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REVIEW

A critical review of the compassionate conservation debate

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Article Impact Statement: Compassionate conservation challenges traditional conservation and allows significant pluralism in values and scientific judgment.

Abstract

Compassionate conservation holds that compassion should transform conservation. It has prompted heated debate and has been criticized strongly. We reviewed the debate to characterize compassionate conservation and to philosophically analyze critiques that are recurring and that warrant further critical attention. The necessary elements of compassionate conservation relate to the moral value of sentient animals and conservation and to science and conservation practice. Although compassionate conservation has several nontraditional necessary conditions, it also importantly allows a degree of pluralism in values and scientific judgment regarding animals and conservation practice. We identified 52 specific criticisms from 11 articles that directly critique compassionate conservation. We closely examined 33 of these because they recurred regularly or included substantial questions that required further response. Critics criticized compassionate conservation's ethical foundations, scientific credentials, clarity of application, understanding of *compassion*, its alleged threat to conservation and biodiversity. Some criticisms, we found, are question begging, confused, or overlook conceptual complexity. These criticisms raise questions for critics and proponents, regarding, for example, equal versus differential intrinsic moral value of different sentient animals (including humans), problems of natural and human-caused suffering of wild animals and predation, and the acceptability of specific conservation practices within compassionate conservation. By addressing recurring and faulty critiques of compassionate conservation and identifying issues for compassionate conservation to address, this review provides a clearer basis for crucial ongoing interdisciplinary dialogue about ethics, values, and conservation.

KEYWORDS
animal ethics, animal welfare, conservation management, environmental ethics, environmental philosophy

Una Revisión Crítica del Debate sobre la Conservación Compasiva

Resumen: La conservación compasiva sostiene que la compasión debería transformar la conservación. Esta idea ha impulsado un debate acalorado y ha sido criticada fuertemente. Revisamos el debate para caracterizar la conservación compasiva y para analizar filosóficamente las críticas recurrentes y que ameritan una mayor atención crítica. Los elementos necesarios de la conservación compasiva están relacionados con el valor moral de los animales sensibles y de la conservación y con la ciencia y la práctica de la conservación. Aunque la conservación compasiva tiene varias condiciones no tradicionales necesarias, también permite de manera muy importante un cierto grado de pluralismo en los valores y el juicio científico con respecto a los animales y a la práctica de la conservación. Identificamos 52 críticas específicas en once artículos que criticaban directamente a la conservación compasiva. Analizamos minuciosamente 33 de estas críticas porque aparecieron regularmente o porque incluían preguntas sustanciales que requerían de una respuesta más profunda. Las críticas se centraban en las razones éticas de la conservación compasiva, sus credenciales científicas, la claridad de su aplicación, el entendimiento del concepto *compasión* y su presunta amenaza para la conservación y la biodiversidad. Notamos que algunas críticas dejan preguntas pendientes, son confusas o ignoran la complejidad conceptual. Estas críticas generan preguntas para los críticos y para los partidarios de la conservación

compasiva con respecto al valor moral intrínseco igual o diferencial de distintos animales sensibles (incluyendo a los humanos), problemas relacionados con el sufrimiento natural y causado por humanos y con la depredación que sufren los animales silvestres y la aceptabilidad de prácticas específicas de conservación dentro de la conservación compasiva. Con la identificación de las críticas recurrentes y fallidas que se le hacen a la conservación compasiva y los temas que ésta debe abordar, esta revisión proporciona una base más clara para el importante diálogo interdisciplinario que existe sobre la ética, los valores y la conservación.

PALABRAS CLAVE
bienestar animal, ética ambiental, filosofía ambiental, gestión de la conservación

摘要: 同理心保护主张应利用同理心来改变保护。这引发了激烈的辩论, 也受到了强烈的批评。本综述通过回顾这一辩论, 描述了同理心保护的特征, 并从哲学上分析了反复出现且值得进一步关注的批评。同理心保护的必要元素与知觉动物和保护的道德价值相关, 也与科学和保护实践有关。虽然同理心保护有几个非传统的必要条件, 但重要的是, 它也在一定程度上允许对动物和保护实践价值和科学判断的多元化。我们从 11 篇直接批评同理心保护的文章中找出了 52 条具体的评论, 并仔细检查了其中时常被提及或包含需要进一步回答的实质性问题的 33 条评论。这些批评针对同理心保护的伦理基础、科学认证、应用的清晰度、对"同理心"的理解, 以及它对保护和生物多样性的所谓威胁。我们发现, 一些批评是在基于结论诉诸问题, 不明确, 或忽略了概念的复杂性。这些评论也为批评者和支持者提出了问题, 例如, 不同知觉动物 (包括人类) 的内在道德价值是平等的还是有区别的, 野生动物面临的自然和人为的危害和捕食问题, 以及在同理心保护中特定保护实践的可接受性。本综述确定了对同理心保护反复的和错误的批评, 并找出了同理心保护仍需要解决的问题, 这为仍在进行的关于伦理、价值和保护的跨学科关键对话提供了更清晰的基础。**【翻译: 胡怡思; 审校: 聂永刚】**

关键词: 动物福利, 环境伦理, 动物伦理, 环境哲学, 保护管理

INTRODUCTION

Compassionate conservation is an interdisciplinary movement and philosophy that broadly holds that compassion should transform conservation. Influenced by rising social concern for animals (Alonso et al., 2020), compassionate conservation challenges traditional conservation's embrace of conservation methods that harm animals. It invites reappraisal of ethics, conservation value, and conservation science and activity. However, its critics have called it unethical, philosophically flawed, unscientific (Driscoll & Watson, 2019), and dangerous (Callen et al., 2020).

We undertook a critical review of major publications of what we call compassionate conservation's proponents and critics. (We recognize each group is not homogenous.) Although the debate contains scientific disagreement, we concentrated on key philosophical disagreements. Importantly, conceptual issues can shape conservation as much as science. We searched the relevant literature and had informal discussions with proponents to characterize compassionate conservation's foundational claims and potential pluralism. We analyzed criticisms that are recurring or raise important questions (Table 1).

CHARACTERIZING COMPASSIONATE CONSERVATION

Historical background

Compassionate conservation reflects Western and increasingly non-Western developments in environmentalism (Callicott, 1989), philosophy, science, and society (George et al., 2016). Responding partly to emerging animal ethics (Singer, 1975), Soulé (1985) developed "normative postulates" that prioritize collectives over individuals and claimed that conservation and animal welfare "should remain politically separate." Although Soule's thinking was used to defend traditional conservation practice (Santiago-Ávila & Lynn, 2020), some criticized hard distinctions between collectives and individuals (Jamieson, 1998; Baker, 2017) and highlighted individuals' roles in ecological systems (Bekoff, 1998). Philosophers (Midgley, 1998) and scientists (Proctor et al., 2013) increasingly challenged beliefs in an absolute human–animal divide, arguing that animals have emotions (Mogil, 2019; Waal, 2019), preferences (Mejdell et al., 2016), social bonds (Brent et al., 2014), personalities (Gosling, 2008), and cognition (Sekar & Shiller, 2020).

