Scottish Parliament ([The Scottish Government 2022b](#)), “I want to make it clear that chasing and killing a mammal with a dog, for sport or otherwise, has no place in modern Scotland—indeed it has been illegal for twenty years”.

Once rolled-out, the Protection of Wild Mammals (Scotland) Act 2002 (“[2002 Act](#)” 2002) will be repealed and be replaced by the Act. The purpose of this new Act is to close the legal loopholes that remain within the 2002 Act and that allow organised fox hunts for sporting purposes to continue despite the legislation. The new Act introduces new limits to the number of dogs that can be used in hunting wild mammals, with the need to obtain a licence to use more dogs. This is to bring an end to illegal fox hunting activity, whilst allowing the continued hunting of wild mammals with dogs for specific wildlife management purposes. The Act will also ban trail hunting (using a dog to follow an animal-based scent for hunting purposes), except in limited circumstances. This review does not cover the new arrangements for trail hunting.

McAllan stated in September 2022 that The Bill “is principally about pursuing the highest possible animal welfare standards in Scotland, but on the understanding that we are a rural nation and access to legitimate control must be possible” ([The Scottish Parliament 2022c](#)).

The final version of The Bill, as passed, and subsequent Act, is set out in four parts. Part 1 covers the offences to be created in relation to hunting a wild mammal with a dog and the exceptions to those offences and details a proposed licensing scheme. Part 2 covers the offences to be created in relation to trail hunting and the exceptions thereto. Part 3 covers the further provisions relating to offences under the Act, and Part 4 covers the general provisions.

It is worth noting that The Bill and The Act make no express reference to the principles of [Dubois et al. \(2017\)](#) to assist in understanding whether the principles were used as a framework during the drafting thereof. There is no guidance contained in The Bill or The Act, expressly or otherwise, to assist in understanding what the application of the principles within legislation and policy should or might look like.

Section 1 of The Act under Part 1 sets out that the offence of hunting a wild mammal using a dog is committed where the person hunts a wild mammal using a dog, and none of the exceptions set out in sections 3, 5, 6–8, or 9 of The Act apply. It is these exceptions and the proposed licensing scheme which become the focus of this review, in terms of assessing compatibility with the principles; however, it is first necessary to touch upon the definition apportioned to a “wild mammal” under section 1 of The Act.

2.2. Definition of “Wild Mammal”

The 2002 Act identifies foxes, hares, minks, stoats, and weasels as “pest species” for the purpose of the legislation, but rabbits are not included in the definition of a wild mammal. The definition of a wild mammal offered in The Act is much improved due to its increased scope; however, the exclusion of rats and mice continues to present practical difficulties and allows the notion of “pest species” to continue. Colin Smyth MSP in the Motion debate ([The Scottish Parliament 2022b](#)) identified the importance of animals as legally recognised sentient beings (per the [Animal Welfare \(Sentience\) Act \(2022\)](#); “[2002 Act](#)” 2002). It follows that any animal welfare legislation passed in the aftermath of the 2022 Act should take cognisance of this.

Allowing the legal hunting of rats and mice with dogs is arguably in contravention of Principle 4, which relates to animal welfare. This principle sets out that control methods should “predicably and effectively cause the least animal welfare harms to the least number of animals ([Dubois et al. 2017](#))”. Notwithstanding the harm caused to a rat or mouse

through being attacked by a dog, it also stands that dogs cannot be expected to distinguish between one small mammal and another in an instinctive search and hunt situation. Harm could consequently be caused to non-target animals, and the defence of an “accident” could become a loophole capable of undermining The Act. The Burns Report ([UK Government Home Office 2000](#)) in England and Wales supports this position, when it states that “There is some evidence that hunting incidentally affects the welfare of wildlife. In particular, we have been informed about the stopping-up of badger setts and a few isolated cases of disturbance to otter—both of which are protected species—and wildfowl during mink hunting.” Thus, the exclusion of rats and mice from the definition fails to align with Principle 4, in the sense that the potential for harm to more animals is increased rather than controlled.

Principle 5 relates to social acceptability and indicates that “Decisions to control wildlife should be informed by the range of community values alongside scientific, technical, and practical information.” In 2017, a YouTube video circulated via the UK media that showed a group of men in England using dogs to hunt a group of rats. The organisers later posed for trophy-style photographs with the dead rats ([Duffy 2017](#)). Whilst not an offence (in England or Scotland) to hunt rats with dogs (although it may have constituted a public order offence or breach of the peace), there was a strong public feeling that this incident was shocking and barbaric and, thus, not deemed socially acceptable by the majority.

