Review

The emerging movement against wild animal suffering and its potential implications for conservation

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Abstract Historically, conservation has focused on species, ecological communities, systems and processes, rather than on individual animals. Even among advocates for compassionate conservation, the focus on animal welfare or animal rights only relates to conservation activities. However, in recent years the idea of managing ecosystems primarily to improve wild animal welfare has been gaining traction among animal ethicists and animal welfare researchers. Managing ecosystems for animal welfare is generally antithetical to management to support ecological and evolutionary processes, since essential features of those processes, such as predation, privation and competition, are sources of animal suffering. Our aim in this paper is not to defend the proposal that ecosystem management should focus primarily on improving wild animal welfare. It is, rather, to situate this proposal in relation to concerns about wild animal welfare expressed by the public and conservation biologists; to connect it to the rise of subjectivist theories of animal welfare; to introduce the ethical arguments used to support elevating the importance of individual wild animals; to explain the advocacy context; to outline potential implications for conservation; and to review critiques of taking a wild animal welfare focus in ecosystem management.

Keywords Animal suffering, animal welfare, compassionate conservation, conservation goals, ecosystem management, environmental value, wild animals, ethics

Introduction

A long-running debate in ecosystem management has been whether (or when) the primary goal should be to maintain biological diversity through ecological integrity or, alternatively, to maximize the long-term usefulness of ecological systems and species for people. It has also been argued that these are not alternatives; if a broad enough, long-term view of human interests is adopted, approaches can be found that are good both for nature and for people (Norton, 1991).

Here, however, we discuss a goal for ecosystem and species management that is not about nature or people; it is about managing for the improved welfare of sentient wild animals. This goal is gaining traction among animal ethicists and animal welfare researchers, and is generally antithetical to management to support spontaneous ecological and evolutionary processes. Essential features of those processes, for example predation, privation, and competition, are seen as fundamental sources of animal suffering (Tomasik, 2015; Faria & Paez, 2019; Kianpour & Paez, 2022; Faria, 2023; Horta, 2023; Nussbaum, 2023). At present, proposed interventions to reduce wild animal suffering are relatively modest but include vaccinations, fertility control and helping animals harmed by weather events where feasible (Faria, 2023; Horta & Teran, 2023). However, as influential philosopher Martha Nussbaum (2007, p. 400) has put it, the long-term goal should be 'the gradual supplanting of the natural by the just'. Other advocates for prioritizing wild animal welfare have referred to the goal as paradise engineering (Kianpour & Paez, 2022) or creating an idyllic biosphere (Bruers et al., 2024). This could eventually involve using biotechnology to engineer individuals of predatory species so they no longer hunt prey or individuals of r-selected species so they have fewer offspring (McMahan, 2010; McMahan, 2015; Johannsen, 2020; Nussbaum, 2023; Bruers et al., 2024).

Our aim here is not to defend the proposal that ecosystem management should focus primarily on improving wild animal welfare. It is, rather, to situate this proposal in relation to concerns about wild animal welfare expressed by the public and conservation biologists; to connect it to the rise of subjectivist theories of animal welfare; to introduce the ethical arguments used to support elevating the importance of individual wild animals; to briefly explain the advocacy context; to outline potential implications for conservation; and to review critiques of a focus on wild animal welfare in ecosystem management.

Animal welfare concerns in conservation

Conservation has historically focused on species, ecological communities, systems and processes, rather than on

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individual animals. The primary conservation goal has been in situ conservation of populations and assemblages, through the maintenance of co-evolved relationships and the integrity of ecological systems and processes (Leopold, 1949; Soule, 1985; Rolston, 1988). Of course, pursuing this goal does sometimes require attending to the welfare of individual animals, such as members of highly threatened species where every individual matters. But conservation practice has accepted some compromise of animal welfare in pursuit of conservation goals, for example in the context of captive breeding or translocation. It has also involved killing members of species perceived to be invasive, sometimes using methods likely to cause significant suffering, for example grey squirrels *Sciurus carolinensis* in the UK, cats *Felis catus* and red foxes *Vulpes vulpes* in Australia, and ship rats *Rattus rattus*, stoats *Mustela erminea* and common brushtail possums *Trichosurus vulpecula* in New Zealand (Littin et al., 2004; Crowley et al., 2018; Fleming & Ballard, 2019).