TABLE 1 Sources and types of substantial critiques of compassionate conservation*

Publication	Total number of specific criticisms extracted	Critique type				
		ethical foundations of compassionate conservation	definition of compassionate	scientific credentials of compassionate conservation	clarification of application of compassionate conservation	threat posed by compassionate conservation
Gray (2018)	5	X		X	X	X
Driscoll and Watson (2019)	6		X	X		
Hampton et al. (2019)	6	X	X	X		
Hayward et al. (2019)	30	X	X	X	X	X
Johnson et al. (2019)	12	X	X	X	X	
Oommen et al. (2019)	11	X	X			X
Rohwer and Marris (2019)	2		X		X	
Beausoleil (2020)	12	X	X		X	
Callen et al. (2020)	26	X	X	X	X	X
Griffin et al. (2020)	5	X		X	X	
Madzwamuse et al. (2020)	2	X				

*Eleven articles are included here because they critiqued Wallach et al. (2018).

Compassionate conservation arose from a 2008 workshop at University of British Columbia and an Oxford University conference that juxtaposed animal welfare and conservation (Fraser, 2010). Subsequently, the Centre for Compassionate Conservation in Sydney and Compassionate Conservation Middle East were established. Writings by Ramp and Bekoff (2015), Wallach, and others have provoked spirited debate (Table 1).

Foundational beliefs

Compassionate conservation has several foundational beliefs. They involve compassion, valuing animals, conservation, and conservation science and activity (Table 2). These foundational beliefs are imperatives and jointly characterize compassionate conservationists. The first foundational belief concerns compassion, moral value, and sentient animals. Some of compassionate conservation's 4 guiding principles—first do no harm, individuals matter, peaceful coexistence, and inclusivity (Ramp & Bekoff, 2015; Wallach et al., 2018)—express compassion's defining moral role. *First do no harm*, adapted from medical ethics, enjoins conservationists to generally avoid intentionally harming killing sentient animals; to minimize unintentional harm; and to reject causing relatively indiscriminate harm. *Individuals matter* recognizes the intrinsic moral value of sentient wild individuals beyond their instrumental value in collectives or wholes (populations, species, ecosystems, and landscapes) (Baker, 2013). Instrumental value is the value of something for the sake of something else—humans and animals have it. Intrinsic moral value implies noninstrumental moral value, meaning the subject is owed direct moral consideration and can be wronged. *Peaceful coexistence* requires the general abandonment of what compassionate conservation calls violent actions against animals with intrinsic moral value.

Compassionate conservation criticizes 3 "orientations" in traditional conservation (Wallach et al., 2018): instrumentalism, collectivism, and nativism. Instrumentalism treats sentient individuals as having predominantly instrumental value rather than significant intrinsic moral value. Collectivism says species, landscapes, and ecosystems matter more than individuals, such that individuals may be harmed or killed to benefit them (Soule, 1985). Compassionate conservation largely morally rejects what it characterizes as dominating and aggressive actions (Randall & van Veggel, 2020) against sentient individuals and cautions that using terms like *war*, *pests*, *invasive*, or *feral* may undermine compassion (Larson, 2005).

The second foundational belief concerns conservation value. Although *conservation value* has diverse meanings (Capmourteres & Anand, 2016), we use it to mean the intrinsic value of collectives (Callicott, 1989). Precisely what the intrinsic value of collectives signifies is a vexed question—is it moral value or some other value? Whatever it is, both critics and proponents typically agree that various collectives have great noninstrumental value of some sort and that one should, for instance, protect threatened populations and ecosystems (Wallach et al., 2015). Compassionate conservation's principle of inclusivity affirms the possible conservation value of all wildlife individuals and collectives (Wallach et al., 2018). Individuals matter (in addition to highlighting the intrinsic moral value of sentient individuals) also highlights the important ecological roles of individuals in collectives possessing conservation value.

Compassionate conservation criticizes nativism. Nativism says that introduced species are "unnatural" and "harmful, not because of their ecological effects per se, but because they challenge deep-seated ideologies about how nature should be" (Wallach et al., 2018). Compassionate conservationists agree (Wallach et al., 2017, 2020a) that the *native* label can be uninformative (Chew & Hamilton, 2010) and counterproductive (Davis et al.,

TABLE 2 Summary of the foundational elements of compassionate conservation that outline constraints to conservation practice

Domain	Position	Description
Animal value	first, do no harm	Avoid intentionally harming or killing sentient animals, minimize unintentional harm, and reject relatively indiscriminate harming.
	individuals matter	Sentient individuals have intrinsic moral value beyond their instrumental value in collectives or wholes. Radical ethical anthropocentrism is rejected.
	peaceful coexistence	Generally, abandon aggressive and dominating actions toward sentient animals which have significant intrinsic moral value.
	inclusivity	Sentient animals intrinsically have moral value no matter their human categorizations.
	rejects instrumentalism	Decisions about sentient creatures should not only be made predominantly based on their instrumental value but also on their significant intrinsic moral value.
Conservation value	collectives have intrinsic value	Ecological collectives (e.g., species or ecosystems) have noninstrumental value and should be protected.
	rejects collectivism	Individual sentient animals have significant intrinsic moral value. Radical ethical anthropocentrism should be rejected, and frequent or routine harming or killing of sentient animals to benefit collectives should be avoided.
	rejects nativism and affirms inclusivity	The *native* label is often ecologically uninformative and counterproductive to conservation. Conservation value can include non-native species.
Science and conservation practice	conservation action informed by animal-focused research	Conservation involving animals should be informed by animal-focused research (such as animal welfare science and ethology) that informs moral valuation of animals and understanding of their well-being and relationships.
	individuals matter to conservation outcomes	Conservation actions should recognize that impacts on individuals can have significant ecological and conservation implications.
	reimagines conservation metrics	Evaluate conservation value and outcomes with metrics (e.g., biodiversity) that are not influenced by embedded normative orientations (e.g., nativism).
	challenges assumptions about the "right" state of nature	Ecosystems are open, dynamic, and fluid, and certain anthropocentric determinations of the proper state of nature are challenged.
	supports nonharmful conservation research and practices	Conservation should devote greater energy to creatively exploring unharmful conservation research and practices. Conservationists should try to avoid or even challenge harmful practices, and radical ethical anthropocentrism should be opposed.