Principle 6 relates to systematic planning and indicates that the low-level culling of abundant or prolific animals can amount to senseless killing if populations rebound quickly. It suggests that to prevent unnecessary harm, decisions to control animals (which would include rats and mice) should be integrated into a plan for the systematic long-term maintenance of the desired outcome, for example, preventing access by target animals (this may be to crops or livestock) once they have been removed from an area. The exclusion of rats and mice from the definition of a wild mammal in The Act means that these species can be legally hunted with as many dogs as the hunter views appropriate, regardless of the principles.

The Act arguably offered the opportunity, through a slight amendment to the definition of a “wild mammal”, to align with the principles to restrict potential animal welfare harms as far as possible for the future. It could be argued that an opportunity was missed to incentivise research and develop effective sustainable options for wildlife management that do not rely on animal suffering or repeated interventions.

2.3. Offence Exceptions: Background and Purposes

The area of The Bill that appeared to cause the most controversy ([The Scottish Parliament 2022d](#)) in surveys, consultation responses, and amendment discussions related to the proposed exceptions to the offence of hunting wild mammals with dogs. Sections 3, 5, 6–9 of The Act include exceptions that relate to the management of wild mammals above ground (section 3) and the management of foxes (The Bill also included mink) below ground (section 5), when certain purposes apply, or for the purpose of falconry, game shooting, and deer stalking (section 6); relieving the suffering of injured wild mammals (section 7); searching for dead wild mammals (section 8); and environmental benefit (section 9).

Section 3 of The Act sets out an exception to the management of wild animals above ground through searching for, stalking, or flushing from cover a wild mammal with the intention of killing it using up to two dogs (more if acting under a licence granted under section 4) if one or more specified purposes apply. Section 5 offers an exception to the management of foxes below ground through searching for or flushing with the intention of killing a fox using only one dog if one or more of the specified purposes applies. The specified purposes for these sections are (a) preventing serious damage to livestock, woodland, or crops; (b) preventing the spread of disease; (c) protecting human health; and (d) relieving the suffering of an injured or dependent fox (this subsection applies to section 5 only).

Principle 1 relates to the modification of human practices where human–wildlife conflicts arise from human activities, such as the creation of new food sources, alteration or occupation of habitat, or introduction of species into new areas. [Dubois et al. \(2017\)](#) argued that such instances of conflict should be prevented and mitigated by altering human practices where possible and by developing a culture of coexistence. It was offered by Dubois et al. that a first response to human–wildlife conflict should be to focus on how human behaviour has affected the ecosystem and address the root causes of conflict rather than only the problematic outcome. During the Motion debate ([The Scottish Parliament 2022b](#)) on the principles, Mark Ruskell MSP touched upon this point by using the example of the National Farmers Union of Scotland’s call ([NFUS 2021](#)) for the lethal control of protected white-tailed eagles (WTE) based on their purported predation of vulnerable livestock, including lambs. Ruskell argued that incidents of WTE taking live lambs was rare and that better husbandry, including lambing taking place under shelter, would address the real causes of the “quite horrific levels of black loss” seen in sheep farming. This type of thinking aligns with Principle 1 in terms of modifying human practices rather than simply opting for lethal control as a means of preventing possible damage to livestock, as narrated in sections 3 and 5 of The Act.

Demonstrating this point further, Ruskell was supportive of NatureScot’s “Sea Eagle Management Scheme” ([NatureScot 2021](#)), which offers professional support to farmers and crofters experiencing impacts across the sea eagle breeding range, including investigating what sea eagle activity is occurring near a farm; helping to gather evidence of sea eagle impacts and recording any livestock losses due to sea eagles or other causes; advising on measures to mitigate against sea eagle impacts; arranging to lend equipment, where appropriate, to use to deter sea eagles or otherwise mitigate impacts; and recommending support for longer-term management agreed upon and carried out by the livestock manager. This aligns more closely with Principle 1 in terms of identifying the root cause of the conflict rather than only the problematic outcome. The adoption of a similar mindset during The Bill’s process may have assisted in ensuring better alignment with Principle 1 for the subsequent Act.

