



The moral residue of conservation

Chelsea Batavia ^{1*} Michael Paul Nelson,¹ and Arian D. Wallach ²

¹Department of Forest Ecosystems and Society, Oregon State University, 321 Richardson Hall, Corvallis, OR 97331, U.S.A.

²Centre for Compassionate Conservation, Faculty of Science, University of Technology Sydney, Ultimo NSW, 2007, Australia

Abstract: Should conservationists use lethal management to control introduced wildlife populations? Should they kill individual animals to protect endangered species? Are trade-offs that prioritize some values at the expense of others morally appropriate? These sorts of ethical questions are common in conservation. In debating such questions, conservationists often seem to presume 1 of 2 possible answers: the act in question is right or it is wrong. But morality in conservation is considerably more complex than this simple binary suggests. A robust conservation ethic requires a vocabulary that gives voice to the uncertainty and unease that arise when what seems to be the best available course of action also seems to involve a measure of wrongdoing. The philosophical literature on moral residue and moral dilemmas supplies this vocabulary. Moral dilemmas arise when one must neglect certain moral requirements to fulfill others. Under such circumstances, even the best possible decision leaves a moral residue, which is experienced emotionally as some form of grief. Examples of conservation scenarios that leave a moral residue include management of introduced rabbits in Australia, trophy hunting in Africa, and forest management trade-offs in the Pacific Northwest. Moral residue is integral to the moral experience of conservationists today, and grief is an appropriate response to many decisions conservationists must make.

Keywords: moral residue, moral dilemmas, conservation ethics, invasive species, trophy hunting, tradeoffs, grief, emotion

El Residuo Moral de la Conservación

Resumen: ¿Los conservacionistas deberían usar técnicas de manejo letal para controlar las poblaciones de fauna introducida? ¿Deberían matar animales individuales para proteger a las especies en peligro? Este tipo de preguntas éticas son comunes en la conservación. Cuando se debaten dichas preguntas, los conservacionistas parecen suponer una de dos respuestas posibles; la acción cuestionada está bien o está mal, pero la moral en la conservación es considerablemente más compleja de lo que sugiere esta simple respuesta binaria. Una firme ética de la conservación requiere un vocabulario que le proporcione voz a la incertidumbre y a la inquietud que surgen cuando lo que parece ser el mejor plan de acción disponible también parece involucrar medidas indebidas. La literatura filosófica sobre el residuo y los dilemas morales suministra este vocabulario. Los dilemas morales emergen cuando se deben desatender ciertos requerimientos morales para cumplir con otros. Bajo dichas circunstancias, incluso la mejor decisión posible deja un residuo moral, el cual se vive como alguna manifestación de aflicción. Algunos ejemplos de escenarios de conservación que dejan un residuo moral son el manejo de conejos introducidos en Australia, la caza deportiva en África y las compensaciones del manejo de bosques en el noroeste del Pacífico. El residuo moral es muy importante para la experiencia moral de los conservacionistas hoy en día, y la aflicción es una respuesta adecuada a muchas decisiones que los conservacionistas deben tomar.

Palabras Clave: aflicción, caza de trofeos, compensaciones, dilemas morales, especie invasora, ética de la conservación, residuo moral, sentimiento

摘要: 保护主义者应该通过捕杀管理来控制外来野生动物种群吗? 他们应该杀死个别动物以保护濒危物种吗? 以牺牲一些动物为代价来优先考虑某些价值的利弊权衡在道德上恰当吗? 以上都是保护中常见的伦理问题。在争论这些问题时, 保护主义者似乎总是认为以上讨论的行为非对即错。然而, 保护的道德比这样简单的二元关系复杂得多。稳健的保护伦理需要能够表达不确定性和心理不适, 这些不确定性和心理不适通常来自于看似最

*Address correspondence to C. Batavia, email cbatavia@oregonstate.edu

Article impact statement: Defensible conservation decisions may neglect moral requirements, leaving a moral residue; conservationists should respond with grief.

Paper submitted November 6, 2019; revised manuscript accepted January 11, 2020.

优的行动方针仍可能涉及一定程度的不道德行为的情况。而哲学文献则为道德后遗症和道德困境提供了相应的表达方式。当一个人必须忽视某些道德要求来满足其他要求时,就会产生道德困境。在这种情况下,即使是最好的决定也会留下道德上的后遗症,这在情感上表现为某种形式的悲伤。例如,在澳大利亚对外来兔子种群进行管理、在非洲进行竞技狩猎以及太平洋西北地区森林管理的权衡,都是可能产生道德后遗症的保护情景。道德后遗症是当今保护主义者道德体验的一部分,同时,悲伤是对保护主义者必须做出的许多决策的适当回应。