Public and professional concerns about conservation rose sharply during the 1960s, in parallel to a similar increase in concern about animal welfare. In 1964, the publication of Ruth Harrison's *Animal Machines* raised alarm about animal welfare in intensive farming, rather as Rachel Carson's *Silent Spring* (1962) raised alarm about insecticides. Concern about agricultural animal welfare led to the birth of the so-called Animal Liberation movement in the early 1970s, as well as to the development of what is now called Animal Welfare Science. In the UK, the Farm Animal Welfare Council was formed in 1979 and produced the Five Freedoms approach, now the internationally used foundation for the welfare of animals under human care. Animal welfare concerns also led to burgeoning legislation addressing animal neglect and unnecessary suffering in farming, research, zoo/aquarium, sport and household contexts in Europe, the USA and elsewhere, although with considerable variation in regulations across jurisdictions.

Few regulations, however, concerned wild-living animals, as opposed to animals under human care. One exception is hunting, which has been widely regulated but where regulations generally aim at ensuring sustainable yields rather than improving animal welfare (Geist et al., 2001). Some jurisdictions do regulate forms of hunting and trapping thought to be inhumane (for instance, snares were banned in Wales in 2023, glue traps across the UK in 2024, and hunting with dogs in 2004). Research with wild animals in the field, including conservation research, generally requires assessment by Animal Care and Welfare committees, although which activities are regulated and which are exempt again varies by jurisdiction (Palmer et al., 2023).

While regulations governing wild animal welfare are currently few, there is rising public concern about the issue. The strongest evidence of this is from the USA, where the America's Wildlife Values project has carried out extensive questionnaire surveys of public wildlife values. This project differentiates between wildlife orientations, including, most significantly, Domination and Mutualist orientations. Those with a Domination orientation maintain that wildlife should be used to benefit humans, whereas Mutualists see wildlife as fellow life forms or companions in one's social world. Research indicates that Americans, especially in urban areas, have been shifting away from Domination and towards Mutualism (Manfredo et al., 2016, 2020).

There is also growing engagement in wildlife rescue and rehabilitation, with the establishment of organizations such as the International Wildlife Rehabilitation Council, which runs courses and provides lay certification in wildlife rehabilitation. An Australian study of wildlife carers found that volunteer marsupial rescuers spent an average of AUD 5,300 per annum and 31.6 hours per week caring for rescued marsupials (Englefield et al., 2019).

There has also been a rise in concern for wild animal welfare in conservation practice, particularly manifest in the discourse around compassionate conservation (Ramp & Bekoff, 2015; Wallach et al., 2018). This view 'challenges traditional conservation paradigms . . . by recognising the intrinsic value and rights of all living beings, advocating for more inclusive and ethical conservation actions that acknowledge we live together in multispecies societies, sharing one planet' (Centre for Compassionate Conservation, 2025). Interpretation of compassionate conservation has varied greatly. More minimalist interpretations promote strategies that cause least suffering, where these are available and effective, for example using quick-killing traps rather than anticoagulant poisons. However, some critics argue that conservationists have long taken animal welfare into account in this way (Hayward et al., 2019). Stronger interpretations support interventions that are believed to cause little or no suffering, such as pharmaceutical fertility control for problems of over-population, and reject killing animals for conservation goals (Wallach et al., 2018, 2020). Radical though these commitments may seem, the focus remains on refraining from killing or causing suffering to animals affected by conservation actions. Proponents of compassionate conservation have not suggested that naturogenic suffering should be alleviated or wild animal welfare improved more generally (although see Katz, 2024 for evidence of a shift in this direction). Rather, the aim is that alongside protecting wildlife populations, species and ecosystems, compassionate conservation should also include an ethical constraint concerning animal lives and welfare. The role of welfare here is analogous to the role of autonomy in biomedical research and clinical contexts. Respect for subject or patient autonomy (through informed consent) does not change the aim of the activity, such as increasing knowledge (research)

or improving health (clinical), but it constrains what can be done in pursuit of these aims, in this case conducting research or treating people without informed consent.