It is noted that whilst woodland and livestock are defined within section 27 of The Act, there is no definition for “serious damage” or what this might look like. This means that a subjective opinion is required to assess what constitutes serious damage to livestock, woodland, or crops in terms of sections 3 and 5. This position sits contrary to Principles 2 and 3 in terms of the justification for control and clear and achievable outcome-based objectives. Principle 2 sets out that the need for wildlife control should be justified with evidence that substantial harm is being caused to people, property, livelihoods, ecosystems, and/or other animals. The principle indicates that the seriousness of the perceived problem should be considered, and an objective evaluation of the effects of no control actions being undertaken should be conducted. It is difficult, however, to quantify the serious damage provided for in The Act without any parameters. This neatly leads to Principle 3, which provides that ethically defensible decisions to control wildlife require clear objectives and sound evidence that the proposed methods can achieve the objectives. The principle specifies that the objectives of wildlife control should be specific, measurable, and outcome-based, where the outcome relates to the desired reduction in harm, such as reducing crop loss, preventing transmission of disease, and increasing an endangered species’ population rather than simply reducing the number of target animals. Furthermore, [Dubois et al. \(2017\)](#) set out that an understanding of the population size, demography, ecology, behaviour, reproductive capacity, and effectiveness of the chosen action is required to judge the likelihood of success, with monitoring being critical and often over-looked. The Act provides no similarly clear and achievable outcome-based objectives and simply allows for the management of wild mammals above ground and foxes below ground if one or more of the purposes applies in sections 3 and 5. A similar approach was taken for deer management in Scotland, which has seen landowners and managers cull deer in high numbers on the strength of damage to woodland ([FLS n.d.](#)). This caused controversy

from an ethical ([The Scotsman 2010](#)) and business perspective ([Learmonth 2023](#)). In the latter of the two articles, the Assynt Crofters' Trust described the deer cull by the John Muir Trust on the Sutherland estate (designed to increase native tree cover to help restore degraded peatland) as "gratuitous", with a "direct, long-lasting and detrimental effect" on neighbouring properties that rely on deer to make an income from stalking. The opportunity now exists to carve out a deer management policy that aligns with the principles and fixes the parameters for deer culls (where culls are needed) that are ethical and strategic rather than scattergun.

Considering the spread of disease and the protection of human health as two of the purposes set out in sections 3 and 5, there is no clarity in The Act as to how the spread of such disease and protection of human health should be evidenced. Eurasian badgers are routinely persecuted in England because of their alleged connection with Bovine Tuberculosis ([Cassidy 2019](#)). [Dubois et al. \(2017\)](#) used the culling of badgers to protect cattle as an example of why there must be clear and achievable outcome-based objectives (Principle 3), on the basis that whilst culling is advocated by many farmers, a large-scale field experiment showed that badger culling would not reduce Bovine Tuberculosis in cattle and could exacerbate the situation ([ISG 2007](#)). If The Act is to sit comfortably alongside the principles, any alleged spread of disease should be demonstrated through scientific-evidence-based grounds, supported by the objective knowledge of appropriately trained and qualified animal disease experts. This allows for more alignment with Principle 3.

Relieving the suffering of an injured or dependent fox, as featured in section 5 of The Act, is an indirect effect on non-target animals, as far as [Dubois et al. \(2017\)](#) are concerned. They argue that to apply the method of causing the least welfare harm in terms of Principle 4, systematic scientific evaluation of the possible harms is required. Both the typical effects and worst-case scenarios need to be considered when evaluating the welfare effects of a proposed method. Arguably, there are modifications that could be made to human practices (per Principle 1) that would negate the need to kill dependent foxes in this manner, such as no lethal control at key times of the year and/or the transportation of injured or dependent foxes to wildlife rescues where they can be cared for and relocated thereafter. The answer does not always have to be death.

2.4. Exception: Management of Wild Mammals above Ground

Section 3 of The Act allows for a wild mammal to be searched for, stalked, or flushed from "cover" with the intention of it being killed for one or more of the purposes described in Paragraph 2.3 above or to be searched for and retrieved once killed because of such an activity. This exception on its own raises concerns about its alignment with the principles. The term "cover" is defined in section 27 of The Act as "a place above ground in which a wild mammal may be concealed from sight but does not include an enclosed place from which a wild mammal could not be flushed". This description is wide-ranging and arguably lacks specificity in the sense that it covers all landscapes, including those of high value as vital habitats for biodiversity. It is important to conserve biodiversity to maintain resilient ecosystem functions ([Oliver et al. 2015](#)). It is also known that Eurasian badgers construct above-ground daybeds ([McCaskill 2020](#)), so this exception exposes badgers to risk even in the event of only one or two dogs being used to quarter and chase wild mammals on the surface. With its wide scope, section 3 does not appear to sit comfortably within the framework of the principles. As explained along with the purposes in Paragraph 2.3, there are no clear and achievable outcome-based objectives for the wildlife control action (Principle 2), and there is no reliable way to control a dog or dogs in the course of hunting that guarantees that the instinctive prey/kill drive is not activated. Non-target (and indeed protected) wild mammals could inadvertently be attacked as a consequence. This does not align with Principle 4, where control methods should predictably and effectively cause the least animal welfare harm to the fewest number of animals. There is also an argument that this general approach to hunting wild mammals above ground fails to align with Principle 5 in terms of social acceptability and community values. This principle indicates

that decisions on whether and how to control wildlife usually involve balancing benefits and harms. With the generality of section 3, there is no balance between benefits and harms, and the opportunity to cause harm to non-target wild mammals is, in fact, increased rather than balanced.

