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Perspective

For goodness sake! What is intrinsic value and why should we care?



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ABSTRACT

In recent years, conservation planning, policy, and communications have increasingly emphasized the human benefits, or “ecosystem services,” provided by nonhuman nature. In response to this utilitarian, anthropocentric framing, some conservationists have countered that nonhuman nature is valuable for more than its instrumental use to humans. In other words, these critics maintain that nonhuman nature has intrinsic value, which the ecosystem services paradigm fails to duly acknowledge. Proponents of the ecosystem services approach have responded in turn, either by proposing that intrinsic value can be integrated into the ecosystem services framework, or by justifying the pull away from intrinsic value on the grounds that it does not motivate broad support for conservation. We suggest these debates have been clouded by an ambiguous conceptualization of intrinsic value, which in fact has a rich intellectual heritage in philosophy and environmental ethics. We therefore review some of the major work from these literatures, to provide members of the conservation community with a deeper understanding of intrinsic value that, we hope, will inform more focused and productive discourse. Following this review, we highlight two common ways intrinsic value has been misinterpreted in recent debates around ecosystem services. As a result of these misinterpretations, we argue, the non-anthropocentric ethical concerns raised by many critics of the ecosystem services approach remain effectively unaddressed. We conclude by offering logical, practical, and moral reasons why the concept of intrinsic value continues to be relevant to conservationists, even and especially in the emerging ecosystem services paradigm.

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“Just because a theory is demanding does not mean that one should reject it”

[(Hale, 2011, p. 50).]

1. Introduction

Over the past fifty years, conservation has evolved with changing views about humans, nonhuman nature, and the intersections between social and ecological systems (Mace, 2014). Conservationists today use different practices to achieve a range of objectives (Sandbrook et al., 2011), but they all work to realize some idea about how the world ought to be. Conservation, in other words, is a normative endeavor (Barry and Oelschlager, 1996). In the latter part of the 20th century, many conservationists grounded their mission in the recognition that nonhuman nature is good for its own sake, and therefore ought to be preserved. This idea was captured with reference to the intrinsic value (IV) of nonhuman nature, or some part of it (e.g., Noss, 1991; Soulé, 1985). Over the past decade, the argument that nature should be protected because it has IV has been challenged (e.g., Maguire and Justus, 2008; Marvier and Wong, 2012) and increasingly supplanted by an approach emphasizing nature’s instrumental value for humans, often called “ecosystem services” (ES).

IV still grounds the mission of many conservationists (Fisher and Brown, 2014), and is the cornerstone of the Society for Conservation Biology’s first organizational value: “There is intrinsic value in the natural diversity of organisms, the complexity of ecological systems, and the resilience created by evolutionary processes.” However, in some corners of the conservation community, a certain weariness with IV and the debates surrounding it has become palpable (e.g., Chan et al., 2016; Marvier and Kareiva, 2014b). Notably, Tallis and Lubchenco (2014) received over 200 signatures on a letter proposing we move beyond “philosophical debates” (p. 27) around IV, which putatively “stifl[e] productive discourse, [inhibit] funding and [halt] progress.” Cast in this light, debate over IV is merely distracting the community from making concerted empirical efforts to determine “what works and what fails in conservation” (Tallis and Lubchenco, 2014, p. 28), with the implication that where nonhuman IV “fails” as a motivation for conservation, other strategies that are more likely to “work” should be employed (e.g., Kareiva, 2014; Pearson, 2016). This line of reasoning, coupled with the claim that in many or most cases approaches emphasizing the human benefits of nonhuman nature work better than approaches emphasizing its IV (e.g., Marvier and Kareiva, 2014a) might seem to suggest IV is becoming irrelevant, or at best trivial, to conservation practice and policy. Far to the contrary, in this paper we demonstrate that IV is not only pertinent to, but in fact underlies, the ecosystem services paradigm in conservation.

Although invoked frequently and debated fiercely, IV is often only loosely defined in the ES literature (Justus et al., 2009). This would not be problematic, per se, except that certain recurring patterns in the discourse suggest a basic misunderstanding of the concept of IV, and non-human IV in particular. We suggest greater conceptual clarity will not only enhance conservationists’ understanding of IV and their ability to engage in focused, productive dialogue around it; but that it will also speak to the continuing relevance of IV for the conservation community. Therefore, in the first part of this paper we review some of the philosophical and environmental ethical literature on IV. Several commentaries on or reviews of IV in the context of conservation have been published in the past decade (Davidson, 2013; Justus et al., 2009;

Sandler, 2009; Vucetich et al., 2015). Vucetich et al. (2015) most recently gave an overview, clarifying a set of common conceptual and empirical misinterpretations of IV in the conservation and ecology literatures. We expand upon this work by providing additional background from philosophy and environmental ethics. Following our review we discuss two ways IV has been misunderstood in the recent ES literature, hindering productive discussion and leaving critical concerns about ES unaddressed. Finally, we offer a defense of IV, suggesting logical, practical, and ethical reasons why the concept is and should be considered deeply important to the conservation community, even and especially as the ES paradigm becomes increasingly influential in conservation.

2. Review methods

The term “intrinsic value” signifies recognition of fundamental goodness in the world (e.g., Korsgaard, 1983; Moore, 1993; Zimmerman, 2001). Though it may appear quite basic at first glance, the concept of IV is complex, with philosophically rich ontological, epistemological, and ethical dimensions (see Box 1). Philosophers have characterized these dimensions differently, and it would be misleading to suggest any one, monolithic concept of IV emerges from the philosophical literature. Therefore, rather than simplifying a contested and multi-faceted concept into any more precise, singular definition, in this review we will explain major differences in how IV has been characterized over the years. Though our review is not exhaustive, the literature we cover was selected because it exemplifies prominent themes in the philosophical work on IV.

Philosophy’s many subdisciplines can be categorized in various ways, but in this review we make a fairly coarse distinction between literature from general Western philosophy and literature from environmental ethics, a relatively young subdiscipline concerned with the proper relationship between humans and nonhuman nature (Des Jardins, 2001). We briefly outline two major schools of thought about IV from the general philosophy literature, focusing on elements of these theories that might be of interest or importance to the conservation community, before turning to a longer review of the literature on IV from environmental ethics.