【翻译:胡怡思; 审校:聂永刚】

关键词: 道德后遗症, 道德困境, 保护伦理, 入侵物种, 竞技狩猎, 权衡, 悲伤, 情感

Introduction

In September 2013, wildlife biologists with the U.S. Fish and Wildlife Service began shooting Barred Owls (*Strix varia*) in a trial management program designed to reduce competition with the federally listed Northern Spotted Owl (*Strix occidentalis*) in the U.S. Pacific Northwest (PNW) (OFW 2019). The experiment is slated to continue through 2021, but trial results suggest removing Barred Owls may stabilize local Northern Spotted Owl populations under certain conditions (OFW 2019). Whatever its scientific conclusions, ethically the experiment creates unease. Media images of dead Barred Owls, bodies neatly arranged side by side, cloud what might otherwise seem a clear point of ethical consensus among conservationists; namely, that they ought to promote the recovery of threatened species. At the time of writing, 2435 Barred Owls have been killed in service of this goal (OFW 2019). Ethically, how should one make sense of this? The question is important because conservation is riddled with such moral conflicts.

Morality is often couched in binary terms: an act is right or it is wrong. However, an extensive philosophical literature considers the possibility that morality may better be characterized along a continuum between these 2 poles, with the unsettling implication that it may, at times, be impossible to act without committing some amount of moral wrongdoing. This realization opens up new horizons of moral experience, which, we suggest, are integral to the moral landscape of conservation today.

To navigate these challenging moral horizons, conservationists need a nuanced ethic that allows them to recognize right and wrong do not exhaust the moral qualities an act may assume and that integrates thought and action with feeling in its account of moral agency. The philosophical literature on moral dilemmas and moral residue contributes critical insights for such a conservation ethic. Our aim is to supply a vocabulary that will help conservationists relinquish naïve expectations for moral clarity and instead grapple with the unavoidably complex moral topography of their work.

Philosophical Background

To explain moral dilemmas, we return to owls in the PNW. Consider 2 inferences, each composed of 2

premises (P) and culminating in a practical conclusion (C) that makes a moral prescription for action.

First: P1. Barred Owls are sentient organisms. P2. Conservationists ought not infringe on the vital interests of sentient organisms. C1. Therefore, conservationists ought not infringe on the vital interests of Barred Owls.

Second: P3. The Northern Spotted Owl is a threatened species. P4. Conservationists ought to protect threatened species. C2. Therefore, conservationists ought to protect the Northern Spotted Owl.

Each of these deductively valid arguments begins with a descriptive statement of fact (P1/P3) and proceeds to a normative statement about how conservationists ought to act (P2/P4). In both arguments, both premises are appropriate, at face value, as moral claims (DesJardins 2001). Thus, there are 2 justified conclusions, each pointing to an actionable prescription for morally appropriate conduct.

The challenge arises under the following condition: P5. Conservationists can only protect the Northern Spotted Owl by infringing on the vital interests of Barred Owls. If this fifth premise is true, it seems conservationists are at a practical impasse, recognizing 2 moral requirements yet finding they cannot fulfill both. Medieval scholars would have referred to such an impasse as a perplexity (Dougherty 2011). Philosophers today would call it a moral dilemma.

A moral dilemma is a situation in which one morally ought to do 2 (or more) things, but cannot do both (Gowans 1987). As such, when facing a moral dilemma, a person is forced to act in a way that neglects or actively violates at least one of their moral requirements. Moral dilemmas have historically generated extensive philosophical debate; some philosophers dispute dilemmas even exist (Gowans 1987; Mason 1996). These philosophers generally understand *ought* as a word that conveys a prescription for action: what morally ought to be done practically must be done. They also understand morality as an inherently rational system that will never demand the impossible of human action because demanding the impossible is irrational (Donagan 1984; MacIntyre 1990; Gowans 1994). The existence of moral dilemmas suggests that, in some cases, morality does demand the impossible, by necessitating that one acts on 2 mutually incompatible moral requirements. For

this reason, the argument goes, moral dilemmas must not exist (McConnell 1976; Connee 1982).

In response, other philosophers have pointed out that the meaning of *ought* is not only or inherently prescriptive (i.e., *ought* does not necessarily point to the action one should take in any given situation). *Ought* may also simply point to something of moral value or importance. For example, *I ought to clean the house* may mean, prescriptively, I should go clean the house right now. In this sense, *I ought to clean the house and I ought to wash the car* suggest I believe I should both be cleaning the house and washing at the car at this moment (Gowans 1994). Assuming it is impossible to do both tasks simultaneously, this statement is contradictory and therefore irrational. Alternatively, *I ought to clean the house* may mean cleaning the house is a good thing to do. With this meaning of *ought*, *I ought to clean the house and I ought to wash the car* simply acknowledges multiple worthwhile tasks. In this sense, it is possible to acknowledge that moral dilemmas arise, when one ought to do multiple mutually incompatible things, without the problematic implication that morality may demand the impossible (Foot 1983; Sinnott-Armstrong 1987; Gowans 1994; Tessman 2014). However, the argument that moral dilemmas exist comes with its own troubling implications; namely, that well-intentioned and otherwise faultless agents may at times find themselves in situations where wrongdoing is inescapable (Gowans 1994; Tessman 2010). Under these circumstances one may make the best possible decision and defend it as such yet still not engage in entirely right action if the decision fails to attend to something of moral importance (Hursthouse 2001).