2.5. Exception: Management of Foxes Below Ground

The Burns Report ([UK Government Home Office 2000](#)) on fox hunting in England and Wales found that “Although there is no firm scientific evidence, we are satisfied that the activity of digging out and shooting a fox involves a serious compromise of its welfare, bearing in mind the often-protracted nature of the process and the fact that the fox is prevented from escaping.” On this basis alone, the management of foxes below ground cannot be said to sit comfortably alongside Principles 4 and 5 in terms of animal welfare and social acceptability, notwithstanding the argument as to how ethical it is to put a dog into a wild mammal’s habitat in order to kill it. Principle 7, in terms of decision making by specifics rather than labels, is also worth noting. It sets out that decisions to control wildlife should be based on the specifics of the situation and not on negative labels applied to the target species. Foxes are singled out in section 5 of The Act for no reason other than their label as “a pest”. Principle 7 provides that wildlife control should not be undertaken just because a negatively labeled species is present. Section 5 of The Act allows a dog to be put into the underground habitat of a fox to kill it, simply if one of the purposes set out in Paragraph 2.3 applies. This infers that this species is inferior to other wild mammals and, thus, matters less. Principle 7 is designed to prevent such negativity and labelling and to serve as a check that decisions are based on a comprehensive analysis of the concerns and outcomes, rather than simply reflecting a negative label being applied to the animals. This would ensure that any such determination and assessment is ethically founded.

Foxes and badgers commonly co-exist, so putting a dog into the below ground habitat of a fox could easily result in harm to a protected badger. It may also offer a form of defence for the hunter if they did not intend for a non-target animal to be killed or injured. In September 2021, a hunt in England made national news when dogs tore apart a fox cub ([Pynn 2021](#)). There was a public outcry, which demonstrates the strength of feeling towards this type of activity in terms of social acceptability under Principle 5. Yet, as a consequence of section 5 of The Act, one dog can still legally enter the below ground habitat of a fox for the purpose of killing it, and one dog is capable of tearing apart a fox or its cub.

2.6. Exception: Falconry, Game Shooting, and Deer Stalking

Section 6 of The Act allows a person to search for, stalk, or flush from cover a wild mammal with the sole intention of killing it for sport using up to two dogs. The principles are intended as a framework to be used to put “wildlife control” on a “rational, evidence-based footing”, “to lead to wildlife control decisions that are seen widely as ethical, where ethical means all relevant concerns, including need, benefits, feasibility, and costs to people and animals, are taken into account” ([Dubois et al. 2017](#)). It might be argued that the sporting activities of falconry, game shooting, and deer stalking concern the livelihoods of people and, thus, do fall into the category of costs to people; however, of the three activities mentioned, deer stalking is the only one that may require some element of wildlife control in terms of managing deer numbers, due to the absence of apex predators to naturally keep populations stable.

The Act, however, defines falconry, game shooting, and deer stalking in section 6(3). The word “sport” is included in each definition, including that of deer stalking, which is defined in section 6(3) as “the stealthy approach of a deer in order to shoot it for sport”. Thus, the argument cannot be made that deer management is required for the purpose of conservation efforts or to mitigate environmental impacts, as The Act specifies that it means the use of dogs to hunt wild mammals for the purpose of sport. Notwithstanding this, [Kirkland et al. \(2021\)](#) argued that clearly articulated, scientifically valid, and socially acceptable socio-ecological objectives should be co-produced by a broad range of stake-

holders with the systematic monitoring of deer impacts needed to evaluate the ability of specific management interventions to achieve defined objectives when considering deer management as opposed to the killing of deer for sport. This approach indicates alignment with Principles 2, 3, 5, and 6, whereas the legality of hunting deer with up to two dogs under the terms of section 6 of The Act simply for the purpose of sport fails to align in any way with the principles for ethical wildlife control.