What differentiates the growing wild animal welfare movement is that (1) it is concerned with reducing wild animal suffering irrespective of its origin (anthropogenic or naturogenic); and (2) it advocates for this as the goal of ecosystem management, as opposed to ecological goals associated with biodiversity or integrity.

Subjectivist approaches to animal welfare

This concern about the welfare of wild animals can partly be explained by the rise in subjectivist accounts of animal welfare. Dominant traditions in Western science until the mid-20th century held that non-human animals did not have feelings, meaningful mental lives or agency; they were automata acting on instinct and responding to stimuli (Broom, 2011). However, from the 1950s onwards, ethological researchers increasingly discredited these views, arguing that many non-human animals were strongly motivated to fulfil their needs and suffered from frustration if unable to do so (Duncan & Wood-Gush, 1971). Animal welfare scientists today work from the premise that many animals consciously experience positive or negative mental states, or feelings, often referred to as sentience (Browning & Birch, 2022). There is general agreement that all mammals and birds are sentient, and strong evidence for sentience in reptiles, amphibians, bony fish and cephalopods (Birch et al., 2021; Lambert et al., 2022). Evidence is less clear about other animals, although recent research indicates that decapod crustaceans are sentient (Birch et al., 2021) and there are contested claims about sentience in some insects (Klein & Barron, 2016 and responses). Where the boundaries of sentience are placed may be significant in terms of the conservation implications of the growing movement against animal suffering.

While sentience is generally taken to be sufficient to have welfare, what constitutes animal welfare has not always been understood as being only about conscious experience. Traditionally, conservationists have understood wild animal welfare to be connected to the ability to engage in natural or species-typical behaviour in order to survive and reproduce, with minimal human interference (Rollin, 2016). However, some natural behaviour, such as male competitive fighting, can cause injuries or even be fatal, whereas engaging in apparently unnatural behaviours, such as taking advantage of food provisioning or playing computer games (captive orangutans *Pongo* spp.; Browning, 2020), can be pleasurable and advantageous to physical or cognitive health. So, natural behaviour seems to be an inadequate measure of welfare.

As a result, recent conceptions of animal welfare have focused on the extent to which animals can satisfy their preferences and get what they want (Dawkins, 2021), as well as the quality of their subjective experiences, their affective state, or how things feel to them from their own point of view (Browning, 2020). This reconceptualization of animal welfare towards experience has been adopted by the World Association of Zoos and Aquaria and other zoo accreditation organizations as the Five Domains approach, which broadens and refocuses the Five Freedoms. Nutrition, environment, health and behaviour are taken to be physical/functional domains that all contribute to the fifth domain, an animal's mental state, which determines the individual's overall welfare (Mellor et al., 2020). Most significantly, the Five Domains model emphasizes the importance not only of freedom from negative states (the emphasis of the Five Freedoms) but of positive mental states.

This experiential approach to animal welfare casts new light on traditional conservation practices. Many standard conservation activities focus on remediating or preventing anthropogenic threats and protecting critical habitat, thereby promoting species-typical behaviours. They make resources and space available for wild animals to feed, mate, raise offspring and live free of interference from people. However, this does not necessarily mean that they promote animal welfare, in the sense of positive subjective experiences for the animals concerned. Opponents of the traditional conservation approach argue that 'nature is not a source of well-being for animals . . . it is a source of permanent suffering and death' (Faria, 2023, p. 86). It follows from this that the welfare of the majority of wild animals is low; that conservation activities do not improve their lives; and conservationists may be increasing suffering by perpetuating predatory and parasitic relationships.