To explain this discrepancy between defensible decision and right action, many philosophers argue that decisions in a moral dilemma can only be made with moral “remainder” or “residue” (e.g., Williams & Atkinson 1965; Marcus 1980; Greenspan 1995). *Moral residue* refers to the moral requirements that are left unfulfilled in morally dilemmatic situations. Put differently, residue is a reflection of (partial) moral failure. To return to the owl example, some conservationists may believe killing Barred Owls is justified if it can save Northern Spotted Owls because they believe their obligation to protect a threatened species in its native range is greater than their obligation to preserve the lives of individual animals outside their native range. However, the greater weight placed on the former obligation does not annul the latter obligation. The premise that conservationists ought not infringe on the vital interests of living individuals still stands. This ought is the moral residue of a defensible conservation decision that falls short of wholly right action.

Although an unfulfilled requirement that has been practically overridden (i.e., a moral residue) serves no prescriptive or action-guiding purpose, the agent continues to recognize it and, importantly, feel it as something

that ought to have been done (Gowans 1994; Greenspan 1995; Marino 2001). This experience of moral residue is described as an uncomfortable emotional response, which philosophers characterize variably, using terms such as *guilt*, *sadness*, *anger*, *shame*, *remorse*, *regret*, or *moral distress* (Gowans 1994; Greenspan 1995; Swedene 2005; Tessman 2014). Each of these emotions may have a place in conservation ethics. However, for a generic term we suggest *grief*, which captures the intractability and acute sense of loss often associated with moral residue in conservation.

Moral Residue in Conservation

Moral philosophers offer different accounts to explain how or why moral residue may arise in everyday life. We considered 3 such accounts and accompanying conservation examples. These examples illustrate the types of conservation problems that lack categorically right solutions. Under such circumstances, we suggest conservationists resist thinking about morality in clean, binary terms of right or wrong and acknowledge the moral residue of their actions.

Legacy of Moral Wrongdoing and the Case of Introduced Rabbits in Australia

The first account of moral residue is rooted in the religious philosophy of Medieval scholar Thomas Aquinas, specifically his concept of “perplexity *secundum quid*.” Perplexity *secundum quid* (i.e., a dilemma “of a certain sort”) refers to moral conflict that arises because a moral agent has committed some previous moral error (Dougherty 2011). Aquinas’ reasoning can be illustrated by analogy to Fibonacci’s sequence, in which each number is the sum of the previous 2 (i.e., 0, 1, 1, 2, 3, 5, 8, etc.). The sequence unfolds correctly as long as one follows this simple rule. However, consider what happens if one breaks the rule at step 5 by, for example, adding all the numbers currently listed (i.e., 0, 1, 1, 2, 4). After breaking the rule, one cannot calculate the correct number at step 6 simply by reinstating the original rule. At least 2 additional steps of deviant calculations are required to reset the system (e.g., add the second and fifth numbers in step 6, and add all but the sixth number in step 7, yielding 0, 1, 1, 2, 4, 5, 8).

Some philosophers argue morality is a system similarly governed by a set of principles. Although external circumstances or even simple bad luck may give rise to dilemmas, morally right action is generally within reach if a person acts in accord with these principles. However, once a person commits a moral wrong by violating the principles of morality, further moral wrongdoing becomes unavoidable (Donagan 1984; Dougherty 2011). As with the numerical sequence above,

perhaps one recognizes a requirement to redress the original violation yet finds the original violation cannot be redressed without violating other principles. This is problematic because one also recognizes a requirement to uphold these other principles. Under such circumstances, any available course of action fails to fulfill some requirement and therefore leaves a moral residue.

Humans have a history of species introductions with unforeseen and, for some, undesirable consequences. For example, as early as 1806, efforts were made to establish a population of European rabbits (*Oryctolagus cuniculus*) in Australia to provide meat and targets for sport hunting to European colonies (Rolls 1969). By the mid-19th century rabbits had established across large parts of the country, in an introduction so successful that, within a few years, they were declared vermin (Rolls 1969). Rabbits contribute to vegetation loss under certain ecological conditions and bolster populations of introduced predators (wild cat [*Felis catus*] and red fox [*Vulpes vulpes*]), which are implicated in the extinction of endemic small mammals. In attempts to halt and reverse these impacts, the myxomatosis virus was introduced to Australia's rabbit population in 1950, causing ~90% population declines in some regions (Rolls 1969). However, Australian rabbits rapidly developed immunity to the disease, and populations recovered. Two strains of rabbit calicivirus have since been introduced to Australia (Strive & Cox 2019), and rabbits are also killed by poison baiting, warren ripping, trapping, and shooting. Meanwhile, the use of myxomatosis to control nonnative rabbit populations spurred the spread of the disease into Europe, contributing to the decline of rabbits in their native range on the Iberian Peninsula (Lees & Bell 2008), where the species is endangered (Villafuerte & Delibes-Mateos 2019). Today only ~10% of the rabbits' range is in Iberia, whereas ~60% of their range is in Australia (Wallach et al. 2020).