2011). Non-native populations may sometimes enrich local collectives (Wallach et al., 2017, 2020a), safeguard against species extinction (Wallach et al., 2020a), restore ecosystem functioning (Lundgren et al., 2018), and benefit communities (Goodenough, 2010). Although critics may agree with some of these ideas, compassionate conservation strongly emphasizes how certain traditional orientations can distort conservation-related valuations.

The third foundational belief concerns science and conservation activity. Compassionate conservation is interdisciplinary, originating partly from animal welfare science and ethology (Baker, 2017). Animal-focused science can inform understanding of individual animal moral value, animal well-being, and the effects of individuality on conservation outcomes (Baker, 2017), for example, by influencing community dynamics, such as migration (Lazenby et al., 2015), depredation (Moseby et al., 2020), and social structures among conspecifics (McDonald et al., 2008).

Compassionate conservation reimagines conservation metrics (Wallach et al., 2020a) and the "ideal" state of an ecosystem (Balaguer et al., 2014). It recommends exploring with much greater energy alternative nonharmful conservation research (Wallach et al., 2015; Kopnina et al., 2019a). Again, while overlaps exist between proponents and critics, affirmation of the above foundational beliefs (Table 2) distinguishes this approach.

Bounded pluralism

Notwithstanding the above foundational beliefs, it is important to underline compassionate conservation's pluralistic potential (Santiago-Ávila & Lynn, 2020). Proponents may have divergent and even conflicting beliefs about facts and values yet remain compassionate conservationists because they hold the necessary and jointly sufficient beliefs.

One area of possible diversity concerns the intrinsic moral value of animals. To explain this, we must explain the special place sentient animals appear to occupy in compassionate conservation. Compassionate conservationists hold that nonsentient and sentient animals are part of the intrinsic conservation value of collectives. It is also true that some proponents hold that nonsentient animals have intrinsic moral value. Indeed, some leading proponents, while clarifying that they do not speak for others, claim that every "living being," whether sentient or not, warrants compassion (Batavia et al, 2021). Nonetheless, at the time of writing, compassionate conservation as a broader movement tends to claim that *sentient* animals are

deserving of compassion and have a significant intrinsic moral value.

To explain what *significant* means, we contrast compassionate conservation's stance with so-called *animal welfarism*. Animal welfarism implies that one has moral duties to sentient animals that are, roughly speaking, weak duties. *Weak* means, for example, that the prima facie duties to sentient animals are typically overridable even though overriding them would be impermissible and even unthinkable if the subjects were human and even when the overriding is necessary to satisfy human interests of a far less momentous kind.

For example, animal welfarism allows that one may kill or seriously harm (some or many) sentient animals if the alternative would cost money, damage aesthetic interests, or merely cause substantial inconvenience, even though such action would be impermissible or even unthinkable against humans. In these ways, animal welfarism implies a profound ethical anthropocentrism. It holds that the intrinsic moral value of sentient animals is low rather than significant and that our duties to them, though real, are relatively weak.

Animal welfarist conservation is sometimes labeled "consequentialist" (Beausoleil, 2020). This consequentialist conservation, often espoused by critics, holds that the moral threshold for intentionally harming or killing sentient animals for conservation is relatively low. In contrast, compassionate conservationists say this moral threshold is relatively high. These points mark a crucial difference between compassionate conservation and traditional conservation. Proponents necessarily reject profound ethical anthropocentrism (as we have described it), whereas many critics accept it.

Nonetheless, compassionate conservation logically allows a delimited pluralism. Proponents may, for instance, disagree over whether sentient animals are, like humans, ethical persons (Wallach et al., 2020b). And, despite rejecting profound ethical anthropocentrism, some proponents disagree on whether humans and nonhumans are moral equals and on whether nonsentient beings have significant intrinsic value. Furthermore, compassionate conservation is logically consistent with diverse moral theories (Batavia & Nelson, 2017), from deontology to feminist ethics, and with interpretivist (Santiago-Ávila & Lynn, 2020), indigenous, or religious outlooks on value. This bounded ecumenism extends to practical action. Proponents may disagree, for example, about, the permissibility of killing sentient animals in rare circumstances or of capturing and relocating them.

Compassionate conservation's foundational beliefs may change over time. Some may think that, as it stands, its pluralism gives little guidance. However, the foundational beliefs broadly constrain and guide conservation, somewhat as medical ethical principles constrain and guide doctors. In both these domains, principles arguably can provide essential constraints and indispensable guidance without being exceptionless or totally prescriptive in every detail. We elaborate on these points in the following analysis of critiques.

ANALYSIS OF CRITICISMS OF COMPASSIONATE CONSERVATION

We identified criticisms of compassionate conservation from 11 articles in response to Wallach et al. (2018), which spoke of compassion, guiding principles, and the problematic orientations of traditional conservation. We extracted 117 quotes critical of compassionate conservation (Appendix S1) and identified 4 broad categories of criticism and specific criticisms therein. Some criticisms are question-begging, confused, or overlook conceptual complexity. Others, however, touch on important ideas or require clarification to avoid misunderstanding. These criteria guided our selection of for analysis (Table 3).

Compassion and moral theory

A recurring criticism concerns compassionate conservation's emphasis on compassion and compassion's connection to refraining from harming sentient animals. Relatedly, critics unfavorably contrast proponents' apparent use of virtue theory (Wallach et al., 2018) and deontology with consequentialism. Virtue theory and deontology, respectively, hold that human virtues and moral rules determine what is right; consequentialism holds that consequences alone determine what is right. Some critics appear to think that virtue theory and deontology are compatible with compassion in conservation but that consequentialism is not.

Critics' disapproval of virtue theory, deontology, and compassion often springs from the belief that compassionate conservation ignores consequences (in Table 3 SC-1.1.1, SC-2.1.2; identify-specific critiques) and may thus allow disastrous ecological outcomes. Some regard virtue theory as self-indulgently promoting moral character and personal flourishing over the interests of collectives, animals, and humans (Johnson et al., 2019). Similarly, some criticize deontology for putting moral rules ahead of vital consequences and facilitating a damaging do-nothing approach (Hampton et al., 2019; Hayward et al., 2019; Johnson et al., 2019; Griffin et al., 2020) (SC-3.3.1 in Table 3).

Griffin et al. (2020) argue that responses, such as empathy and compassion, are flawed moral guides, not just in conservation but also in "social policy." They argue that those responses create distorted and biased decision-making—such as caring more for identified individuals or for the few over the many—that often generates more harmful outcomes. They contend that "affective" responses may be appropriate in initially motivating an uncaring agent to care about animals or species, but that thereafter, the deliberating agent should strongly suppress or largely eradicate compassion and empathy, replacing those responses with decision-making based on calculation of consequences (Griffin et al., 2020).