Falconry and game shooting are also defined as sporting endeavours, cannot be considered as offering wildlife control, and fail to align with the principles. A review by [Di Minin et al. \(2021\)](#) found that recreational hunting can result in species being overharvested, resulting in population declines or having evolutionary and behavioural consequences for the target species. It can also disturb other species, ecosystems, and ecological processes or cause environmental pollution and the poisoning of other species due to discarded ammunition. Within [Di Minin et al.'s \(2021\)](#) review, recreational hunting was defined as “the pursuit and killing of animals primarily for leisure and enjoyment purposes”, and, thus, the findings are appropriate for falconry, game shooting, and deer stalking, as set out in The Act. This demonstrates that the inclusion of section 6 fails to align in any way with the principles and, indeed, cannot be considered as ethical for this purpose.

The inclusion of section 6 in The Act demonstrates that, whilst there may be a willingness to consider how comfortably the principles can sit alongside future Scottish Government wildlife legislation and policy, this does not have to come at the expense of the revenue that can be achieved to benefit the economy through recreational hunting, despite the potential environmental disadvantage. It will be interesting to see if this theme continues with the Wildlife Management and Muirburn (Scotland) Bill (“The Wildlife Management Bill”), introduced 21 March 2023, which is currently at Stage 1 of the Bill process in the Scottish Parliament. Grouse would normally be considered under the term “game shooting”, and some consider grouse shooting to be “a world-class tourism offering” ([SLE 2020](#)) and, thus, a valuable source of revenue for the national economy. The Wildlife Management Bill is intended to implement the recommendations of the “Werritty Review” ([The Scottish Government 2019b](#)) and to introduce licensing for grouse moor management to ensure the management of driven grouse moors and related activities are undertaken in an environmentally sustainable manner ([The Scottish Government 2022d](#)). This Wildlife Management Bill offers a further opportunity for parliamentarians to incorporate or, at the very least, refer to, the principles within Scottish legislation.

2.7. Exception: Relieving the Suffering of Injured Wild Mammals

Section 7 of The Act allows a person to legally use a dog above ground to search for, stalk, or flush from cover a wild mammal that they have reasonable grounds to believe is injured with the intention of treating, capturing, or killing it to relieve its suffering. The person involved in this activity is permitted to use up to two dogs for the purpose of capturing such an injured animal. As this activity cannot be viewed as wildlife control in the sense that it is intended to allow for the recovery of an injured wild mammal that has not been injured in a hunt situation, the principles cannot be usefully applied. Nonetheless, considering the ethics of this predicament, using up to two dogs to either recover or kill an already-injured wild mammal would appear contrary to the legal recognition of animal sentience under the ([Animal Welfare \(Sentience\) Act \(2022\)](#)).

2.8. Exception: Searching for Dead Wild Mammals

Section 8 of The Act allows a person to use up to two dogs to search for and retrieve a dead wild mammal, although the circumstances in which the wild mammal has died are undefined. A question must be raised as to how the person should know that there is a dead wild mammal present, and over what reasonable expanse of land or habitat they are able to search over. Being permitted to use up to two dogs for such a broad purpose, with few clear parameters, allows for this exception to be exploited by those engaged in illegal hunting activities. The inclusion of this exception fails to align with Principles 3 and 4 in

terms of clear and achievable objectives and animal welfare. Principle 4, in particular, sets out that control methods should cause the least animal welfare harm to the fewest number of animals, yet this exclusion arguably allows for a “fishing trip” to take place, which could certainly result in the suffering of more wild mammals rather than fewer.

2.9. Exception: Environmental Benefit

Section 9 of The Act allows a person to use up to two dogs above ground to search for, stalk, or flush from cover a wild mammal with the intention of killing, capturing, or observing it for the purpose of “preserving, protecting or restoring a particular species (which may include controlling the number of a species for its welfare) for environmental benefit; preserving, protecting or restoring the diversity of animal or plant life; eradicating an invasive non-native species of wild mammal from an area”.

In addition to the direct killing of wildlife, the harassment and chasing of endemic species of wildlife by dogs results in increased stress and energetically costly behaviour to native wildlife (Young et al. 2011). Animals that are the target prey of dogs may perceive them as predators and may be subject to non-lethal, fear-based alterations in physiology, activity, and habitat use, with potentially complex effects (Lenth et al. 2008).

Stephen Harris’s (Harris 2017) review cited research by Robertson et al. (2001), which found that the impact of disturbance by dogs and people on wildlife and conservation was highlighted in Britain during the 2001 outbreak of foot-and-mouth disease, because public access to large areas of the countryside was prevented or restricted for much of that year. Even in that relatively short period, there were obvious changes in the behaviour of wildlife, which included ground nesting birds nesting nearer to footpaths and birds, deer, and rabbits being much more visible and utilising “public” areas. The COVID-19 lockdowns of 2020 (likely extending to the 2021 lockdown) were also found to be beneficial for wildlife in terms of reduced human disturbance on spatial or ranging behaviour, breeding success, and mortality (Manenti et al. 2020). The absence of dogs, however, was more frequently cited as a probable cause than the absence of people per se (Small et al. 2002, cited in Harris 2017). Gompper (2013), also cited by Harris (2017), stated that the presence of dogs triggers strong and diverse responses by wildlife, and Weston and Stankowich (2014), as cited by Harris (2017), found that the mere presence of a predator in an environment can affect prey in subtle, sublethal, and indirect, yet apparently deleterious, ways. Thus, in terms of the inclusion of section 9 within The Act, suggesting that there is an environmental benefit to the continued use of dogs for hunting wild mammals is not a position overwhelmingly supported by scientific evidence.