3. IV in general Western philosophy

Following Bradley (2006), we distinguish between two major schools of thought on IV, one generally aligned with the work of G.E. Moore (1873–1958), and the other more closely aligned with the philosophy of Immanuel Kant (1724–1804). These two camps diverge primarily in identifying different types of things as bearers of IV (an ontological distinction), which in turn leads to different ideas about how humans ought to conduct themselves in relation to IV (an ethical distinction).

3.1. Moorean IV

On Moore’s account, IV is an unobservable (what philosophers call “non-natural”) and yet objectively real property possessed by states of affairs in the world, rather than specific objects or entities (Moore, 1993; see also Bradley, 2002; Lemos, 1994; Zimmerman, 2001). For example, consider a situation in which Mabel is pleased. On Moore’s account of IV, the situation “Mabel being pleased” has IV, but Mabel herself does not. IV is at times represented with variables, e.g., as some state of affairs P, which pertains to some being x at a specific time t, or [x, P, t]

Box 1

Conceptual dimensions of IV.

IV is a multifaceted concept that can be considered from various angles of philosophical inquiry, including:
Ontological (from “ontology,” the study of what is, what is real, the nature of existence): What is IV? What sorts of things possess IV? Are there degrees of IV, and can IV be summed or otherwise aggregated?

Epistemological (from “epistemology,” the study of what we know, and how we know it): How can we recognize IV (and, if relevant, differences in degrees of IV)? Is IV a discoverable, objective property of the world, or a subjective attribution of (human) valuers?

Ethical (from “ethics,” the study of what we ought to do, right conduct): What obligations or duties do moral agents have in relation to IV? How should we balance these duties/obligations against other ethical considerations (e.g., issues of justice or rights)?

Ontology, epistemology, and ethics are the three major dimensions of IV, which philosophers use to develop and explain their particular interpretation of the concept. Different theories will be characterized by different ideas about the ontological, epistemological, and ethical status of IV.

(Zimmerman, 2001). The IV of a state of affairs can be positive (intrinsically good), negative (intrinsically bad), or neutral. The concept of negative IV, perhaps less familiar than positive IV, can be understood as the antithesis of intrinsic goodness. In other words, negative IV is intrinsic disvalue, something that detracts from the overall goodness of the world (Zimmerman, 2001). While, as moral agents, humans should favor the intrinsically good, we should also disfavor the intrinsically bad (Lemos, 1994). A state of affairs with neutral IV, on the other hand, does not contribute to or detract from the overall value of the world, and commands neither favor nor disfavor (Lemos, 1994). States of affairs can have different degrees of IV (positive or negative), although there is disagreement as to whether these degrees can (e.g., Zimmerman, 2001) or cannot (e.g., Lemos, 1994) be quantified.

In the Moorean ethical tradition, moral agents should strive to maximize the goodness of the world, as measured by the IV of its constituent states of affairs (Bradley, 2006; Elliot, 1992). Though perhaps conceptually simple, the task of computing the IV of some situation, let alone the whole world, is operationally challenging to say the least. For example, consider the state of affairs [Lester, being pleased, at noon], which might have IV to degree five. It would seem to make sense that [Lester, being pleased to eat a hamburger, at noon] also has IV to degree five. But is the IV of [Lester, being pleased to eat a hamburger produced by industrial cattle operations accelerating the decline of an endangered bird species by converting large tracts of its critical habit into pasture, at noon] different? Or perhaps [endangered bird species, being in a state of accelerating decline, at noon] is a distinct state of affairs with negative IV that does not affect the positive IV of Lester's pleasure? Our point is that there is no objectively “correct” way to define states of affairs, let alone assign them degrees of IV, and different philosophers have proposed different ways to handle computation and aggregation of IV (see, e.g., Feldman, 2000, Lemos, 1994; Zimmerman, 2001). The significance for conservation will become clear later.

3.2. Kantian IV

Other philosophers have attributed IV not to states of affairs, but to objects or entities themselves (sometimes called “concrete particulars”) in a tradition that traces to the work of Enlightenment philosopher Immanuel Kant (see also Anderson, 1993; Korsgaard, 1983; Rabinowicz and Rannow-Rasmussen, 2000). Kantian IV is based on (or, in

philosophical parlance, “supervenes on”) some particular “good-making” property, identified as the source of IV in its bearer (Rabinowicz and Rannow-Rasmussen, 2000). For Kant this property was the capacity to use reason. As detailed below, one of the main approaches of environmental ethicists, called “extensionism,” links IV with some other property, such as sentience or being alive, in order to extend the theory of IV to include nonhuman beings.

Where Moorean IV, described above, might be compared to a continuous variable that falls along a gradient ranging from strong negative to strong positive IV, Kantian IV is more closely analogous to a dichotomous variable. A thing is good for its own sake, or it is not. There is no negative or neutral value from a Kantian perspective. IV is either absent, or it is present as a positive value, which is usually not quantified in precise amounts or to varying degrees (Bradley, 2006).

While Moorean IV is generally associated with consequentialist ethics, which focus mostly on producing good or beneficial outcomes, Kantian IV is generally associated with deontological ethics, which focus more on appropriate intentions and dutiful conduct (see McShane, 2014). In terms of IV, consequentially right conduct will maximize the positive IV of the world's states of affairs, while deontologically right conduct will demonstrate due honor or respect to bearers of IV. For example, a consequentialist might justify trophy hunting by citing the financial benefits it creates for conservation programs or local communities (e.g., Di Minin et al., 2016). A deontologist, on the other hand, might believe on principle that life is sacred and should not be sacrificed for sport or recreation, no matter how many beneficial outcomes might be achieved as a result. Along these lines, Kantian IV is used to ground normative claims about the duties and obligations moral agents have toward bearers of IV. Kant (2002), for example, believed bearers of IV should be treated with respect, “always at the same time as end and never merely as means” (p. 47). Interpreting this normative injunction as it applies specifically to nonhuman beings has been an important part of the environmental ethics agenda, discussed next.