A central problem with these arguments is that they tend to overlook the complexity of the above moral concepts. The role of affective responses and character in ethics is highly complex (Hursthouse, 1999). For example, virtue theorists may

TABLE 3 Specific criticism extracted from critiques of compassionate conservation*

Category	Criticism	Specific criticism (SC)	Significant or recurring criticism	Addressing criticism
1. Ethical foundations of compassionate conservation	1.1 ethically naive	1.1.1 ignores ethical thought—consequences	yes	see "Critiques Concerning Compassion and Moral Theory" in text
		1.1.2 ignores ethical thought and trade-offs	yes	see "Critique Concerning Duties to Humans and Animals" in text
		1.1.3 driven by emotion or ideology	no	Compassionate conservation proponents have introduced moral arguments and theory, so their position is not just an appeal to emotion or ideology. Some traditional conservationists have claimed that employing emotion in value-driven fields is necessary (Cassini, 2020).
		1.1.4 arbitrary criteria for moral consideration	no	clarified in, for example, Wallach et al. (2020a)
		1.1.5 does not accept harm occurs in nature	no	untrue (e.g., Batavia et al., 2020)
		1.1.6 ignores ethical thought (pluralism)	yes	Compassionate conservation writings include moral theory pluralism (e.g., Wallach et al., 2018; Santiago-Ávila & Lynn, 2020). Compassionate conservation's essential commitments are compatible with some diversity of belief.
		1.1.7 not killing animals is a slippery slope	yes	see "Critique Concerning Duties to Humans and Animals" in text
	1.2 Ignores human rights and well-being	1.2.1 affects disadvantaged people disproportionately	yes	see "Critique Concerning Duties to Humans and Animals" in text
		1.2.2 ignores vulnerable people at risk from wildlife	yes	see "Critique Concerning Duties to Humans and Animals" in text
		1.2.3 ignores ethical thought (human ethics)	no	untrue (e.g., Wallach et al., 2020a)
		1.2.4 ignores proximate cultural perspectives	no	untrue (e.g., Wallach et al. 2020a)
	1.3 Animal liberation/rights position	1.3.1 unclear on animal rights position	yes	see "Critiques Concerning Compassion and Moral Theory" in text
		1.3.2 dishonest motivations for conservation	no	Pejorative: Compassionate conservationists have dedicated their research and professional lives to conservation just like other conservationists.
	1.4 Compassionate conservation has a hard-line position	1.4.1 will not get traction	no	not proven or currently testable
	1.5 Compassionate conservation is ethically confused	1.5.1 vacillates between ethical frameworks	no	The claim that compassionate conservation vacillates between moral frameworks (Hayward et al., 2019) can be explained by noting that compassionate conservation (like traditional conservation) can, within limits, admit diverse moral views without logical inconsistency.
2. Definition of compassionate	2.1 fails to be compassionate (9)	2.1.1 inconsistent with own tenets, not inclusive	yes	see "Critique Concerning Duties to Humans and Animals" in text

(Continues)

TABLE 3 (Continued)

Category	Criticism	Specific criticism (SC)	Significant or recurring criticism	Addressing criticism
		2.1.2 ignores consequences	yes	see "Critiques Concerning Compassion and Moral Theory" in text
		2.1.3 inconsistent with own tenets, not compassionate	yes	see "Critique Concerning Duties to Humans and Animals" in text
		2.1.4 not intervening to prevent wild animal suffering	yes	see "Critique Concerning Duties to Humans and Animals" in text
	2.2 traditional conservation already compassionate (6)	2.2.1 maximizes welfare through trade-offs	yes	see "Critiques Concerning Compassion and Moral Theory" in text
		2.2.2 traditional conservation already includes compassion, ethical concern, and welfare for individuals	yes	see "Critiques Concerning Compassion and Moral Theory" in text
	2.3 unclear on moral concern (5)	2.3.1 unclear sentience is the criteria of moral concern	yes	Sentience repeatedly invoked in compassionate conservation as a key criterion for determining a heightened moral concern. See "Critiques Concerning Clarity and Application of Principles" in text
		2.3.2 unclear on what constitutes harm	yes	see "Critiques Concerning Clarity and Application of Principles" in text
		2.3.3 unclear whether compassionate conservationists belief killing is wrong	yes	see "Critiques Concerning Clarity and Application of Principles" in text
		2.3.4 unclear which creatures are included in moral concern (e.g., Are ectoparasites included?)	yes	Compassionate conservationists have called for moral concern for sentient beings. Many taxa are identified as warranting moral concern, although, for example, ectoparasites have not yet been specifically named. See "Critiques Concerning Clarity and Application of Principles" in text
		2.3.5 Is there a less extreme form?	no	Pejorative: framing is not constructive to discussing or furthering the positions being put forward by compassionate conservation.
3. Scientific credentials of compassionate conservation	3.1 ineffective conservation (12)	3.1.1 not scientifically robust	yes	see "Critique Concerning Scientific and Conservation Credentials" in text
		3.1.2 not supported by science	yes	see "Critique Concerning Scientific and Conservation Credentials" in text
		3.1.3 restricts conservation practice	yes	see "Critique Concerning Scientific and Conservation Credentials" in text
		3.1.4 killing of individuals not accepted in clear conservation example	yes	see "Critiques Concerning Compassion" and Moral Theory" in text
		3.1.5 science denialists	yes	see "Critique Concerning Scientific and Conservation Credentials" in text
	3.2 compassionate conservation not conservation (2)	3.2.1 do-nothing approach is ineffective	yes	Compassionate conservation does not advocate for a do-nothing approach: this is a misreading of the literature. See "Critiques Concerning Compassion and Moral Theory" in text

(Continues)

TABLE 3 (Continued)