This claim is not in itself sufficient to justify a shift in ecosystem management goals towards promoting wild animal welfare. A sound ethical argument that people ought, morally, to care about wild animal welfare and have a responsibility to improve it is also required. If we accept that many wild animals have rich experiential lives, and those experiences are what constitutes their welfare, how should we take their preferences, desires and suffering into account in our interactions with them, including in ecosystem management contexts?

Ethical arguments in support of promoting wild animal welfare

Over the last 50 years, the view that we do not need to consider non-human animals just because they are not human (variously labelled human exceptionalism, human

chauvinism or speciesism) has been widely rejected by ethicists on the grounds that it is unjustifiable (Singer, 1973; Regan, 1983; Taylor, 1986; Plumwood, 1993; Hursthouse, 2000). It is argued that those defending such a view offer no justification for why humans are morally important and non-humans are not; or they appeal to capacities that are either not exclusive to humans, not possessed by all humans, or irrelevant to deciding whether a being matters morally. The key idea was neatly captured as long ago as 1789 by the Victorian reformer Jeremy Bentham when he wrote:

> What else is it that should trace the insuperable line? Is it the faculty of reason, or, perhaps, the faculty of discourse? But a full-grown horse or dog is beyond comparison a more rational, as well as a more conversable animal, than an infant of a day, or a week, or even a month, old. But suppose the case were otherwise, what would it avail? The question is not, Can they *reason*? nor, Can they *talk*? but, Can they *suffer*?

Here, Bentham maintains that while there is significant overlap between (some) humans and (some) animals in terms of capacities like language or reason, such capacities are anyway irrelevant for determining whether a being matters. It is sentience that matters. This does not necessarily mean that humans and sentient animals are of equal moral value, but it does mean that animal suffering should be seen as morally significant, if human suffering is.

However, the rejection of human exceptionalism and the assertion of the moral importance of non-human animals is not enough to ethically justify interventions to protect the welfare of wild animals negatively affected by ecological and evolutionary processes. After all, compassionate conservationists are also committed to considering the welfare of wild animals, but they don't maintain that naturogenic wild animal suffering should be addressed. One way to understand the different views here is in terms of negative and positive responsibilities (or duties). Negative responsibilities are duties to not cause harms or wrongs to others; positive responsibilities are duties to benefit or improve the condition of others. Compassionate conservationists advocate for negative duties to wild animals. Proponents of improving wild animal welfare advocate for positive duties to wild animals, which is the novel and controversial feature of the view.

Two general approaches have been used to argue for positive duties to wild animals: beneficence-oriented and justice-oriented. Beneficence is the moral duty or responsibility to help others when in a position to do so. That there are duties of beneficence to other people, including strangers, is widely accepted. Imagine that you are hiking in remote countryside and come across an injured and dehydrated person, unable to walk. Most people would think that you should assist them, even though they are a stranger, you are not responsible for their situation, and there is some cost to you. The morally relevant facts here are: a person in great need will suffer (and perhaps die) without your assistance, and you are in a position to aid them; that they are a stranger is irrelevant.

Now imagine that instead of another person, you come across a tortoise that has accidentally flipped over and cannot right itself. The tortoise is suffering and will die unless you intervene. The situation appears analogous to the one with the injured person: there is suffering, you are not responsible, but you are in a position to help, in fact at less cost to yourself than in the case of assisting a person. Proponents of extending beneficence to wild animals maintain that you should help in this case as well, both to be consistent and since all the morally relevant conditions are the same. You cannot argue that the relevant difference is that in one case a person is suffering and in another it is a tortoise, because that would be human exceptionalism.

Thinking that one should assist the tortoise does not necessarily imply a commitment to the idea that its interests and those of the injured person should be considered equally. One might think that even where the interests of the tortoise and the human are of similar strength (perhaps each feels thirsty to a similar degree) the human's interests are more important and should have priority. But proponents of wild animal beneficence generally adopt the principle that like interests should be considered alike, without respect to whose interests they are or the species to which they belong (Singer, 1973; Faria, 2023). Part of the justification for the principle of equal consideration of interests in interpersonal ethics is that it embodies a commitment to the equal worth of people and explains why differential consideration based on race, sex, religion or nationality are ethically problematic. Proponents of aiding wild animals simply extend equal consideration of similar interests to all sentient, non-human animals. This does not necessarily mean that non-human animals have the same interests as humans; most humans have a greater range and complexity of interests because of their psychological, cognitive, social and imaginative capacities. But it does mean that the interests of non-human animals should be considered without prejudice, i.e. not discounted or dismissed just because they are those of a non-human.