4. IV in environmental ethics

Ethics, one of the major subdisciplines of philosophy, has historically been concerned only with humans and human affairs (Hargrove, 1989). As part of a wave of environmental consciousness taking shape in the 1960s and 1970s, environmental ethics emerged with the primary

objective of pushing ethics, including theories of IV, beyond the human realm (Hargrove, 1989; Routley, 1973). Though we cannot provide a comprehensive survey in this review (see Des Jardins, 2001), we will offer a succinct overview of some of the major positions on IV in environmental ethics. We begin by distinguishing between anthropocentric and various types of non-anthropocentric theories, before turning to the debate over subjective versus objective IV. We conclude by discussing some of the ethical implications that might follow from recognizing IV in nonhuman nature.

Before proceeding with this discussion, it is important to clarify our choice of terminology for the remainder of the paper. To be concise, we will generally refer to “nonhuman nature” or “nonhuman beings.” These phrases are not intended to imply a specifically Kantian (i.e., concrete particulars), rather than a Moorean (i.e., states of affairs) notion of nonhuman IV. While we agree with Sarkar (2005) that environmental ethicists have perhaps tended toward a more Kantian concept of IV, in many cases the literature in environmental ethics could be interpreted through either a Moorean or a Kantian lens. Although the implications of these two different interpretations of IV are certainly not trivial to conservation, it is unfortunately beyond our scope to engage fully with these finer nuances (but see McShane, 2014). We therefore do not point specifically to either a Kantian or a Moorean interpretation of IV, unless otherwise noted. Throughout the paper, streamlined phrases such as, “IV of nonhuman nature” or “intrinsically valuable non-human beings” should be read to imply, “IV of nonhuman nature *or its interests*,” or, “intrinsically valuable nonhuman beings *or states of affairs pertaining to them*.”

4.1. Anthropocentric to non-anthropocentric ethics

Environmental ethicists have sought to more comprehensively account for IV in the natural world by extending the theory of IV beyond humans alone (i.e., beyond anthropocentrism) to also include various sets of nonhumans (i.e., non-anthropocentrism). Anthropocentrism, as we define it, is the view that only humans possess IV, and therefore humans alone are worthy of direct moral consideration, discussed below (Goralnik and Nelson, 2012). Non-anthropocentrism, conversely, is any perspective recognizing IV in at least some nonhumans, and thus granting those nonhumans direct moral consideration. Anthropocentrism is often, incorrectly on our account, conflated with anthropogenesis, the idea that as humans everything we do is, by necessity, human-centered (Callicott, 1992). Sometimes the anthropogenic acknowledgment of IV in the nonhuman world is referred to as “weak anthropocentrism” (e.g., Hargrove, 1992; Norton, 1992). On the definition above, this position is not anthropocentric, and can instead be considered a form of subjectivist (see below) non-anthropocentrism. To elucidate by analogy, humans are perhaps trivially “self-centered,” in that we can only see the world through our own eyes, but we need not be morally “self-centered,” in the sense that we think and care only about ourselves. In a similar way, anthropocentrism is centered on humans because it only attributes IV to humans, not because only humans attribute IV.

Zoocentric ethics, which extend IV to sentient non-human animals (or their interests), have been advanced most prominently by Peter Singer and Tom Regan. For Singer (2011) a utilitarian, the satisfaction of wants and needs, which he calls preferences, has IV as an “ultimate end” (p. 14). Singer recognizes that humans are not the only type of being with preferences to be satisfied. Specifically, sentient animals, possessing the capacity to experience pleasure and pain, have an interest in (or a preference for) pursuing the former and avoiding the latter; and “an interest is an interest, whoever’s interest it may be” (Singer, 2011, p. 20). Therefore, unlike anthropocentric utilitarianism, Singer’s zoocentric utilitarianism accounts for all sentient animals’ interests, human and nonhuman alike. Regan (2016), on the other hand, argues for the IV (which he calls “inherent value”) of animals who are “experiencing subjects of a life...having an individual

welfare that has importance to [them] whatever [their] usefulness to others” (p. 112). Regan (2016) argues that, as bearers of IV, subjects of a life have certain rights that humans are obligated to uphold, e.g., the right to be treated with respect and spared unnecessary harm.

Biocentric environmental ethicists argue that life, or simply “being alive,” is the criterion for IV. Biocentric accounts of IV are often rooted in conation, the condition of striving to fulfill one’s interests or pursue one’s good. Paul Taylor (1981), for example, describes living beings as “teleological centers of a life” that seek to thrive and flourish. On this basis he argues all living beings possess an equal degree of IV (which he also calls “inherent value”). Holmes Rolston (2011) argues that living beings literally embody IV in fulfilling their individual and evolutionary interests (a position, discussed further below, which Agar (2001) echoes in his notion of “biopreferences”).

Ecocentric ethics extend IV to corporate nonhuman entities such as species or ecosystems. Some ecocentric philosophers use the conative properties of living individuals to ground the IV of ecological collectives, which are characterized either literally or by analogy as living beings. For example, Johnson (1991) argues that species and ecosystems, like individual organisms, have morally relevant interests. Smith (2016), similarly, proposes that species are of life (i.e., made up of individual living organisms), if not literally alive, and therefore have IV. James Lovelock’s Gaia hypothesis (2000), depicting planet Earth as an integrated, homeostatic living organism, could also be used as a basis for a biocentric environmental ethic. More commonly, however, environmental ethical theories extend IV to ecological collectives on grounds other than their status as or resemblance to individual living entities. Deep Ecology, for example, is an ecocentric ethic attributing IV to the flourishing of life in all its richness and complexity (Devall and Sessions, 1985; Naess, 2011). For Deep Ecologists individual human selves and their flourishing are only fully realized in relation to the ecological Self, which integrates humans, nonhumans, and the abiotic environment (Naess, 2011). Callicott (1989), in a different vein, defends the IV of ecological collectives by developing the philosophical underpinnings for Aldo Leopold’s celebrated land ethic. Callicott (1989) suggests human attribution of IV reflects a socio-biological adaptation for altruistic sentiments, such as love and respect for the moral community, which over evolutionary time have increasingly extended from inner kin groups to human society and eventually the full biotic community of “soils, waters, plants, and animals, or collectively: the land” (Leopold, 1966 p. 239). Callicott’s account of IV is discussed in more detail below.