Category	Criticism	Specific criticism (SC)	Significant or recurring criticism	Addressing criticism
		3.2.2 lack of ecocentrism	no	Compassionate conservation proponents are ecocentric because they are concerned about conserving the natural world. Their conservation is not solely driven by concern for collectives but also concern for individuals—human and animal.
	3.3 ignoring welfare impacts (2)	3.3.1 do nothing approach has worse consequences	yes	see "Critiques Concerning Compassion and Moral Theory" in text
4. Clarification of the application of compassionate conservation	4.1 methods compassionate conservation supports unclear (7)	4.1.1 lack of clarity on what conservation practices compassionate conservation supports	yes	see "Critiques Concerning Clarity and Application of Principles" in text
		4.1.2 Is captive breeding supported?	yes	see Table 4
		4.1.3 Are experiments to evaluate consequences supported?	yes	see Table 4
		4.1.4 Are fences supported?	yes	see Table 4
		4.1.5 Is killing supported under any circumstances?	yes	see Table 4
		4.1.6 Are less substantial welfare impacts supported?	yes	see Table 4
		4.1.7 incorrect understanding of *do no harm*	yes	see "Critiques Concerning Clarity and Application of Principles" in text
	4.2 unclear application (5)	4.2.1 How do no harm practiced?	yes	see "Critiques Concerning Clarity and Application of Principles" in text
		4.2.2 What constitutes harms under?	yes	see "Critiques Concerning Clarity and Application of Principles" in text
		4.2.3 Are nonmammalian species included in moral concern?	yes	"[A]n animal manifesto would demand that every species, and every individual within every species, deserves respect and compassion" (Bekoff, 2010:80). See "Critiques Concerning Clarity and Application of Principles" in text
		4.2.4 Are individual ethics more important than collective ethics?	no	Both are important and decisions about conflicts should be approached carefully with consideration to context (Wallach et al., 2020b; Batavia et al., 2020).
	4.3 unclear how compassionate conservation addresses irreconcilable ethical conundrums (4)	4.3.1 lack of clear approach in dilemmas	yes	see "Critiques Concerning Clarity and Application of Principles" in text
5. Threat posed by compassionate conservation	5.1 dangerous (9)	5.1.1 may appeal to broad public	yes	see "Conclusion"
		5.1.2 threat to conservation	yes	see "Conclusion"
		5.1.3 aligned with violent ideologies	no	untrue
		5.1.4 focused on the wrong problem	no	question begging

(Continues)

TABLE 3 (Continued)

Category	Criticism	Specific criticism (SC)	Significant or recurring criticism	Addressing criticism
		5.1.5 naive public and stakeholders	no	paternalistic
		5.1.6 threat to everything	no	hyperbolic

*Some criticisms, such as labeling compassionate conservation extreme, dogmatic, simplistic, arbitrary, and naïve, are insubstantial. All quotes related to these criticisms are in Appendix S1.

stress that some genuine virtues, including compassion, are strongly other regarding (directed at the well-being of others). Compassion may refer to a disposition to feel for others and to act to relieve their misery. Yet, as a concept and virtue, it is multifaceted. Although virtue may be ultimately grounded in personal flourishing, the compassionate agent must often act altruistically, that is, for the sake of another or many others. Implying that virtue ethics is entirely self-focused and ignores consequences for other individuals is a mistake.

The claim that deontology disregards consequences is equally problematic. Certainly, both deontology and virtue ethics depart in important ways from consequentialism as a moral theory. In deontology and virtue ethics, moral determinations cannot be reduced to calculations of consequences, but depend on other things, such as nonutilitarian conceptions of justice that forbid, say, what nonutilitarian theorists may consider human abuses or rights violations (Chappell & Crisp, 2016). But it does not follow that these theories reject careful consideration of consequences in decision-making. Both deontic rules and virtues, and their contextual applications, may be partly but significantly shaped by probable consequences of dispositions or actions. Other moral approaches, such as interpretivism, may be similarly attentive to consequences.

Although some proponents have invoked virtue theory (Wallach et al., 2018), compassionate conservation allows pluralism about moral theory. A proponent might even defend compassionate conservation based on consequentialism. After all, major forms of utilitarianism typically repudiate profound ethical anthropocentrism (Singer, 1975). Furthermore, consequentialists may appreciate the utility of broadly compassionate dispositions, some relatively unbending rules, and opposition to the normalization of certain practices regarded as violent, aggressive, and dominating (Hare, 1981). The claim that consequentialists (e.g., utilitarians) cannot consistently embrace compassionate conservation requires detailed argumentative backing that critics have not provided.

There are several important responses to critics of compassion. The argument that compassion should be largely eradicated from decision-making, including in "social policy" and "legal systems" (Griffin et al., 2020), is highly contentious. Based on an example from social policy, we question this argument. In the 1990s, the *Stolen Generation* report awakened nonindigenous Australians to the often-racist 20th century policy of forcibly removing Indigenous children from their Aboriginal parents (Dow, 2008). The stories of life-long pain endured by mothers and their stolen children caused many White Australians, including some policy makers, to weep for the grief-stricken victims and to push for more just and compassionate policies for Indigenous Australians. Responses, such as compassion, that had an affective dimension not only provided initial impetus for changing attitudes toward Indigenous peoples, but also helped to sustain them, including in the face of critics who regarded a national apology as an outpouring of "black armband" emotion (Clark, 2002).

Clearly, many of those social policy makers would disagree that largely eradicating compassion for Aboriginal people would have improved their long-term ability to make good and highly complex ethical decisions affecting Indigenous and non-Indigenous stakeholders; many would have said exactly the opposite. Moreover, although compassion (and many other responses) can sometimes distort decisions, compassion can also be disciplined. Critics thus present a false choice between compassion and disciplined moral thinking. Compassion may be disciplined, for example, by careful attention to harmful consequences and by other moral responses and ideas, such as justice (Santiago-Ávila & Lynn, 2020). Policy makers who continued to be moved by the sufferings of Indigenous Australians did not necessarily surrender to mere "outpourings" (Griffin et al., 2020) of emotion. Disciplined compassion can constitute just decision-making in various fields, including conservation.

In the above example, in which some White Australians were sympathetic toward Indigenous Australians, compassion has a salient affective dimension. One might, however, construe compassion in a less affective way. Thus, a compassionate conservationist might understand compassion simply as describing practices and policies that protect collectives and enhance conservation value while adequately recognizing the significant intrinsic moral value of sentient animals and their vulnerability to harm. Perhaps critics have this less affective form in mind when, instead of attacking compassion, they argue that conservation is already compassionate (Table 3 SC-2.2.2, SC-2.2.1) (Hayward et al., 2019). Alternatively, those critics may be claiming that traditional conservation already possesses those affective qualities.

Undoubtedly, some conservationists increasingly recognize animal welfare. Historically, however, conservation often overlooked the interests of individual sentient animals (Proulx et al., 2016; Dubois et al., 2017). Conservation readily embraced and still embraces mass killing and poisons and technologies that cause great suffering, often implemented without adequate knowledge of the likely consequences and effectiveness of those actions (Doherty & Ritchie, 2017). Consequently, some less compassionate attitudes are entrenched in conservation

cultures. As studies indicate, these attitudes are unlikely to vanish overnight (Sinclair et al., 2020).

Equally importantly, people can disagree on which behaviors are compassionate. There is a vital conceptual point to be made here, and failure to appreciate it generates confusion. The confusion stems from not distinguishing between the use of *compassion* as an empirical versus a moral description. Another example may help. Suppose conservatives declare no obligation beyond a certain point to provide state welfare for the long-term jobless. Progressives reply this position lacks compassion. Conservatives counter that they support limited welfare for the newly jobless and that they do feel compassion for the suffering of the long-term unemployed. Conservatives, nevertheless, claim that it is not unjust to withhold welfare from the long-term unemployed even if this harms them because providing this degree of welfare violates rights of taxpayers. Although accepting conservatives' insistence that they allow limited welfare and have sympathetic feelings for the long-term jobless, progressives do not retract their claim that the position of the conservatives lacks compassion. Here, the disputants agree about the empirical presence of a (sympathetic) response but disagree on its moral description.