It is well-documented that the activities of wild mammals contribute to the quality of the natural environment. For example, badgers dig and turn over soil, and this activity contributes to nutrient recycling and soil moisture retention, helps to prevent flooding and drought, and creates niche habitats for small mammals, invertebrates, pollinators, birds, and amphibians. Other burrowing species such as foxes contribute similar benefits (Przemyslaw et al. 2014). Retaining section 9 in The Act fails to consider Principle 1 in terms of modifying human practices to develop a culture of coexistence, which should be the first response.

Principle 2 sets out that the need for wildlife control (for whatever reason) should be justified with evidence that substantial harm is being caused to people, property, livelihoods, ecosystems, and/or other animals and specifies that this can include the restoration of disturbed ecosystems and protecting target animals. A caveat exists that the seriousness of the perceived problem should be considered, and an objective evaluation of the effects of no control actions being undertaken should be conducted. Principle 3 sets out that ethically defensible actions to control wildlife require clear objectives and sound evidence that the proposed methods can achieve the objectives. Bergstrom et al. (2009) is cited (in Dubois et al. 2017) to the effect that the eradication of an “unwanted” population (grey squirrels or deer, for example) sometimes fails to achieve the intended ecological benefit, and there are plausible trophic cascades associated with invasive species removal, which can result in

rapid and drastic landscape-wide changes to ecosystems. This is particularly significant in terms of the ability under section 9 to “eradicate an invasive non-native wild mammal from an area”. [Walsh et al. \(2012\)](#) is also cited (in [Dubois et al. 2017](#)) to the effect that culling animals to reduce numbers in the long term may prove ineffective, especially if the level of killing is insufficient to manage recruitment when a species is mobile or prolific or if factors, such as habitat and food availability, are not addressed. Consideration of Principle 1 may have added to section 9, in the sense that direction could have been given that the root cause of any “environmental detriment” should initially be assessed with a view to considering what human practices could be prevented or mitigated to ease the conflict, rather than opting for lethal control as the first step, which has the potential to negatively impact the existing ecosystem.

2.10. Licensing

Sections 4 and 10 of The Act set out a licensing regime, whereby a person who wishes to utilise more than two dogs for the purposes of sections 3 and 9 of The Act can apply to the “relevant authority” for a licence to authorise this. The relevant authority is defined in The Act as the Scottish Ministers or Scottish Natural Heritage (now NatureScot) on their behalf if the Ministers have delegated their licensing functions under section 11 of The Act.

Section 4 allows a person to apply for a licence to use more than two dogs for the management of wild mammals above ground under section 3, although the grounds on which a licence may be granted are caveated under section 4(4). The application must relate to a particular species of wild mammal and must not be granted unless the relevant authority is satisfied that there is no alternative solution that would be effective in achieving the purpose or purposes set out in section 3(2) of The Act (these purposes are set out in Paragraph 2.3). The number of dogs to be used must also be the minimum that the relevant authority is satisfied with as effective in achieving the intended purpose. Whilst this approach aligns with Principle 2 in terms of justification for control, it sits uncomfortably with Principle 3 in terms of clear and achievable outcome-based objectives, as it is unclear how the relevant authority satisfies itself that alternative solutions have been considered by the applicant. It is also unclear to what extent the applicant is expected to have explored alternative approaches to non-lethal control. It is unknown how the relevant authority assesses whether the number of dogs applied for is suitable for the task at hand, whether this is based on a scientific approach, and/or whether further scientific research is required to understand the maximum number of dogs that may be necessary for the task.