Many proponents of beneficence to wild animals combine the principle of equal considerability of interests with ethical theories that claim that we ought to bring about the best consequences for welfare overall (e.g. utilitarianism). So, for example, if we can eliminate a parasite species, such as the New World screwworm *Cochliomyia hominivorax* that causes extensive wild animal suffering, without causing more suffering elsewhere (including to the parasites themselves, were they to be sentient), we ought to do so

(Rodriguez and Harris, 2023). But not all defenders of benevolence to wild animals are utilitarians, aiming to bring about best consequences. Some endorse duty-based views, arguing that just as we have negative duties not to seriously harm others, so we also have positive duties to help them, and this should be extended to wild animals. Kyle Johannsen (2020), for instance, argues that we have a collective duty to aid wild animals, and that beneficence towards them is obligatory, including vaccination against disease and using gene-editing to spread beneficial traits.

Some justice-oriented frameworks also include positive duties towards wild animals. Justice for animals can be understood in different ways, legal or political. In legal terms, it is argued that legal standing should be extended to wild animals, so that they should be regarded as having property rights to their habitat, for example, to protect it from human incursion (Bradshaw, 2022). However, we are primarily concerned here with justice understood in the sense of political rights.

There are two obvious objections to bringing wild animals into the sphere of justice: first that the animals are wild (so they fall outside human political arrangements) and second that they are not human. One response to the first objection is to maintain that wildness no longer exists because the world is now 'dominated, everywhere, by human power and activity' (Nussbaum, 2023). Even places that have been set aside as protected areas only have that protection so long as humans assign it. Moreover, since the world has been carved up into areas where either nations or collections of nations have legal authority and associated responsibilities, all so-called wild animals already reside in some political jurisdiction; so, on this view, it is not a matter of bringing them into the political sphere, but rather, what is owed to them given that they are already there.

The second objection relates back to the issue of human exceptionalism. Of course, animals cannot engage directly in political practices such as democratic decision-making; but then, neither can some humans. This does not mean that the interests of those humans should be discounted in political decision-making. According to Nussbaum (2023), for example, a just society is one that secures for each member (human or animal) 'a decent chance to flourish'. This implies negative duties (for instance, not destroying habitat on which animals depend), but also involves positive duties to every sentient wild animal to ensure that they have a reasonable opportunity to flourish in accordance with their form of life. This means protecting their life, health and bodily integrity, including the provision of medical care and food, where possible, as well as protection against predators and natural disasters. Nussbaum has a particular substantive conception of justice (called the capabilities approach), but the justice case for promoting animal welfare does not depend on it. Any account of justice for wild animals on which they have positive rights or entitlements to the sorts of conditions Nussbaum emphasizes, e.g. health and security, will have similar implications.

Wild animal welfare and the effective altruism movement

Effective altruism has become an increasingly important player in the promotion of wild animal welfare. Effective altruism is based on the idea that philanthropy (and other forms of assistance) should identify and implement the most effective ways to benefit others by promoting overall welfare (similar to utilitarianism) through rational and impartial assessments (Centre for Effective Altruism, 2024). The effective altruism movement has grown rapidly over the past 2 decades. Founded largely by philosophers and ethicists, it has been embraced by several major philanthropic organizations and individuals, which direct hundreds of millions of dollars annually into the movement. Many other philanthropic organizations, while not expressly aligned with effective altruism, have shifted towards the sort of issues and principles of giving for which effective altruism advocates. There is also a strong and growing grass-roots movement, with hundreds of chapters around the world, online communities, conferences, research groups and networks.