This example helps explain the dispute over compassionate conservation. When proponents claim that certain conservation practices lack compassion, they do not necessarily mean that conservationists have no sympathetic feelings for the sentient animals being harmed (although sometimes proponents may think exactly that) or that they took no steps to minimize that harm. Rather, proponents mean that such behaviors cannot morally be described as compassionate, even though they may benefit others and produce some good consequences. Thus, the disagreement here between critics and proponents is a conceptual disagreement about the proper moral application of the term *compassion*. Consequently, when proponents deem a harmful practice uncompassionate, it is insufficient to reply that the practice involved sympathetic feeling and consideration for animal welfare and good consequences. This vital conceptual point, however, does not preclude further debate about compassion in conservation.

The claim that compassionate conservation is a do-nothing approach is misleading. Compassionate conservation accommodates strategies and interventions, including natural-area regeneration and restoration and rewilding (Baker & Winkler, 2020); the 4 Cs of cores, corridors, carnivores, and compassion (Kopnina et al., 2019a); protection of apex predators (Wallach et al., 2015); and, presumably, the numerous effective conservation practices that do not directly harm individual animals. Some proponents recognize temporary fencing and reversible relocation as legitimate in certain circumstances (Table 4).

The do-nothing allegation largely targets the rejection of killing as a routine or unexceptional conservation tool. Whether compassionate conservation approaches generate worse conservation outcomes than lethal control is an open question. It is in part empirically testable, although time is required to comprehensively assess it. Of course, sometimes proponents say that taking no action is the best approach. Others caution against overconfidence in the benefits of lethal control (Lynn et al., 2019; Cassini, 2020). Some such judgments, while often partly empirical, may be crucially informed by normative perspectives, for example, about conservation value and animal value (Yanco et al., 2019; Coghlan & Cardilini, 2020).

Duties to humans and animals

Some call compassionate conservation an animal rights position (Table 3 SC-1.3.1). Critics also argue that compassionate conservation sometimes does not adhere to its own tenets of compassion, first do no harm and inclusivity (SC-2.1.1, SC-2.1.3) (e.g., by apparently allowing non-native animals to suffer through resource competition). It is often more compassionate, critics claim, to adopt a consequentialism that allows harming or killing individuals to promote overall animal welfare. This inconsistency, critics say, also relates to native animal suffering (SC-2.1.4). Some proponents deny any prima facie obligation to intervene in nature to prevent the suffering of wild animals whether "natural" or human caused (Wallach et al., 2018). Critics (Driscoll & Watson, 2019) reply that conservationists have a positive duty to assist animals which suffer because of human-caused introductions. Compassionate conservation, some allege, ignores trade-offs (SC-1.1.2) and the need to sacrifice individuals for collectives (Driscoll & Watson, 2019). Accordingly, critics say the philosophy displays no or inconsistent compassion relative to consequentialist approaches.

Additionally, critics say compassionate conservation may treat humans unjustly. (This is also a criticism of traditional conservation [Duffy et al., 2015].) For example, compassionate conservation, unlike more consequentialist approaches, allegedly allows the disadvantaged and marginalized (SC-1.2.1) to be harmed by wild animals (SC-1.2.2) (Oommen et al., 2019) and ignores human dependence on the wildlife trade (Madzwamuse et al., 2020).

These criticisms raise important moral questions for proponents. Yet, they are also problematic. Not every proponent espouses so-called animal rights (M. Bekoff and A. Wallach, personal communication), but all (necessarily) embrace conservation value. "Animal rights" is sometimes associated with deontology (Regan, 1983), yet compassionate conservation is morally pluralistic. Some proponents, rejecting absolutism about harmful and lethal conservation interventions (Lynn, 2018), may endorse rare and last-resort harmful interventions that are (nearly) certain to save an endangered species. Some proponents recognize irresolvable conservation dilemmas in which harming and not harming are simultaneously unjustified (Batavia et al., 2020).

The charge of inconsistent or absent compassion must be applied more cautiously than critics often manage. Compassionate conservation may allow euthanasia for suffering individuals (Beausoleil, 2020) while generally opposing indiscriminate killing of suffering and nonsuffering individuals. Furthermore, as we explained, disagreement is possible over the moral application of the term *compassion*. Thus, what is uncompassionate for a critic may be judged compassionate by a proponent—and vice versa. Something similar applies to *justice*. As noted, some critics argue that compassionate conservation is unjust to

TABLE 4 Description of some compassionate conservation proponents' positions in relation to some common traditional conservation practices

Conservation practice	Compassionate conservation statements
Fencing	Fox and Bekoff (2011) examples of fencing as an alternative to lethal control of carnivores Ben-Ami and Mjadwesch (2017)acceptable under certain circumstances to balance individual and collective interests used as a temporary measure that can be removed appropriate for small patches of highly sensitive and valuable habitat in place of lethal programs Fraser-Celin and Hovorka (2019)presented as a compassionate way of minimizing conflict between humans and animals Wallach et al. (2018); Batavia et al. (2020)guardian beehive fence presented as a compassionate conservation program Kopnina et al. (2019b) (enclosure) not appropriate because it restricts emigration of certain species and unavoidably leads to a need for population control through starvation or regular culls
Translocation or manual reintroduction	Fox and Bekoff (2011)complex issue and decision must be ethically conducted and mindful of individual welfare and outcome for progeny must have a full accounting of the impact of reintroduction programs on individuals reintroduction through natural recovery preferable Wallach et al. (2015); Wallach et al. (2018)guardian-dog-facilitated reintroduction of bandicoots in the context of "compassionate solutions" Baker (2017)must be mindful of individuals' unique traits and the impacts on individualsBen-Ami and Mjadwesch (2017)under certain circumstances, for example, drought conditions in place of lethal programs
Fertility control or contraception *	Bekoff (2013)described as a humane option to prevent mass-killing Ben-Ami and Mjadwesch (2017)acceptable under certain circumstances should be reversible Villa Branco et al. (2017)presented as an example of a compassionate alternative to lethal control
Captive breeding	Bekoff (2013)use of captive breeding should be reduced or eliminated Ramp and Bekoff (2015)high cost to individuals; alternatives should be found Wallach et al. (2018)challenges practice of "practice prey" in captive breeding programs
Guard animals	Fox and Bekoff (2011)positive example for predator and livestock coexistence in place of lethal control Ramp and Bekoff (2015); Wallach et al. (2015); Wallach et al. (2018)positive example of carnivore management in place of lethal control Villa Branco et al. (2017)alternative to lethal control
Experiments on individuals for conservation	Bekoff (2013)unacceptable
Euthanasia	Bekoff (2013)can be an appropriate action to avoid "prolonged suffering and likely/sure death" considered on a case-by-case basis

*There was no mention of trap-neuter-release programs found in the compassionate conservation literature.

humans. But this argument also needs to be presented more carefully. For example, an action may not be unjust to humans if performing that action violates duties to sentient animals.