If granted, a licence under section 4 remains live for a period of 14 days; however, it is unclear how this period was arrived at and why it is felt that a 14-day period is necessary. There is also no express post-activity provision in terms of making the person accountable for how many animals were killed nor in confirming when the task was actually completed, although section 4(4)(f) indicates that “reporting requirements” may be attached to a licence as a condition thereof. Section 13 of The Act also holds the Scottish Ministers accountable for reviewing the operation of sections 4 and 10 which will result in a report, although the content to be included is not set out in the Act. Principle 6 relates to systematic planning and the need for decisions to control wildlife to be integrated into a programme of long-term systematic management. [Dubois et al. \(2017\)](#) found that if control actions are used on an ad hoc basis without being integrated into such a systematic, long-term management program, any benefit is likely to be short-lived, and control actions may be used repeatedly without achieving a sustainable solution. They state that this is particularly problematic if control actions carry substantial animal welfare or other costs, which the activity of hunting wild mammals above ground with more than two dogs inevitably does. It is further suggested that long-term planning can help to prevent inappropriate decisions from being made in haste, and, instead, the research needs can be identified for the development of appropriate alternative actions. Considering this, it follows that if a person can apply for a licence for a 14-day period of control, and there does not appear to be any limit in terms of how many licences a person can apply for over a given period of time, this works against the notion of

systematic planning. In terms of alignment with Principles 2 and 3, it is unclear why a set 14-day period for control is necessary and whether the licence comes to an end if the work is completed prior to the end of that period.

The criteria set out in section 4(5)(a) of The Act relates to the “category of persons” to whom a licence is granted. This suggests that a blanket approach may be adopted to granting licences. A category may include all personnel involved in land management on a particular estate, to make it easier for the owner or land manager to apply for one general licence rather than a separate licence for each person. Restricting the grant of licences to individual applicants who can be held accountable for their actions allows for closer monitoring and potentially prevents this area from becoming a loophole in the legislation to be exploited by those intent on causing harm to wild mammals.

To align more closely with the principles, the licensing regime requires more specificity regarding how it operates in practical terms, to ensure that the use of more than two dogs as a wildlife control measure is retained as a last resort, and more humane and effective solutions are considered first.

Section 10 of The Act largely operates in the same way as section 4 and follows that more than two dogs can be used under licence for the purpose of the “environmental benefit” control measures under section 9. Concerns regarding the environmental benefit exception were already set out under Paragraph 2.9, and the concerns remain in terms of the proposed licensing regime for this exception. Section 9 adds to the licensing process that a licence must not be granted unless the relevant authority is satisfied that the killing, capturing, or observing of a wild mammal contributes towards a significant or long-term environmental benefit. It is unclear how the authority satisfies itself that the killing of the target wild mammal holds any environmental benefit, which uneasily sits with Principles 2 and 3 in terms of the justification for control and clear and achievable outcome-based objectives.

Licences granted under section 9 of The Act may be granted for a period of up to two years, but it is unclear why this period was fixed and why wildlife control for environmental benefit requires such a lengthy period compared to the 14-day period granted under section 4. It may be that this is an attempt to incorporate a more systematic and sustained approach to wildlife management over a longer period (per Principle 6), as opposed to a one-off culling event; however, simply offering a longer period to cull the problematic wild mammal does not go far enough in terms of systematic planning. Perhaps further policy guidance can assist in understanding why this period was arrived at, which could set out any expectations upon the licence holder that the licensing period is designed to be part of a longer-term programme of systematic management. If a person can simply apply for a licence to use more than two dogs to undertake the killing of wild mammals for environmental benefit, which covers them for a period of two years without any such guidance, this is likely to disincentivise the adoption of a more systematic approach by those involved in wildlife management. Colin Smyth MSP stated in the Motion debate ([The Scottish Parliament 2022b](#)) that the Scottish Government should prioritise wildlife management projects and programmes and incentivise land managers who carry out appropriate ethical assessments, when deciding on any control methods.

Whilst NatureScot is the relevant authority responsible for issuing the licences, it is not clear what qualifications or experience the decision-making personnel within the agency should have or be required to have in terms of understanding whether a licence should be granted for the intended activity. This requires further clarification ahead of the Act being rolled out, to ensure that the intention of the licensing regime in providing ethical control over wildlife management with dogs is upheld.

3. Discussion

Established by the Scottish Animal Welfare Commission Regulations 2020, made under section 35 of the Animal Health and Welfare (Scotland) Act 2006, the Scottish Animal Welfare Commission (SAWC) was assigned with providing advice to the Scottish Govern-

ment about the protection of wildlife under section 23 of the Wildlife and Countryside Act 1981. The focus of the SAWC is on the welfare of wild and companion animals (pets) in Scotland, whilst also providing scientific and ethical advice to the Scottish Government. The SAWC provides written reports and opinions to Scottish Ministers by giving practical recommendations based on scientific evidence and ethical considerations on the welfare of sentient animals in Scotland and the impact of policy on welfare ([The Scottish Government 2022c](#)). In its 2022–2023 workplan, the SAWC set out that it is engaging with NatureScot regarding their wildlife welfare principles, which form part of the Scottish Government’s commitment to a strategic approach to wildlife management ([The Scottish Government n.d.](#)) In its 2022 position paper on the trapping of terrestrial wild mammals using snares ([SAWC 2022](#)), the SAWC noted the view of the WAWC in terms of the principles and confirmed that it is generally supportive of the framework.