Throughout this paper we will refer quite generally to “nonhuman nature,” a phrase whose usage is, again, motivated by concision rather than precision. “Nonhuman nature” is a highly generalized term. Non-anthropocentric theories actually fall along a spectrum of inclusivity, with increasingly expansive theories attributing IV to increasingly wider circle of beings, and for different reasons. As such, the arguments a conservationist might use to defend the IV of some nonhuman entity (or its interests) and advocate its protection would depend on which set of nonhumans was of moral concern. By referring to the IV of “nonhuman nature,” we are vastly simplifying a multidimensional concept that has been debated at length by the environmental ethics community (Des Jardins, 2001; Light, 2002). It is also important to note that non-anthropocentric conceptualizations of IV are not unilaterally conducive to conservation efforts. Consider, for example, a case in which the re-introduction of predators might serve overall ecosystem health. A zoocentrist, concerned for the resultant stress and suffering of individual prey, might not support predator re-introduction, arguing that the rights or welfare of individual animals ought to take moral precedence over the health of the system (Horta, 2010; see also Callicott, 1980; Regan, 1992). In this paper we emphasize non-anthropocentric theories of IV as an ethical basis for conservation. However, it is also the case that nonhuman IV might, in some instances, present complex ethical challenges for conservation.

4.2. Objective versus subjective IV

Defending an epistemologically credible theory of IV is challenging (see, e.g., Kupperman, 2005; Lemos, 1994; Svoboda, 2011 and Samuelsson, 2013 for efforts that may or may not be convincing), particularly when the theory must resonate among audiences culturally conditioned to accept statements of fact over judgments of value, and objective over subjective or relational knowledge (Plumwood, 1993; Putnam, 1992). The challenge of defending specifically *nonhuman* IV, however, is downright formidable given powerful audiences with potentially strong economic or political interests in denying the IV of non-human nature (see, e.g., Mathews, 2016; Myers, 2002). The challenge, nonetheless, was taken up with some enthusiasm by the environmental ethics community in the final decades of the 20th century, in a debate that largely focalized around the work of two philosophers, Holmes Rolston III and J. Baird Callicott.

According to Rolston (1988, 2012), living beings objectively embody IV (see also Agar, 2001; O'Neill, 1992; Taylor, 1981; White, 2013 for objectivist accounts of nonhuman IV). His argument is difficult even with book-length exposition, but in simplified terms, for Rolston an organism's good is its value, an end that it pursues in and for itself, by its very being. Genes are value-laden, normative information, evolved to promote the good of the organism, and written into an organism's physical form (Rolston, 2012). IV is independent of any human valuer; even were humans to go extinct, the earth would still be animated by non-instrumental value, which is an intrinsic property of every living organism in its environment (Rolston, 2011). Although elegant, and in many ways intuitively appealing, Rolston's argument is not without flaws (Callicott, 1992). Rolston suggests IV is an observable or empirically discoverable property of nonhuman nature. However, "observable" is not necessarily equivalent to "objective." The color yellow, for example, can quite readily be observed, e.g., in flower petals or insects' wings. However, from this fact alone we cannot deduce that the property "yellow" is not projected, constructed, or otherwise brought into observable existence by the observer herself (e.g., Kant, 2004; see also Brock and Mares, 2007 for a relatively accessible overview of the sorts of arguments philosophers employ to defend or deny claims of objectivity, sometimes called "mind-independence"). While Rolston argued, perhaps persuasively, that good or value can be observed in the nonhuman world, he fell somewhat short of demonstrating that this value exists independently of any subjective (human) valuer (Callicott, 1992).

Callicott, on the other hand, presents a subjectivist account of IV, which does not require value to exist in the absence of human valuers (see also Elliot, 1992, and arguably Hargrove, 1992, for subjectivist accounts of nonhuman IV). To ground our discussion of Callicott's position, we briefly return to general Western philosophy to explain a distinction influentially drawn by Korsgaard (1983), who differentiated between IV as the value a thing has *for itself*, as an end (versus its instrumental value as a means), and IV as the value a thing has *in itself*, by virtue of its intrinsic properties (for similar discussions see Kagan, 1998; O'Neill, 1992; Rabinowicz and Rannow-Rasmussen, 2000). The former distinction requires minimal explanation: a thing has IV as an end for itself (what Korsgaard called "final value") if it is considered good for its own sake, and not just for some other end it may serve. The latter distinction, which merits somewhat lengthier exposition, hinges on an understanding of intrinsic as opposed to extrinsic properties.

Roughly speaking, an intrinsic property is a non-relational property. North American beavers (*Castor canadensis*), for example, characteristically have webbed hind feet. This property is not defined relative to an external entity or state: beavers have webbed hind feet regardless of any relations or particular situations in which they happen to find themselves. "Webbed hind feet," then, could be considered an intrinsic property of a North American beaver. An extrinsic property, on the other hand, arises out of the relation a thing has with some other thing. For example, beavers might be considered a "keystone species" (Simberloff, 1998) because of the role they play in stream ecosystems. "Keystone,"

therefore, is an extrinsic property of the North American beaver, expressive of the species' relation with a larger ecosystem.