Proponents of effective altruism emphasize the importance of identifying opportunities where large, cost-effective welfare gains are possible, particularly when an issue is under-prioritized relative to its significance. In interpersonal ethics, this has meant focusing on issues such as global poverty, neglected diseases and global health challenges. But the movement also has a commitment to impartiality across species, evidenced from the outset by the goal to reduce or eliminate intensive livestock farming, especially battery cages for poultry. In recent years, effective altruist organizations, including the Effective Altruism Foundation and Rethink Priorities, have become more concerned with wild animal suffering (Effective Altruism Foundation, 2017). These organizations maintain that there are far more wild animals than there are farmed animals, that these animals have low levels of welfare, and that wild animal welfare is an under-prioritized issue. For these reasons, funding is being directed towards projects, charities and research groups to study, raise awareness, and develop strategies to address the perceived problem of wild animal suffering.

Prioritizing wild animal welfare in ecosystem management

A primary focus on wild animal welfare in ecosystem management would involve a comprehensive revision of

current approaches, a reorientation of theory and practice, and a complete re-evaluation of strategies and guiding principles. It would mean reconsidering traditional conservation values and reassessing the importance of spontaneous ecological and evolutionary processes, as well as the biological diversity and complexity that emerges from them (Horta, 2017; Faria, 2023). There would need to be a shift away from protecting biological diversity, promoting system integrity, and maintaining ecological relationships and species assemblages, towards improving the welfare of individual animals, with the aim of reducing their suffering and promoting positive experiences. The kinds of questions that would need to be addressed include, for example: Are protected areas an effective way to improve wild animal welfare, or do they instead enable the sorts of processes and conditions that give rise to wild animal suffering? If ecological integrity, historical continuity and biological diversity are less important than welfare, can reintroductions, translocations and captive breeding be justified? Are familiar conservation concepts, such as historical range, ecological integrity and invasiveness, and the guiding principles that make use of them, unhelpful if the goal is to promote wild animal welfare?

This shift in the values, goals, concepts, principles and practices that guide ecosystem management would also involve changes in perspectives and attitudes to the non-human world and our relationship with wild animals. Conservation, even when it involves significant ecological interventions, is largely deferential to the spontaneity of ecological systems and processes, and the biodiversity that results from them. This is often described in terms of respect, wonder, awe, appreciation or love for those processes and their outcomes (Leopold, 1949; Carson, 1962; Hill, 1983; Taylor, 1986; Bendik-Keymer & Pedersen, 2024). In contrast, the ideals (or ultimate goals) that proponents of addressing wild animal suffering endorse are transformational with respect to ecological systems and processes. The goal, again, is 'the gradual supplanting of the natural by the just' (Nussbaum, 2007) by benevolently and rationally remaking, designing and controlling ecological systems and processes for wild animal welfare, termed paradise engineering. There is considerable interest among proponents in how bioengineering could be used, for example by feeding predators synthetic meat (Nussbaum, 2023) or genetically adapting predators to be vegetarian, whilst simultaneously administering fertility control to their former prey so that their populations do not over-expand, leading to suffering (McMahan, 2010; Bruers et al., 2024). It has also been proposed that R-selected species could be genetically adapted to have fewer offspring (Johannsen, 2020).

Proponents of an overriding focus on wild animal welfare recognize that it is not possible to responsibly engage in these sorts of systematic changes at this time. Feasibility, secondary effects, unknown risks, knowledge gaps, and technical limitations are strong reasons to be careful, deliberate and to move slowly when considering large-scale systemic interventions, and perhaps to take an incrementalist approach (Nussbaum, 2023). Nevertheless, 'a massive shift of resources is morally required for the benefit of nonhuman animals . . . particularly, those living in the wild' (Faria, 2023, p. 159). A large part of this shift in resources involves research and technology development to increase feasibility and effectiveness of interventions. Proponents therefore support biotechnology investment, for example, and advocate for developing the field of welfare biology, focused on improving understanding of what makes wild animals' lives go well or badly for them and what interventions might promote wild animal welfare (Ng, 1995; Faria, 2023; Browning & Veit, 2023).