Arguably the initial introduction of rabbits to Australia was morally wrong in that it manifested hubristic and self-serving intentions and disregarded the potential for adverse effects on local species (and on the rabbits themselves). Although conservationists today are not responsible for the original introduction, they have inherited a moral and ecological system in which their moral agency is constrained by a legacy of anthropogenic wrongdoing. Conservationists generally recognize a moral obligation to protect and promote the flourishing of all species, including the European rabbit. Many also affirm the intrinsic value of all individual organisms (Lute et al. 2018). Still, many conservationists defend eradication as the right course of action overall, based on the belief that inaction against introduced rabbit populations would signify resignation and assent to broader ecological degradation in Australia. However, even if eradication programs achieve their goals, the achievement is tempered by the moral

costs it incurs. Put simply, every rabbit killed in the name of conservation leaves a moral residue.

Moral Binds of Oppression and the Case of Trophy Hunting in Africa

Philosopher Lisa Tessman argues morally dilemmatic situations are ubiquitous under conditions of oppression. Drawing on feminist philosophy exposing the social norms, values, and institutions that privilege certain (white, male, upper class) groups at the expense of others, Tessman (2010) argues society is fundamentally oriented toward injustice. Under these conditions, she writes, moral agents face a "special, systemic sort of dilemmaticity" (Tessman 2010:802). For oppressed persons, even basic survival at times requires violating moral prohibitions. Acts of resistance or subversion may aim to create a just world, but they also create unrest, with potentially adverse impacts. Participating in the system, meanwhile, maintains the social order and may even protect cherished goals, but it also signifies complicity and perpetuates the status quo. Thus, across a spectrum of power and social positions, moral agents in an oppressive system cannot act without some measure of wrongdoing.

Although feminists often focus on differentials of power and privilege attached to human social identities (e.g., race, gender, and class), many ecofeminist philosophers also highlight species membership as a form of identity, arguing humans are a privileged group that maintains power by the exploitation of nonhumans (Adams & Gruen 2014). In this light, conservation, which negotiates relationships across both (human) social and multi-species domains, sits at a particularly pernicious nexus of oppression. Recent scholarship foregrounds both tensions and synergies between justice for humans and justice for nonhuman nature (Shoreman-Ouimet & Kopnina 2015; Washington et al. 2018). More commonly, however, only the tensions are emphasized, in a dominant narrative of conflict that generally serves to perpetuate oppressive norms and established hierarchies (Kymlicka & Donaldson 2014). Absorbed in the dilemma (real or perceived) of the immediate decision context, conservationists fail to push for the radical, systemic change that is arguably required to achieve justice for human and nonhuman beings (Nibert 2002; Büscher & Fletcher 2019).

Trophy hunting has been championed for its ability to generate funds that support both wildlife conservation and local community welfare. Trophy hunting is used in several African countries, and in some contexts beneficial outcomes have been attributed to it. For example, trophy hunting has been associated with stable or even increasing wildlife populations (e.g., Nelson et al. 2013), and it provides income and employment in some communities (Angula et al. 2018). These are both goals the

conservation community ought to promote. At the same time, though, humans ought not kill and dismember sentient, sapient, and social animals (Batavia et al. 2019). In this light, trophy hunting seems to present a classic dilemma. Conservationists can either reject the practice, depriving people of livelihood benefits and jeopardizing the persistence of threatened species, or accept it, condoning the death and defilement of individual animals. Neither decision is without residue.

However, a more complex picture emerges by locating trophy hunting at the intersection of injustices against oppressed human and nonhuman groups. Trophy hunting is sometimes presented as an essential pillar of African conservation strategies and sustainable community development (Macdonald et al. 2016; Dickman et al. 2019), a narrative that depicts the West as the salvation of Africa (Garland 2008) while preserving the material conditions for oppression on multiple fronts. Trophy hunting is used to reverse the decimation of wildlife populations by the death and desecration of individual wildlife, exemplifying the (oppressive) anthropocentric values that arguably precipitated the decline of Africa's wildlife in the first place (Chibvongodze 2016). Where local communities benefit from trophy hunting, their livelihoods remain dependent on Western patronage, reproducing social and moral hierarchies that were erected in colonial times (Yufanyi Movuh 2012). Where trophy hunting provides few or no benefits to local communities, the practice fails to alleviate neocolonial conditions of poverty, corruption, and exploitation (e.g., Benjaminsen & Svarstad 2010; Wilfred et al. 2019). Meanwhile, Western opposition to trophy hunting is dismissed as antiscientific and emotional (Macdonald et al. 2016; Dickman et al. 2019). The critique is ironic because the appeal to science in this case aims to delegitimize purportedly feminine (emotional) ways of knowing, thereby invoking the same patriarchal logic used to validate the colonial and anthropocentric injustices underlying Africa's wildlife and humanitarian crises and reified in the act of trophy hunting (Batavia et al. 2019).