Korsgaard (1983) offered the poignant insight that it is possible for an object or entity to have final value by virtue of extrinsic properties, i.e., that it can be an end in itself because of its relations to some other thing(s). Endemism, for example, is an extrinsic property— a species is endemic to some geographic locale but not others— but we may still consider an endemic species good for its own sake, beyond any function or utility it also provides. Korsgaard's clarification helps lay the groundwork for Callicott's theory of subjective IV, which might be considered a type of extrinsic final value.¹ For Callicott (1992), IV is not an intrinsic (i.e., non-relational) property of the entity in question, but rather a function of its relation with a human valuer (see also Elliot, 1992). Callicott (1992) points out that the "source" of value will always be human, since value (including intrinsic value) is a quintessentially human concept. Nonetheless, a human can still identify a nonhuman entity as a "locus of value" and value it for its own sake, as an end in itself (Callicott, 1992). Callicott differentiates between the value a thing has *for something else* (its instrumental value), the value it has *in itself* (as an intrinsic property, an idea he rejects), and the value it has *for itself* (its value as an end, Korsgaard's final value). Though necessarily anthropogenic (i.e., attributed by humans), IV need not be anthropocentric (i.e., attributed only to humans).²

McShane (2007), also in a subjectivist line, points out that the attribution of IV is not experienced as raw value, but rather through a filter of moral emotions such as respect, love, or wonder. This clarification alleviates the apparent confusion in some of the more recent conservation literature over values and relationships. Chan et al. (2016), for example, suggest relationships are more salient in public and policy circles than "quaint" philosophical concepts of IV (see also Jax et al., 2013). Once we recognize that value is experienced via relationship, it becomes clear that various types of human relationship with nature, which Chan et al. (2016) call "relational values," are experiential analogues to the philosophical notion of subjective IV.

Taking seriously the work of philosophers who have questioned, often quite convincingly, the human ability to know objective, "mind-independent" reality (e.g., Brock and Mares, 2007; Chakravarty, 2016), we might generally say a subjectivist account of IV is more philosophically viable than a strictly objectivist account. However, subjectivist IV has also been challenged by members of the philosophical community. In other works Callicott (e.g., Callicott, 1985, 1999) critically probes his own theories, questioning the dualistic subject-object distinction presupposed by a subjectivist account of IV. Ecofeminist philosophers have also critiqued prevailing environmental ethical theories of IV for portraying value as a quality conferred by a human agent upon a passive, inert nonhuman "other" (e.g., Cheney, 1992). Subjective IV presupposes a dichotomized relation between subject and object, which some ecofeminists reject as an oppressive structure of masculinist, anthropocentric society (Cheney, 1992). Instead they suggest humans should engage with nonhumans as co-creators of meaning and value in the world (Plumwood, 1993; Warren, 1990).³ In this radical re-imagining, "value" is neither an objective fact nor a subjective judgment, but a dynamic reality produced, interpreted, and enacted in the interplay of human and nonhuman agents. In a different line, some philosophers have suggested value does not "exist" in any fixed state, but rather is negotiated in context (e.g., Morito, 2003; Weston, 1985). According to this pragmatist position, it is appropriate to recognize values that effectively advance a desirable objective or agenda in a particular situation (Norton, 1992). IV, from this perspective, is just

¹ Indeed, Callicott (1992) pointed out that his conceptualization of subjective IV is actually a type of extrinsic value.

² This is a conceptual conflation that is commonly seen in the conservation literature (Vucetich et al., 2015).

³ This is one account of ecofeminism, the varieties of which we cannot cover in this review (see Warren, 2015 for an overview).

one candidate out of a larger “ecology of values” that might come to bear on practical decisions pertaining to the nonhuman world (Weston, 1985).

4.3. Ethical implications of nonhuman IV

While, as a philosophical project, it is important for environmental ethicists to establish a sound ontological and epistemological basis for nonhuman IV, the wider, more practical significance of this project lies in defining the normative or ethical repercussions that follow from acknowledging IV in nonhuman nature. Taylor (1981), for example, argues that we ought to adopt a “biocentric outlook,” according due respect to all living beings as bearers of IV. Rolston (2012) suggests we have an obligation to protect nonhuman bearers of IV from extirpation (see also Smith (2016) and White (2013) for more recent accounts justifying preservation on the basis of IV), while ecofeminists suggest an ethic of engagement with and care for nonhuman others (e.g., Warren, 1990).

More generally, environmental ethicists often suggest intrinsically valuable nonhuman beings should be granted direct moral consideration (Birch, 1993; Goodpaster, 1978; Hale, 2011; Johnson, 1991). The idea behind direct moral consideration is that humans, at the very least, should recognize and consider the interests of all morally relevant beings, i.e., beings who possess IV, in making decisions that might affect them. Some philosophers have suggested we ought to go even further and grant universal moral consideration (Birch, 1993; Davison, 2012; Hunt, 1980). Arguments of this sort recognize that any criterion used to distinguish bearers from non-bearers of IV is contestable, and to some extent arbitrary (Birch, 1993; Davison, 2012). Of course, universal consideration creates a host of practical challenges (how to arbitrate among interests or make tradeoffs if everything has moral standing?), leading philosophers such as Goodpaster (1978) and Hale (2011) to distinguish between basic moral consideration and higher tiers of ethical concern and obligation. But as persuasively argued by Birch (1993), universal consideration is less a normative guide to navigate practical situations than a dramatic re-orientation of worldview, in which the license to unilaterally exploit or disregard entities as mere things, without first exploring the possibility that they may have morally relevant interests, becomes indefensible. As we discuss next, it is just such a perspectival re-orientation that the ES paradigm resists.

5. IV in the conservation discourse around ES

The focus on ES in recent conservation literature (e.g., Daily et al., 2009) has brought new if often critical attention to the concept of IV. ES surged to popular usage following the publication of the 2005 Millennium Ecosystem Assessment (MA). Categorizing ecosystem functions and processes, and maybe biodiversity, into provisioning, supporting, regulating, and cultural services, the MA framework was largely developed to impress upon a global public the extent to which humans depend on nature for their survival and wellbeing (Millennium Ecosystem Assessment, 2005). A rapidly growing body of research and literature has since sought to quantify and sometimes monetize benefits flowing from ecosystems (Abson et al., 2014), analyses that are increasingly used to inform national and international land use policy and, to some extent, conservation planning on the ground (Luck et al., 2012). In a closely related trend, often called “neoliberal conservation” (Igoe and Brockington, 2007), ES-based analyses inform the integration of conservation programs into mainstream economic institutions, e.g., in the creation of payment for ecosystem services schemes (e.g., Kosoy et al., 2007), biodiversity offsetting programs (e.g., Ives and Bekessy, 2015), and corporate partnerships with conservation NGOs (e.g., Tallis and Kareiva, 2005).