This and other criticisms err by begging the question about the intrinsic moral value of sentient animals. Proponents advance arguments against profound ethical anthropocentrism, sometimes drawing on scientific knowledge about animal sentience (Wallach et al., 2020b). Critics respond that compassionate conservation lacks compassion, justice, and so on because it gives insufficient weight to consequences for human, animal, or ecological interests. Or, critics allege that compassionate conservation fails to act in urgent circumstances where nonlethal options are ineffective (Table 3 SC-3.1.4) (Hayward et al., 2019; Johnson et al., 2019).

But in making these allegations, critics sometimes assume the truth of profound ethical anthropocentrism or fail to indicate how their version of consequentialism weighs human versus nonhuman interests (Hampton et al., 2019). Critics err when, in emphasizing various consequences, they overlook the need to provide justification for profound ethical anthropocentrism in a debate involving that very question. Furthermore, proponents can either adopt consequentialist theories, such as utilitarianism, or otherwise acknowledge the great importance of those consequences that critics are at pains to emphasize.

However, recognition of sentient animals' significant moral value raises problems for proponents concerning duties to both humans and nonhumans. Proponents believe that humans are owed justice and compassion (Wallach et al., 2020b). Yet, finding mutually beneficial outcomes for humans and nonhumans is not always possible. Although proponents may accept this, rejection of profound ethical anthropocentrism can arguably exacerbate ethical difficulties. Consider the question of whether and when lethal action should be taken against kangaroos that pose serious but uncertain risks to human life through potential traffic accidents where nonlethal actions have proven

ineffective or are extremely costly. Is this an example of an irresolvable moral dilemma (Fraser, 2012; Batavia et al., 2020)? How exactly does one weigh human and nonhuman interests and justly distribute harms here?

Given compassionate conversation's pluralism, these morally challenging questions may apply principally to individual proponents. Nonetheless, further acute moral questions arise. For example, proponents sometimes deny a moral duty to intervene in normal evolutionary processes to relieve animal suffering (Wallach et al., 2020a). But given their rejection of profound ethical anthropocentrism, they may be pressed to say more. Arguments that support intervention to relieve "natural" suffering (Horta, 2017) surely have some face value force for those assigning significant moral value to animals. One would, after all, assist human victims of predation. Similar considerations apply to arguments for duties to animals suffering from human actions (Driscoll & Watson, 2019). And these problems are magnified considerably if one follows, as some (but by no means all) proponents appear to, a kind of biocentrism that says that even a nonsentient "weedy plant" warrants an ethical form of compassion and significant moral consideration (Batavia et al., 2021).

Further hard questions surface about the suffering that predators inflict on prey and the prospect of policing nature. Some critics may think compassionate conservation portends a "slippery slope" toward widespread intervention and to "neutralizing" predators (Bramble, 2020). However, there are numerous ways—consequentialist, relational, rights-based, and so on—of conceiving one's duties to others, and different proponents may have differing responses to the problem of the suffering of wild individuals. Nonetheless, given its strong moral position on animals, compassionate conversation would benefit from further consideration of interventionist and predation questions.

Finally, conflicting interests can arise relative to the different kinds of sentient beings, generating further challenges. For example, one may occasionally need to decide between preventing harm or death to arguably less sentient animals (e.g., tadpoles) versus highly sapient animals (e.g., some birds and mammals). Although all sentient animals may have intrinsic moral value, people, including proponents of compassionate conservation, may well disagree over whether they have it equally, even though those proponents necessarily reject profound ethical anthropocentrism.

Clarity and application of principles

Critics contend compassionate conservation principles conflict with proponents' own views or else are unclear. Beausoleil (2020) seeks clarification about their conception of well-being and harm (SC-2.3.2, SC-4.2.2) and asks which animals are sentient. There are questions too about the grounding of intrinsic moral value in sentience versus other features and about whether killing is wrong (SC-2.3.3). Critics say compassionate conservation lacks clarity about which conservation practices it supports (Gray, 2018; Hayward et al., 2019; Johnson et al., 2019; Callen et al., 2020; Beausoleil, 2020) (Table 3 SC-4.1.1). Some critics suggest the first-do-no-harm principle (Table 3 SC-4.2.1; SC-4.1.7) is unclear or that it should permit intentionally harmful actions that improve consequences. Critics also allege compassionate conservation is unclear about conservation dilemmas (Table 3 SC-4.3.1).

These criticisms raise questions about how unclear compassionate conservation is and how detailed and specific it ought to be. Some clarifying remarks are warranted. Proponents have invoked cognition (Ramp & Bekoff, 2015) and sapience (Wallach et al., 2018) in regard to the grounding of intrinsic moral value, but sentience appears to be a key criterion (Ramp & Bekoff, 2015; Wallach et al., 2018, 2020b). Some argue that species with uncertain sentience should receive the benefit of the doubt (Bekoff, 2013). Wallach et al. (2018) invoke the Cambridge Declaration (Low et al., 2012), which claims that many species have "neurological substrates" for consciousness. Proponents call birds and cephalopods sentient along with mammals (Wallach et al., 2020a; cf. Hayward et al., 2019), but so far have not claimed that insects are sentient (e.g., ectoparasites [Hayward et al., 2019]).

For some proponents, morally relevant individual harms may include sentient states, such as distress, pain, and suffering; individual goods may include "joy," "play," and "sociality" (Bekoff & Byers, 1998; Wallach et al., 2018). Many proponents probably regard killing sentient animals as generally wrong at least partly due to the possible harm done to the surviving social groups and partly—unlike some animal welfare scientists (Beausoleil, 2020)—because death is normally a prima facie harm to the victims themselves, even if death can sometimes benefit severely suffering individuals.

Past a point, however, demands for details about compassionate conservations' conception of harm, benefit, sentience, response to dilemmas, and so on become less reasonable. That is partly because compassionate conservation has a bounded pluralism. As such, no exhaustive list exists describing the limits and nature of sentience, harm, and benefit or prescribing conservation practices or responses to dilemmas (Gray, 2018; Rohwer & Marris, 2019; Beausoleil (2020). Proponents who share foundational values may still differ in various ways. This, however, does not mean anything goes. Compassionate conservation has foundational beliefs, which can be demanding. Effectively, compassionate conservation invites conservationists to interpret those values in various contexts. This can be difficult (Bekoff, 2013; Batavia et al., 2020)—and sometimes less-than-ideal approaches may be judged the best (Ben-Ami & Mjadwesch, 2017). Table 4 summarizes various conservation practices and illustrates compassionate conservation's preference for contextual decision-making.