But the fact that systemic interventions and redesign are not imminent should not, in this view, be taken as a reason not to promote wild animal welfare now. Episodic and small-scale interventions to improve the lives of wild animals, including population management, vaccination and contraception programmes, supplementary feeding, rehabilitation and legal protections, are possible and already occur in some forms (Horta, 2023). These activities could be expanded, with a greater focus on laying the groundwork and gaining the knowledge needed for large-scale transformations.

Critiques of prioritizing wild animal welfare in ecosystem management

As advocacy for a focus on wild animal welfare in ecosystem management has developed, so too have critiques. Here we briefly review emerging conceptual, theoretical, empirical, perspectival and evaluative responses. The justifications for prioritizing wild animal welfare depend on various concepts and theories, many of which are contested. We do not advocate for or against any view; rather, we aim to analyse, develop and situate the rapidly growing discourse.

While it is widely recognized that sentient animals are owed some moral consideration, the strong impartiality embraced by many proponents of wild animal welfare prioritization is contested. Even with respect to interpersonal ethics, the fact that all people have equal worth and are owed moral consideration does not necessarily imply that strangers should be considered equally or in the same ways as family and friends. There are many relational and contextual accounts of what we owe one another that are alternatives to absolute impartiality (Hursthouse, 2001; Noddings, 2013). Applied to non-human animals, this would mean that people could have duties and responsibilities to domesticated and companion animals, as well as animals that they have directly interacted with, that they do

not have to wild animals in general (Palmer, 2010; Donaldson & Kymlicka, 2011; Milburn, 2022). Perhaps, then, there are duties of beneficence to some animals with whom we have special relationships, but only duties of non-malevolence (or weak beneficence) to wild animals.

The conception of animal welfare embraced by advocates is also contested. Whilst it is now widely recognized that many non-human animals have mental lives, including the capacity for suffering and enjoyment, it does not follow that wild animal welfare should be primarily or exclusively concerned with these experiential aspects, or that they are as disconnected from species-typical behaviours and freedom from constraint as advocates propose (Rollin, 2016). Some accounts of animal welfare appeal to autonomy and dignity in ways that are not reducible to subjective experiences (Ortiz, 2004). Moreover, the quality of an animal's life may encompass aspects beyond the subjective experience or perspective. In assessments of the quality of human lives we often consider whether people lived well, not only whether they lived pleasantly (Foot, 2001; Hursthouse, 2001; Aristotle, 2019). Relatedly, there's a worry that this view involves problematic paternalism and a denial of animal agency, as it implies that people know best how wild animal lives should be lived, and can speak authoritatively about what wild animals want and desire (Vogel & Bendik-Keymer, 2024).

There are also theoretical critiques of the idea that wild animals should be recognized as having political standing as part of human communities. These maintain that wild animals are already considered in political processes, policies and laws in ways that do not involve their being fully political subjects. Moreover, if the political domain is about how we organize ourselves, and about taking responsibility for that organization, including how it affects the non-human world, then wild animals are not properly political subjects (Bendik-Keymer et al., 2024). Donaldson & Kymlicka (2011) propose a different way of thinking about this altogether, namely that wild animals occupy independent sovereign communities. In this view, humans have no political justification for entering those sovereign communities and reorganizing them in pursuit of better welfare because this would undermine their autonomy.