These recent trends in conservation, though met with broad enthusiasm, have also been roundly critiqued (see Schröter et al., 2014 for a review), often on grounds that the ES framework is somehow

incongruous with the acknowledgment of IV in nonhuman nature (e.g., Cafaro and Primack, 2014; McCauley, 2006; Miller et al., 2014; Wuerthner et al., 2014). Soulé (2013), for example, writes, “Is the sacrifice of so much natural productivity, beauty, and diversity prudent, even if some human communities and companies might be enriched? No. The worth of nature is beyond question and our obligation to minimize its gratuitous degradation is no less” (p. 896). We make two important observations about this critique. First, it suggests nonhuman nature has value for its own sake, beyond its instrumental value for humans, and that this value obligates humans to regard and relate with nonhuman nature appropriately. Second, the critique offers a distinctly moral, rather than political or strategic, argument. In return, proponents of the ES framework commonly make two types of response: first, that nonhuman IV can be integrated into the ES framework; or second, that IV is insufficient as an argument for conservation. As we discuss below, each response suggests, in its own way, a basic misunderstanding of the concept of IV.

5.1. IV as an ES

The first response we consider is that the ES framework does, in fact, account for the IV of nonhuman nature as a type of service. Marvier (2014), for example, considers “being able to enact and live out... moral convictions” a benefit some people receive when they value and protect nonhuman nature for its own sake (p. 1). More commonly, though, nonhuman IV is incorporated as a cultural service, the MA category encompassing the less tangible, usually non-use benefits of ecosystems, including aesthetic appreciation and spiritual value (Chan et al., 2012). In particular, “existence value,” the value people derive from simply knowing some part of nature exists, is suggested as a substitute, or at least a proxy, for IV (e.g., Chan et al., 2012; Reyers et al., 2012; Schröter et al., 2014). But is existence value a fitting measure of IV?

Consider a case in which Basil attributes IV to some particular species of liverwort. He recognizes that these liverworts are good for their own sake, regardless of anything they do for him or anyone else. To register in the ES framework, however, this recognition of value must be equated to some measurable benefit for Basil (or another human). Therefore it is presumed that Basil, being the liverwort enthusiast he is, must prefer that liverworts continue to exist, and their continuing existence provides a benefit for him. The value of this benefit is often measured by his stated willingness-to-pay (WTP) for liverwort persistence (Attfield, 1998). Although this metric might account for one type of utilitarian value employed commonly among economists, it does not account for other, non-utilitarian types of value (Millennium Ecosystem Assessment, 2005; Nunes and van den Bergh, 2001). Existence value captures the value of satisfying Basil’s preference for liverwort existence, *not* that liverworts are actually valuable (for their own sake). From a non-anthropocentric ethical perspective, this abridged notion of value is deeply problematic. Imagine, for example, a humanitarian who is willing to pay some amount of money to a handful of rebel soldiers to spare the life of a Somali refugee child. Though the sum exchanged might capture one value, i.e., the extent to which the child’s existence increases the welfare of the humanitarian (although questions have been raised about the correspondence between economists’ notions of value and stated WTP, e.g., Spash, 2000), it would not recognize, let alone capture, the value the child possesses in her own right and for her own sake. Reducing the latter value to the former in reference to a human being would generally be considered perverse and morally offensive. From a non-anthropocentric perspective, the offense of such a reductive valuation is the same when applied to nonhuman beings.

ES proponents offer that the ES framework can capture nonhuman IV, or at least something close to it, by measuring existence value. This suggests a basic misunderstanding of the distinction between IV and instrumental value. Existence value is one of the many instrumental

values of nonhuman nature, measured by the extent to which it serves to enhance human wellbeing or satisfy human preferences (Attfield, 1998; Davidson, 2013). Though IV does not exclude existence value – as we saw with Basil and his liverworts – neither can it be reduced to existence value. Therefore, although existence value certainly fits into the ES paradigm, as an indicator for IV it not only misses but also arguably belies the concept it is supposed to capture, by representing IV as one more human preference. As such, existence value certainly does not answer to, and indeed may even heighten, critics' concerns that the ES paradigm impugns the IV of nonhuman nature.

5.2. IV as a strategic argument

Against the critique that the ES paradigm fails to acknowledge the IV of nonhuman nature, some conservationists respond that IV has failed to win widespread support for conservation (e.g., Armsworth et al., 2007; Marvier and Kareiva, 2014b). Here the argument for conservation from IV (“nature for itself”) is juxtaposed against utilitarian arguments (“nature for people”) (Mace, 2014), which are purportedly more useful, more broadly appealing, and ultimately more persuasive in policy, planning, and public opinion forums (e.g., Marvier and Wong, 2012). First and foremost, we agree with Doak et al. (2013) that this claim is questionable as an empirical hypothesis, as is the claim that conservation interventions oriented toward ES will also protect those parts of nonhuman nature that may not directly or measurably enhance human well-being (e.g., Cimon-Morin et al., 2013). Leaving these questions aside, our primary concern here is that this response treats nonhuman IV as little more than a strategic campaign. The allegation made is not “nonhuman IV is not justified” or “nonhuman IV is inappropriate,” but rather “nonhuman IV does not work.” While the last response we considered failed to distinguish between IV and instrumental value, this response fails to appreciate the distinction between marketing and morality.