Arguably, a just and effective conservation program in Africa requires a transformation of conservation thought and practice (Batavia et al. 2019), yet calls for such a radical reimagining are met by social, moral, and emotional censure. At the same time, there is a nontrivial concern that expressed opposition to trophy hunting has so far been dominated by Western voices, although the policies in question most directly affect African people. This concern potentially implicates critics of trophy hunting in neocolonial structures as well. In short, for conservationists attempting to navigate the ethical morass of trophy hunting, it is not clear any path forward may be forged without residue.

Responsibilities to Persons and the Case of Federal Forest Management in the PNW

The final account of residue reflects the personal and inherently relational nature of morality. Abstracted philosophical principles (e.g., Do not steal.) are essential to regulate social conduct. However, in lived experience humans exercise moral agency in relation to actual, unique, and intrinsically valued others (Gowans 1994). From these relations of love, respect, vulnerability, and dependency (MacKenzie 2014) emerge unique and distinctive "responsibilities to persons" (Gowans 1994). Humans strive to uphold all their responsibilities but inevitably fail at times, particularly when they move within diverse and populous moral communities (Walker 1989; Gowans 1994). And because responsibilities extend to "particular flesh and blood others for whom we have actual feelings in our insides and in our skin" (Held 1987:118), any failing with regard to our responsibilities carries—and should carry—an emotional toll.

Although one's deepest responsibilities are usually rooted in intimate relationships (family or friends), the repercussions of one's choices in a globalized, hyperconnected world affect many others outside one's immediate social sphere. Moral life integrates responsibilities at different geographic and temporal scales, between species, and across levels of social and biological organization (i.e., individual and collective). Enmeshed in such a vast web of relationships, it is exceedingly difficult to nurture and fulfill all of one's attendant responsibilities. In this way humans, including conservationists, are "entangled" within an intricate moral ecology (Gruen 2014) in which relationships engender responsibilities and responsibilities beget moral residue.

Forests are hubs of relationships. They support a substantial proportion of the planet's terrestrial biodiversity (Myers et al. 2000) and create a range of goods and meanings for humans. As such, forest conservation often occurs in a multiple-use context. For example, federal forests in the U.S. PNW are governed by a landscape-scale conservation strategy called the Northwest Forest Plan, which allows for a mixture of land uses including active management (i.e., timber production) and forest preservation in efforts to balance a plurality of regional values, including timber, wildlife habitat, water supply, and recreation (Thomas et al. 2006). Many of these forests are also significant at a global scale due to their immense capacity to sequester and store carbon and, thus, their potential to mitigate global climate change (Harmon & Campbell 2017). In the moist temperate rainforests of the PNW, this agenda is most effectively served by abstaining from harvest (Harmon & Campbell 2017).

The human agents responsible for federal forest governance in the PNW also steward these forests' vast networks of relationships. Because PNW forests integrate

so many interests across spatial and temporal scales, in many cases any course of action or inaction will harm certain individuals. For example, a recently proposed commercial thinning in Willamette National Forest was designed to increase forest heterogeneity and early successional habitat, decrease long-term fire risk, and create jobs in local communities (USFS 2018). However, past research shows thinning reduced total carbon storage in western Oregon forests (Burton et al. 2013), a loss that is not necessarily offset by reduced future fire severity (Campbell et al. 2012). Although the management agency “acknowledge[d] the trade-off,” they also pointed out that “the intent of the project is not maximizing carbon, but to promote biodiversity by increasing landscape diversity” (USFS 2018:422). Practically, the justification makes sense: in a multiple-use context it is impossible to achieve every objective in every action. Ethically, nonetheless, it is critical to realize that such trade-offs are not merely analytical categories or abstracted states of affairs. Trade-offs affect people.

For example, in September 2019, teenage activist Greta Thunberg stood before the United Nations and scolded a group of international policy makers for stealing her childhood and jeopardizing her future by failing to take meaningful action against climate change. Thunberg is one face and one name out of the countless victims of climate change who find their pressing interests neglected by any decision that prioritizes other ecological or economic objectives over carbon storage in PNW forests. Of course, the reverse is also true: by prioritizing carbon storage and sequestration, certain interests would be protected and others would not.

Thus, forest management and conservation in a multiple-use context are ethically contested in ways that should not be underplayed or overlooked. Although the practical necessity of trade-offs is widely acknowledged, “the necessity of acting . . . should not lead us to repudiate our understanding of the ways in which persons are valuable” (Gowans 1994:127). The right decision may be the one that equally frustrates all interests, as per the hardened management adage, but it is a mistake to believe these frustrations carry no moral costs. Trade-offs leave a moral residue.

What Must Be Done

Our recommendation is simple yet challenging: conservationists should be emotionally responsive to the ethical terrain they traverse, by both seeing and sitting with the moral residue of their work. Feelings of grief are commensurate with acts of harm. Apathy or indifference is not. To harden the heart may be palliative in a field that often necessitates hard choices. However, such emotional defenses are maintained only with callousness, to the forfeiture of compassion. Conservationists at least owe

the honor of acknowledgment to victims of their decisions: every owl and rabbit; every person, species, and community, human and nonhuman alike.