In addition to conceptual and theoretical critiques, there are questions about the empirical adequacy of the view. One major concern is whether the welfare of wild animals is as poor as advocates claim (Browning & Veit, 2023). Likewise, critics highlight that, given the nature of ecological processes, a benefit to some animals will always be detrimental to others (e.g. competition, predation, scavenging). So even modest interventions, such as vaccination programmes, will not necessarily result in improved wild animal welfare overall. The same is true of approaches such as predator removal or population suppression. In complex ecological systems, where there are high levels of interdependence among populations, animal welfare gains for some individuals or populations will likely bring about simultaneous welfare losses for others. Delon & Purves (2018) argue that 'the nature of ecosystems leaves us with no reason to predict that interventions would reduce, rather than exacerbate, suffering.' Advocates respond by emphasizing that this is why systemic change is needed. However, this suggests that paradise engineering cannot really be accomplished incrementally, and it is difficult to see how an engineered system to maximize wild animal welfare could actually be a functioning ecological system; it would instead be akin to a large zoo that limits interspecific interactions among animals. Thus, another empirical critique is that advocates of managing for wild animal welfare, even though they recognize feasibility and knowledge limitations, nevertheless significantly underestimate the complexity, challenges, uncertainty, tractability and risks involved (Sandler, in press), particularly when trying to determine welfare outcomes into the distant future, which temporal impartiality demands.

Perspectival critiques concern the way in which the human–nature or human–wild animal relationship is understood. For example, proposals to engineer ecological systems and the animals that comprise them, for their own benefit, strike some as exhibiting a paternalist or even colonialist logic, whereby a small group of people (probably affluent, highly educated and from the Global North) claim to know what is best for others and to speak on their behalf. Moreover, the project involves embracing domination and humanization of the non-human world (Palmer, 2022). Many view this attitude as a contributory factor to the ecological crisis (White, 1967). The idea that domination will be benevolent and rational is reminiscent of prior claims of wise use that have often resulted in high ecological, wildlife and social costs. These attitudes, particularly in combination with the epistemic and risk critiques above, suggest that paradise engineering is hubristic, lacking the humility that is required when working with complex biological, ecological and climatic systems (Sandler, in press).

Evaluative critiques concern the way in which animal welfare considerations override other values, particularly environmental, and eco-social or cultural values. Proponents of a focus on wild animal welfare argue against the value of biodiversity, spontaneity and evolution except in so far as they contribute to welfare. In their monistic view, individual welfare and flourishing, human and non-human, is all that matters. In contrast, advocates of pluralistic positions defend the view that many different things are valuable in many different ways. Environmental ethicists have been particularly adamant that there are numerous ways in which ecological systems are and should be valued, including in cultural, experiential, natural resource, historical and scientific ways, and that these

cannot all be reduced to a single type of value, whether it is ecosystem services or animal welfare (Sandler, 2012). Thus, even if wild animal welfare matters, it may not be the only value that needs to be taken into account in ecosystem management, and managing as if it were would result in a massive depletion of other types of ecological goods and eco-social values.

Taking the empirical and evaluative concerns together seems to lead to a *reductio ad absurdum* of the wild animal welfare view. If wild animal welfare is so poor, it is not tractable to address it, and it has priority over other environmental values, then the implication seems to be that it would be best, so far as possible, to reduce the number of sentient wild animals to reduce overall suffering. Following this logic would appear to make the massive depletion of wild vertebrates in the past 50 years seem like a good thing from a moral standpoint.

Conclusion

We live in a time of re-evaluation of conservation concepts, philosophies and paradigms. Pervasive anthropogenic impacts, rapid climate change, novel technologies (e.g. artificial intelligence, biotechnology) and the scale of the extinction crisis have led many to revisit conservation goals, innovate conservation strategies (e.g. de-extinction, assisted colonization, rewilding) and challenge standard conservation norms, such as native species prioritization and taking a precautionary approach (Sandler, 2020, 2024, in press). There are new actors in the conservation landscape, such as well-funded, for-profit, biotechnology companies, and new ideas are being explored. One of those ideas is that ecosystem management should prioritize wild animal welfare, an idea that has found support from a network of researchers, activists and funders.

The aim of this paper is to explore the implications of the movement to prioritize wild animal welfare in ecosystem management, situate it in the history of concern for animals within conservation, and briefly review its core theoretical foundations, its ethical justifications, as well as emerging critiques. These are early days in the development of this discourse around wild animal suffering, and we hope to raise awareness of the challenges being posed to conservation values. We believe that these issues are likely to become a much more prominent component of the future of ecosystem management and conservation discourse.

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