That “wild things and places have incalculable intrinsic value, at least as salient as the value of humanity” (Soulé, 2014, p. 1) is not a pitch, but a moral proposition. Dismissing nonhuman IV because it does not “work” treats IV as a mere tagline, a slogan for Nature™, Inc. (Arsel and Büscher, 2012) to be used if it increases sales, and replaced if it does not. As noted above, there is some philosophical precedent for this stance in the pragmatic critique of IV (e.g., Norton, 1992). We suggest this position, and the type of pragmatism underlying it, misconstrues nonhuman IV as only a rhetorical tool to be evaluated by its effectiveness, rather than a moral proposition to be judged by its justification. Of course, moral propositions can be and often are appropriated to political and social forums, as arguments (Sarkar, 2005). However, we offer that while a policy or procedure should probably be rejected if it is morally inappropriate, a moral proposition should certainly not be abandoned just because it is politically unpopular or inexpedient. “Women’s rights,” for example, is a phrase familiar to mainstream social and political discourse that also conveys a decidedly ethical idea, namely, that women have rights. Women’s rights movements have met with resistance and often progressed slowly, and even today women around the world continue to be oppressed, exploited, and subordinated. Nonetheless, we do not respond by replacing the idea of “women’s rights” with, for example, “women’s utility,” emphasizing the social benefits to be won (for men) by granting women the vote or access to education. That women have natural and concomitant legal rights is a basic moral tenet of the modern world (United Nations, 1948), whether or not it “works” as a catalyst for social change.

But perhaps the ES framework is meant to complement, rather than replace, the idea that nonhuman nature has IV. Indeed, many if not most ES proponents do not outright reject “nature for nature’s sake,” but instead treat it as one of a catalogue of arguments for conservation (e.g., Pearson, 2016; Reyers et al., 2012; Scharks and Masuda, 2016; Schröter et al., 2014). While we agree with Pearson (2016) that a variety of arguments can and should be summoned to the defense of

conservation, we add the qualification that these arguments should reinforce and augment, rather than replace or abrogate, the recognition of IV in nonhuman nature. It is perfectly consistent and morally non-problematic to recognize both instrumental and intrinsic value in one entity (Callicott, 1989; Kagan, 1998; Vucetich et al., 2015). For example, working members of society receive wages for the services they perform, in recognition of their utility. At the same time, the utility of humans is defined within a broader moral, social, political, and legal framework attributing inherent value and dignity to all human beings. To remove this framework and reduce humans merely to their utilitarian value (e.g., as slaves) would be fundamentally incompatible with the recognition that every human has value not just as a means, but also as an end in him- or herself.

In a similar way, the wholesale commodification of nonhuman nature, untethered to any non-anthropocentric ethic, would be incommensurable with the genuine acknowledgment of nonhuman nature’s IV. Fortunately the ES paradigm has not yet become such a totalizing framework, and will not as long as appeals to IV continue to populate the conservation discourse (e.g., Pearson, 2016). But the idea of nonhuman IV is certainly at risk, and will likely become functionally extinct, so to speak, if the ES approach continues to subsume conservation practice and policy (Campagna and Fernández, 2007; Olander and Maltby, 2014; Shapiro et al., 2015). We echo Silvertown (2015) in suggesting that a framework identifying and quantifying the human benefits of nonhuman nature should support, but not define, the mission of conservation. It is entirely appropriate to value the benefits humans derive from ecosystems, but these utilitarian values must be situated within a moral framework that also acknowledges the IV of nonhuman nature.

6. Why does IV still matter?

So far we have spent a lot of time discussing what IV is and is not, but some readers may still be wondering, why should we care? Let us assume the ES paradigm turns out to be effective for conservation, by whichever measures of “effectiveness” are most important. If, as we have argued, nonhuman IV does not fit particularly well within this paradigm, is there any good reason to keep thinking, talking, writing, or worrying about it? In this third and final section we suggest three reasons – one logical, one practical, and one ethical – why IV, and nonhuman IV in particular, matters (or should still matter) to the conservation community.

6.1. Logical: because conservation is premised upon IV

Because conservationists aspire and work toward some idea of how the world ought to be, conservation is a normative endeavor (e.g., Barry and Oelschläger, 1996; Soulé, 1985). Logically, the conclusion (C) that we should protect nonhuman nature rests upon the premises (P) that there is something fundamentally good, which deserves protection:

- P1. X is good as an end in itself.
- P2. We should protect things that are good as ends in themselves.
- C. Therefore, we should protect X.

P1, whether stated explicitly or not, is a claim about IV. This premise can take different forms. In the past, some conservationists explicitly asserted that at least part of nonhuman nature is an end in itself (e.g., Soulé, 1985). For example,

- P1. Biodiversity is good as an end in itself.
- P2. We should protect things that are good as ends in themselves.
- C. Therefore, we should protect biodiversity.

Over the past decade or so many conservationists have (at least publicly) re-focused this mission on ES and nonhuman nature’s value for humans (e.g., Kareiva and Marvier, 2007; Turner and Daily, 2008). In other words,

- P1. We should protect things that are essential to human wellbeing.
- P2. Ecosystem services are essential to human wellbeing.
- C. Therefore, we should protect ecosystem services.

However, this argument presupposes another, which establishes why we should be concerned about human wellbeing (P1) in the first place. That is,

P1. Human wellbeing is good as an end in itself.

P2. We should protect things that are good as ends in themselves.

C. Therefore, we should protect human wellbeing.

As this sequence of arguments hopefully makes clear, the argument for conservation of ES is still premised on IV. The difference is that, rather than appealing to nonhuman nature's IV, ES-oriented conservationists are invoking the ostensibly less controversial IV of humans and human wellbeing.⁴ Either way, IV lies at the core of the conservation endeavor, as a matter of logical necessity. However, we have not yet demonstrated why specifically *nonhuman* IV is important to conservationists. We answer to this matter in the next two sections.

6.2. Practical: because IV motivates conservationists

Many conservationists remain overtly committed to the idea that some part of nonhuman nature has IV (e.g., Cafaro and Primack, 2014; Doak et al., 2013; Wuerthner et al., 2014). In addition, a small but robust body of empirical work shows that many practicing conservationists are still motivated to protect nature for itself, even if they do not publicly promote this position for perceived practical reasons, or as dictated by top-down institutional pressures (Fisher and Brown, 2014; Holmes et al., 2016). Evidently nonhuman IV remains at the heart of the mission for many working on the conservation frontlines, and if the past is any model for the future, it is reasonable to believe the idea of nonhuman IV will continue to recruit and inspire future generations of conservationists; but only if we continue to talk about it.