To recognize residue is to recognize the human capacity for care often exceeds the capacity for action. Even if conservationists believe they have made the best possible decision in morally contested situations, they still can and should be generous with their feelings. These feelings act as tethers to abiding notions of what is good and of value in the world, notions that may otherwise be silenced or subsumed to the practical and political requirements of decision making. In this way, grief may help conservationists retain moral integrity.

One may question whether conservationists can intentionally open themselves to grief. Research suggests they can. Although humans are generally motivated to experience positive affective states, emotions are also motivated by instrumental goals, including accurate knowledge and meaning in life (Tamir 2016). Grief, as a morally appropriate emotional response to moral residue, is consistent with both goals. Compassion can be actively cultivated (Weng et al. 2013), and mindfulness training can heighten overall awareness of suffering (Rosenberg et al. 2015). However, emotion involves both awareness and evaluation: an emotional response to X requires one to somehow value and concern oneself with X (Helm 2009). Some values are well established and noncontroversial for conservationists, for example, human well-being (Millennium Ecosystem Assessment 2005) and biodiversity writ large (United Nations 1992). Other values are more highly contested, for example, the value of individual nonhuman animal lives (Wallach et al. 2018). As part of their training, conservationists should be exposed to the breadth of arguments about value in nature (e.g., DesJardins 2001) and equipped with intellectual tools to critically evaluate these arguments. Meanwhile, socially or professionally normalized labels, for example, of living organisms as trophies, pests, or natural resources should be critically interrogated, along with euphemistic language that fosters emotional disengagement (e.g., *wildlife control*, *harvest*, *trade-off*).

Our recommendations may be met with some skepticism. Grief does not do anything, after all, so what is the point of suffering? First, we question the claim that grief achieves nothing. Just as physical pain provides critical feedback to the body, emotional pain may also be an adaptive behavioral cue. The emotional burden of moral residue may motivate conservationists to rearrange the world so they may avoid inescapable wrongdoing in the future (Marcus 1980). In the immediate decision context, this means working harder to identify creative or unconventional conservation strategies before settling for tactics that carry a high moral cost (Macintyre 1990). Over the longer term, grief or other residual moral emotions may catalyze conservationists to push for the structural and institutional transformations that are arguably

required to effect meaningful change (Marino 2001). These are hypotheses that merit investigation.

But we also challenge the allegation that grief must achieve anything to be worthwhile. The literature on residue highlights that feelings themselves can be morally appropriate or inappropriate. On this account, emotion is not merely informative or reactive, but integral to the moral quality of the act. If emotion is intrinsic to moral life, then we contend it is grossly inappropriate to perpetrate harm with indifference or self-satisfaction. Simply put, one should not make hard choices with certainty and a serene conscience. Such choices are—and should be—“gut-wrenching” (Le 2019).

We do not, however, endorse emotion as a salve for the conscience, an ethical safety net, or a rhetorical ploy. Feeling bad does not liberate or excuse conservationists from making best efforts to avoid moral wrongdoing altogether. In some cases right action is within reach. For example, beehive fencing in Gabon can deter crop-raiding elephants, a nonlethal solution that decreases human–elephant conflict while yielding economic benefits for human communities (Ngama et al. 2016). Conservationists should strive for these sorts of moral successes, and celebrate them as such. Conversely, it is important to differentiate moral residue from wrong action. For example, in many cases introduced rabbit populations in Australia are resilient to conservationist’s efforts at long-term control (Strive & Cox 2019). Researchers have also found that population reduction does not necessarily achieve desired ecological effects (e.g., Scroggie et al. 2018). Under these circumstances, continuing an ineffective program that perpetrates mass violence and at times cruelty against rabbits is not a right decision with residue. It is simply wrong.

However, between the poles of pure moral triumph and abject moral failure is an extensive gray zone in which even defensible decisions carry some moral cost. Grief, we suggest, is an appropriate disposition to adopt within this zone. What we offer is not a solution. Grief is a response, and perhaps a way for conservationists to steady themselves upright in a consummately perplexing moral space. Conservationists live in a world of wounds, as Leopold (1966) observed decades ago. To remain emotionally aloof may dull the pain, but only at the cost of our integrity, our morality, and our humanity.

Acknowledgment

C.B. is funded by the National Science Foundation’s Long-Term Ecological Research Program at the H.J. Andrews Experimental Forest (DEB 1440409).