Critics exhibit some confusion about compassionate conservation's first do no harm principle. Should it not, they say, necessarily permit harmful or deadly actions that protect or benefit others? In medicine, the principle—also called nonmaleficence—has several connotations, including avoiding unnecessary harm and minimizing necessary harm. Nonmaleficence constrains certain harmful acts even when they apparently promise larger benefits or harm reductions. For example, it forbids (as does the principle of justice) doctors

from killing a single patient and using their organs to save many others even when that would apparently produce better consequences (Beauchamp et al., 2001).

Clearly, first do no harm does not have precisely the same application in conservation—consider the fiduciary duties doctors owe their patients. But the comparison illustrates the principle's multiple, complex connotations. In compassionate conservation, nonmaleficence severely constrains intentionally harmful and lethal interventions, but also includes a broader harm-minimization imperative. Nonetheless, such principles, in conservation or medicine, are not necessarily absolute. They also require contextual specification (Beauchamp et al., 2001). Again, however, proponents may differ among themselves when specifying principles, including, for instance, in determining how to balance human and nonhuman interests. Further discussion of the specification and balancing of principles—and, we might add, their interaction with other ideas derived from, say, multispecies justice, care ethics, the capabilities approach, or ecofeminism (Adams & Gruen, 2014; Santiago-Ávila & Lynn, 2020)—would deepen compassionate conservation's contribution.

Scientific and conservation credentials

Critics allege that compassionate conservation is neither scientific nor conservation (Table 3 SC-3.1.1) because it rejects harmful—but indispensable—conservation tools. Compassionate conservation, say critics, severely restricts conservation practice (Table 3 SC-3.1.3), threatening the decimation of collectives and biodiversity (Table 3 SC-3.1.2) (Callen et al., 2020). For critics, lethal and harmful control methods should be available as workaday tools, not exceptional ones. Critics believe proponents often ignore extensive evidence demonstrating the conservation benefits of these tools and the ecological harms that animals can cause. Some accuse compassionate conservation of science denialism (Table 3 SC-3.1.5) (Driscoll & Watson, 2019).

We bypass purely empirical disputes to focus on conceptual analysis. It is a mistake to claim that an approach that criticizes harmful methods necessarily cannot genuinely be scientific or conservation. Notwithstanding conservation's historical practice, routinely and intentionally harming or killing sentient animals is not a necessary part of the meaning of *science* or *conservation*, any more than it is part of the meaning of those practices that one may shoot or poison ecologically damaging human beings in comparable circumstances.

Of course, it may well be a necessary condition that conservationists embrace action and intervention, but compassionate conservation clearly does that (Table 4). It can also support actions to reverse ecologically damaging human practices, such as extensive animal farming. Like all conservationists, proponents aim to avert catastrophic biodiversity loss and believe that conservation is an "imperative" (Ramp et al., 2013) and a "noble pursuit" (Wallach et al., 2018). Although recognizing powerful moral duties to sentient animals, proponents need not necessarily, as some believe they do (Callen et al., 2020), always prioritize the protection of sentient individuals over collectives (Ben-Ami & Mjadwesch, 2017). For example, proponents sometimes may, without fear of inconsistency, prioritize devoting more resources to saving an endangered native species than to protecting unendangered, non-native animals.

The accusation of science denialism requires unpacking. This charge, which likens proponents to climate-change deniers, implies a particularly grave intellectual failing. Calling someone a science denier does not imply merely that they disregard or downplay certain facts and thereby practice shoddy science. Rather, denialism implies that the accused so badly lack judgment that they cannot be scientifically reasoned with (Diethelm & McKee, 2009; Lynn et al., 2019). Proponents certainly argue that traditional assumptions of nativism, instrumentalism, and collectivism can generate mistaken claims about, for instance, the value of harmful conservation tools. But while this claim leaves room for legitimate disagreement, it does not imply denialism, or even shoddy science. Indeed, it is compatible with first-rate science.

Critics may at least regard compassionate conservation as raising interesting challenges to traditional conservation. Examples include arguments that some harmful approaches lack sufficient scientific grounding (Dubois et al., 2017; Doherty & Ritchie, 2017); underestimate the difficulty of eradicating populations in mainland ecosystems (Genovesi, 2011); temporally and spatially over extrapolate results (Guerin et al., 2018) or ignore scales of biodiversity and ecosystems as dynamic and open-ended (Pickett, 2013); and underplay ecological benefits of non-native species (Wallach et al., 2020a).

Again, such ideas are wide open to scientific contestation. So too is the claim that compassionate conservation ignores substantial evidence for the conservation benefits of harmful and lethal actions. Disputants must, however, recognize that scientific and value claims are often deeply entangled in these debates (Yanco et al., 2019). Value-based differences include divergent conceptions of animal moral value and the nature of "good outcomes" for ecosystems (Hobbs et al., 2006). Accordingly, charging others with being unscientific requires significant caution.

CONCLUSION

We found that some criticisms of compassionate conservation have been clarified by proponents (Table 3), whereas others beg important questions, are confused, and overlook moral complexity. It cannot be emphasized too strongly that certain orientations in conservation are partly expressions of values and not merely of science. Furthermore, as we also stressed, compassionate conservation allows significant—if bounded—pluralism in values and scientific judgment.

Some critics worry that compassionate conservation endangers conservation (Table 3 SC-5.1.1; SC-5.1.2) (Hayward et al., 2019; Callen et al., 2020) and wild animal welfare (Beausoleil, 2020). Such criticisms often pay insufficient heed to exploring hard philosophical questions about the nature of both conservation value and animal value (Coghlan & Cardilini, 2020). It is at least possible that they also underestimate the long-term public appeal, and the associated practical value, of more animal-centered approaches to conservation.

Nonetheless, some criticisms raise important ongoing philosophical as well as empirical issues. Notwithstanding compassionate conservation's ecumenism, further discussion by proponents of difficult normative (and empirical) questions will help address criticisms and, moreover, enrich the movement. Accordingly, we recommend further exploration of questions regarding equal versus differential intrinsic moral value of different sentient animals (including humans); intentional killing and harming of animals; problems of natural and human-caused suffering of wild animals and predation; acceptability of specific conservation practices; balancing of harms, benefits, and duties; strengths and limits of compassion; and potential roles of other concepts and principles.

Soule once said that "ethical norms are a genuine part of conservation biology" (Soule, 1985). Callen et al. (2020a) suggest that philosophers can assist conservation scientists with difficult ethical questions. Our review shows the need for ongoing interdisciplinary dialogue about ethics, value, and conservation.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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