The SAWC (in [SAWC 2022](#)) considered the management of wild beavers in Scotland. It set out that the main issue surrounding the activities of wild beavers is the negative impact that they may have on farmers, foresters, and anglers, who have legitimate uses of river and lake systems and the adjacent riparian land. The SAWC highlighted that the principles provide a “good framework for considering these issues in order to set out a process and actions that can be followed to minimise negative welfare for beavers and provide effective solutions for landowners, foresters, and anglers”. The issues surrounding the human–beaver conflict were then assessed against each principle, which allowed certain conclusions to be drawn and recommendations to be made. This example demonstrates that an approach such as this could be incorporated into the legislative and policy-making processes in Scotland with ease and, with the backdrop of the (*Animal Welfare (Sentience) Act (2022)*), there is now a legal imperative to consider the ethical impact of decision making on all animals, including wildlife.

If decision makers do not feel that the principles offer the ethical framework required for this purpose, then an alternative is needed to guide decisions moving forward. On the basis that the principles were developed by 20 experts from academia, industry, and non-governmental organisations on five continents, it seems unlikely that a more effective framework can be developed based on the same level of input, scholarship, and knowledge. Colin Smyth MSP stated in the Motion debate ([The Scottish Parliament 2022b](#)) that he believes the principles should be incorporated into legislation and quoted Gandhi in stating that “The greatness of a nation and its moral progress can be judged by the way its animals are treated.” He continued that “it is not moral to pepper our land with stink pits to lure animals to an excruciating death by snare in the name of wildlife management; it is not moral to allow grown men and women to continue to chase a fox to exhaustion in the name of wildlife management; and it is not moral to purge thousands of wild animals and birds in a circle of destruction in the name of wildlife management, perversely to protect other species so that we can kill them for sport”. Smyth believes that fully incorporating the principles would be world-leading and demonstrate moral progress that all of Scotland can be proud of.

4. Conclusions

A review of the current position indicates that the principles already exist, to some extent, as a backdrop to wildlife management legislation and policy in Scotland but highlights that the full incorporation of the recognised framework would assist in offering a structure against which to assess the potential implications of wildlife management decisions in both legislation and policy moving forward. Mark Ruskell MSP commented during the Motion debate ([The Scottish Parliament 2022b](#)) that the principles not only hold a mirror up to our relationship with the natural world and highlight where wildlife management has moved to a better footing but also point out where traditional and often unscientific practices are, unfortunately, still the norm. He highlighted that there have been numerous wildlife reviews led by eminent chairs of late: Poustie on wildlife crime and sentencing ([The Scottish Government 2015](#)); Werrity ([The Scottish Government 2019a](#)) on driven grouse

moors; Bonomy on hunting with wild dogs ([The Scottish Government 2016](#)). Each has moved the dial slightly in terms of wildlife management improvements, but there is still a need for a consistent approach.

This review of the Hunting with Dogs (Scotland) Bill and subsequent Act has identified that opportunities were missed to tie the legislation to the principle framework and effect better alignment. Whilst no opportunity now exists to amend the wording of The Act to bring it more in line with the principles, it is not too late for the Scottish Government, assisted by NatureScot, to release guidance on the principles, how they interact with The Act, and the expectations on those seeking to manage and control wildlife from an ethical perspective. There may be merit in taking a further look towards Canada and following the BC SPCA's lead in terms of the introduction of an accredited program, albeit one designed for those involved in wildlife management across Scotland. This could be accompanied by the introduction of a clear set of standards based on the principles to direct and monitor wildlife control activities. In any case, it is particularly important to ensure that the licensing scheme for The Act is closely monitored to ensure that it and the accompanying application process are robust and fit for the intended purpose, which is ultimately the ethical control of wildlife management.

Opportunities exist in Scotland to use the principle framework to assess future legislation and policy to ensure that any wildlife management activities are ethical, take cognisance of legally recognised animal sentience, and offer no detriment to existing ecosystems. It is insufficient to simply commit to gaining an understanding of how the principles may sit alongside the Scottish Government's programme of work, and, as stated above, it is difficult to imagine a more effective framework based on the expertise involved in developing these principles. As Smyth stated, "We can, we should, and we need, to go further" ([The Scottish Parliament 2022b](#)).

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