Literature Cited

- Adams CJ, Gruen L, editors. 2014. *Ecofeminism: feminist intersections with other animals and the earth*. Bloomsbury, New York.
- Angula HN, Stuart-Hill G, Ward D, Matongo G, Diggle RW, Naidoo R. 2018. Local perceptions of trophy hunting on communal lands in Namibia. *Biological Conservation* **218**:26–31.
- Batavia C, Nelson MP, Darimont CT, Paquet PC, Ripple WJ, Wallach AD. 2019. The elephant (head) in the room: a critical look at trophy hunting. *Conservation Letters* **12**:e12565.
- Benjamin TA, Svarstad H. 2010. The death of an elephant: conservation discourses versus practices in Africa. *Forum for Development Studies* **37**:385–408.
- Burton JI, Ares A, Olson DH, Puettmann KJ. 2013. Management trade-off between aboveground carbon storage and understory plant species richness in temperate forests. *Ecological Applications* **23**:1297–1310.
- Büscher B, Fletcher R. 2019. Towards convivial conservation. *Conservation & Society* **17**:283–296.
- Campbell JL, Harmon ME, Mitchell SR. 2012. Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions? *Frontiers in Ecology and the Environment* **10**:83–90.
- Chibvongodze DR. 2016. Ubuntu is not only about the human! An analysis of the role of African philosophy and ethics in environmental management. *Journal of Human Ecology* **53**:157–166.
- Connee E. 1982. Against moral dilemmas. *The Philosophical Review* **91**:87–97.
- DesJardins JR. 2001. *Environmental ethics: an introduction to environmental philosophy*. Wadsworth, Belmont, California.
- Dickman A, Cooney R, Johnson PH, Louis MP, Roe D. 2019. Trophy hunting bans imperil biodiversity. *Science* **365**:874.
- Donagan A. 1984. Consistency in rationalist moral systems. *The Journal of Philosophy* **81**:291–309.
- Dougherty MV. 2011. *Moral dilemmas in medieval thought from Gratian to Aquinas*. Cambridge University Press, New York.
- Foot P. 1983. Moral realism and moral dilemma. *The Journal of Philosophy* **80**:379–398.
- Garland E. 2008. The elephant in the room: confronting the colonial character of wildlife conservation in Africa. *African Studies Review* **51**:51–74.
- Gowans CW. 1987. *Moral dilemmas*. Oxford University Press, New York.
- Gowans CW. 1994. *Innocence lost: an examination of inescapable moral wrongdoing*. Oxford University Press, New York.
- Greenspan PS. 1995. *Practical guilt: moral dilemmas, emotions, and social norms*. Oxford University Press, New York.
- Gruen L. 2014. Facing death and practicing grief. Pages 127–141 in Adams CJ, Gruen L, editors. *Ecofeminism: feminist intersections with other animals and the earth*. Bloomsbury, New York.
- Harmon ME, Campbell JL. 2017. Managing carbon in the forest sector. Pages 161–173 in Olson DH, Can Horne B, editors. *People forests and change: lessons from the Pacific Northwest*. Island Press, Washington, D.C.
- Held V. 1987. Feminism and moral theory. Pages 111–128 in Kittay EF, Meyers DT, editors. *Women and moral theory*. Rowman & Littlefield, Totowa, New Jersey.
- Helm BW. 2009. Emotions as evaluative feelings. *Emotion Review* **1**:248–255.
- Hursthouse R. 2001. *On virtue ethics*. Oxford University Press, Oxford, United Kingdom.
- Kymlicka W, Donaldson S. 2014. Animal rights, multiculturalism, and the left. *Journal of Social Philosophy* **45**:116–135.

- Le P. 2019. Owl killings spur moral questions about human intervention. Associated Press, New York. Available from <https://apnews.com/69730cac7ade4f73b36f4c59a0e7dea7> (accessed January 2020).
- Lees AC, Bell DJ. 2008. A conservation paradox for the 21st century: the European wild rabbit *Oryctolagus cuniculus*, an invasive alien and an endangered native species. *Mammal Review* **38**:304–320.
- Leopold A. 1966. A Sand County almanac, with essays on conservation from Round River. Ballantine, New York.
- Lute ML, Carter NH, López-Bao J, Linnell JDC. 2018. Conservation professionals agree on challenges to coexisting with large carnivores but not on solutions. *Biological Conservation* **218**:223–232.
- Macdonald DW, Johnson PJ, Loveridge AJ, Burnham D, Dickman AJ. 2016. Conservation or the moral high ground: siding with Bentham or Kant. *Conservation Letters* **9**:307–308.
- Macintyre A. 1990. Moral dilemmas. *Philosophy and Phenomenological Research* **50**:367–382.
- Mackenzie C, editor. 2014. *Vulnerability: new essays in ethics and feminist philosophy*. Oxford University Press, New York.
- Marcus RB. 1980. Moral dilemmas and consistency. *The Journal of Philosophy* **77**:121–136.
- Marino P. 2001. Moral dilemmas, collective responsibility, and moral progress. *Philosophical Studies* **104**:203–225.
- Mason HE, editor. 1996. *Moral dilemmas and moral theory*. Oxford University Press, New York.
- McConnell TC. 1976. Moral dilemmas and requiring the impossible. *Philosophical Studies* **29**:409–413.
- Millennium Ecosystem Assessment. 2005. *Ecosystems and human well-being: synthesis*. Island Press, Washington, D.C.
- Myers N, Mittermeier RA, Mittermeier CG, da Fonesca GAB, Kent J. 2000. Biodiversity hotspots for conservation priorities. *Nature* **403**:853–858.
- Nelson F, Lindsey P, Balme G. 2013. Trophy hunting and lion conservation: a question of governance? *Oryx* **47**:501–509.
- Ngama S, Korte L, Bindelle J, Vermeulen C, Poulsen JR. 2016. How bees deter elephants: beehive trials with forest elephants (*Loxodonta Africana cyclotis*) in Gabon. *PLOS ONE* **11**(e0155690) <https://doi.org/10.1371/journal.pone.0155690>.
- Nibert D. 2002. *Animal rights/human rights: entanglements of oppression and liberation*. Rowman & Littlefield, Lanham, Maryland.
- OFW (Oregon Fish and Wildlife Office). 2019. Barred owl study update. U.S. Fish and Wildlife Service, Portland, Oregon. Available from <https://www.fws.gov/oregonfwo/articles.cfm?id=149489616> (accessed November 2019).
- Rolls EC. 1969. They all ran wild: the story of pests on the land in Australia. Angus & Robertson, Sydney, Australia.
- Rosenberg EL, et al. 2015. Intensive meditation training influences emotional responses to suffering. *Emotion* **15**:775–790.
- Scroggie MP, Forsyth DM, McPhee SR, Matthews J, Stuart IG, Stamation KA, Lindeman M, Ramsey DSL. 2018. Invasive prey controlling invasive predators? European rabbit abundance does not determine red fox population dynamics. *Journal of Applied Ecology* **55**:2621–2631.
- Shoreman-Ouimet E, Kopnina H. 2015. Reconciling ecological and social justice to promote biodiversity conservation. *Biological Conservation* **184**:320–326.
- Sinnott-Armstrong W. 1987. Moral dilemmas and ‘ought and ought not.’ *Canadian Journal of Philosophy* **17**:127–140.
- Strive T, Cox TE. 2019. Lethal biological control of rabbits—the most powerful tools for landscape-scale mitigation of rabbit impacts in Australia. *Australian Zoologist* **40**:118–128.
- Swedene JK. 2005. Feeling better about moral dilemmas. *Journal of Moral Education* **34**:43–55.
- Tamir M. 2016. Why do people regulate their emotions? A taxonomy of motives in emotion regulation. *Personality and Social Psychology Review* **20**:199–222.
- Tessman L. 2010. Idealizing morality. *Hypatia* **25**:797–824.
- Tessman L. 2014. *Moral failure: on the impossible demands of morality*. Oxford University Press, New York.
- Thomas JW, Franklin JF, Gordon J, Johnson KN. 2006. The Northwest Forest Plan: origins, components, implementation experience, and suggestions for change. *Conservation Biology* **20**:277–287.
- United Nations. 1992. *Convention on biological diversity*. United Nation, New York. Available from <https://www.cbd.int/convention/text/> (accessed November 2019).
- USFS (U.S. Forest Service). 2018. Final environmental impact statement: Hwy 46 project. USFS, Detroit, Oregon. Available from <https://www.fs.usda.gov/project/?project=47109> (accessed November 2019).
- Villafuerte R, Delibes-Mateos M. 2019. *Oryctolagus cuniculus*. The IUCN red list of threatened species. International Union for Conservation of Nature, Gland, Switzerland. Available from <https://www.iucnredlist.org/species/41291/45189779> (accessed January 2020).
- Walker MU. 1989. Moral understandings: alternative “epistemology” for a feminist ethics. *Hypatia* **4**:15–28.
- Wallach AD, Bekoff M, Batavia C, Nelson MP, Ramp D. 2018. Summoning compassion to address the challenges of conservation. *Conservation Biology* **32**:1255–1265.
- Wallach AD, et al. 2020. When all life counts in conservation. *Conservation Biology* <https://doi.org/10.1111/cobi.13447>.
- Washington H, Chapron G, Kopnina H, Curry P, Gray J, Piccolo JJ. 2018. Foregrounding ecojustice in conservation. *Biological Conservation* **228**:367–374.
- Weng HY, Fox AS, Shackman AJ, Stodola DE, Caldwell JZK, Olson MC, Rogers GM, Davidson RJ. 2013. Compassion training alters altruism and neural responses to suffering. *Psychological Science* **24**:1171–1180.
- Wilfred P, Milner-Gulland EJ, Travers H. 2019. Attitudes to illegal behavior and conservation in western Tanzania. *Oryx* **53**:513–522.
- Williams BAO, Atkinson WF. 1965. Ethical consistency. *Proceedings of the Aristotelian Society, Supplementary Volumes* **39**:103–138.
- Yufanyi Movuh MC. 2012. The colonial heritage and post-colonial influence, entanglements and implications of the concept of community forestry by the example of Cameroon. *Forest Policy and Economics* **15**:70–77.