Of course, one might argue that even without IV there are plenty of reasons why people would still choose to work in conservation. Sandbrook et al. (2011), for example, found that IV is one of many value commitments driving conservationists. Sandbrook (2015) suggests this pluralism is productive, and represents a maturing of the field. While we agree that diversity of perspectives is good, we also suggest the perceived diversification of the conservation community may be somewhat illusory. Pragmatism, economics, and utility are all mainstream values underlying globalized Western capitalist society (Arendt, 1958), but many cultures across the world value the nonhuman world differently (e.g., Callicott, 1994; Cordova, 2007; Flint et al., 2013). By way of analogy, consider how local biotic diversity may increase with the propagation of generalist non-native species, even as global biodiversity declines (e.g., Sax and Gaines, 2003). In a similar way, we might be witnessing the local diversification and global homogenization of human values. If, as seems evident (e.g., United Nations Framework Convention on Climate Change, 2016), we are committed to the idea that a diversity of perspectives is valuable (intrinsically or instrumentally or both), it seems more important than ever to maintain and indeed amplify dissenting views on value in the nonhuman world, even when it does not easily translate into human benefits and bottom lines.

To be clear, we are not suggesting the idea of nonhuman IV should be accepted just because it is useful or persuasive, any more than it should be rejected if it is not. Moral arguments should be evaluated on sound reasoning, not popularity (Moore, 1993). However, as we have already pointed out, instrumental value does not necessarily override or diminish IV (Callicott, 1980). Conservationists can still appreciate nonhuman IV as a useful argument, as long as they do not reduce its value solely to its utility.

6.3. Ethical: because we are moral beings

IV should matter to conservationists because appropriately interacting with the world is good in itself. As humans, we are moral

beings who care about the good and the right, and as moral agents we have a responsibility to conduct ourselves appropriately in relation to the rest of the world, which includes viewing, treating, and respecting any and all bearers of IV as ends, not merely as means (Kant, 2002). Certainly, from a socio-biological perspective, there is instrumental value in human ethics, perhaps integral to our evolution as complex social animals (de Waal, 2008). However, we propose that the pursuit of the good – morality – is also an end in itself.

An argument for the “intrinsic value of intrinsic value,” so to speak, may seem strange, and perhaps unsatisfying, particularly for scientific audiences. But a moment of reflection reveals that we pursue other worthy goals in life for their IV. Knowledge, for example, is thought to be good in itself (Zimmerman, 2001); indeed, this premise underlies the endeavors of basic science. It seems reasonable, as such, to say that recognizing the good, and living appropriately in the world, are also good for their own sakes. We find it troubling that IV has been so casually demoted in the conservation discourse, especially on (usually unsubstantiated) grounds of its ineffectiveness. This is a sad and perversely ironic mishandling of IV specifically, and morality generally. Recognizing IV, and demonstrating due favor or respect for its bearers, justify themselves (Moore, 1993), whether or not they “work” to forward some other agenda. As such, we suggest conservationists ought to acknowledge and promote nonhuman IV where there is good reason to believe it exists – simply because it is the right thing to do.

This somewhat missionary aspect of conservation may feel uncomfortable, perhaps because conservation is generally portrayed more as a scientific than an ethical endeavor (e.g., Abson et al., 2014). We suggest this is and always has been a flawed conceptualization, and now more than ever ethics and science need to be seen as two pillars of the same conservation cathedral. Rather than trying to circumvent or avoid the ethical beliefs inherent in conservation, perhaps conservationists should instead bring ethics to the frontline of conservation planning and policy, to influence and inspire the transformative moral change that arguably needs to occur as we make meaningful steps toward a sustainable future (e.g., Martin et al., 2016; White, 1967). However, while we suggest moral change is an essential part of the conservation mission, we also recognize it is not the entirety. Species continue to disappear at an alarming rate (Pimm et al., 2014), and it is absolutely imperative that conservationists continue to achieve outcomes that stop or slow the irreversible loss of biodiversity. Human values are deeply ingrained in our psychology, and likely cannot be changed by even the most concerted interventions (Manfredo et al., 2016). Therefore, if (we emphasize *if*) human individuals and societies are still largely anthropocentric, it will be more difficult to generate the necessary resources and support for conservation on a platform promoting nonhuman nature's IV than one emphasizing human benefits, or ES. If this is the case, to what extent should conservationists endorse or capitalize on anthropocentric values, which are arguably unsustainable and morally inappropriate (Mathews, 2016; Plumwood, 1993; White, 1967), to effect change on the ground, and to what extent should they challenge those values? What is the proper balance between practical strategy and moral advocacy in conservation? These are complex yet critical normative questions, which we offer to the conservation and broader interdisciplinary communities for further discussion.

It might also seem problematic to treat IV as a serious moral proposition in decision-making contexts where diverse and often conflicting values, beliefs, and worldviews underlie human relationships with the nonhuman world (Raymond et al., 2009). In these situations a quantifiable and apparently scientific, preference-based decision may appear less value-laden, more objective, and hence fairer than a decision granting special consideration to a particular moral belief about IV. However, as demonstrated above, any conservation decisions, even those based on economic calculations of preference, are premised on ethical beliefs (e.g. Dietz, 2003) invoking some particular conceptualization of IV. The ES framework, for example, appropriates to conservation the utilitarian value structure of modern welfare economics, in which

⁴ See Lute et al., 2016 and Vucetich et al., 2015 for evidence that the IV of nonhuman nature might not be as controversial as presumed.

satisfaction of rational human preferences is taken to be intrinsically valuable (Anderson, 1993; Meinard et al., 2016). ES are quantified and measured using market and non-market valuation methods that theoretically capture rational human preferences for goods such as clean water and recreation (e.g., Nunes and van den Bergh, 2001). The appraised values can then be entered into cost-benefit analyses or other decision matrices to inform whichever decisions will, on the whole, maximize human wellbeing - based on the premise that human wellbeing is good as an end in itself. This calculus is embedded with value judgments. For example, an analyst tracking flows of ecosystem services might consider only some subset of all the benefits provided by an ecosystem, usually to geographically proximate human communities (e.g., Naidoo and Ricketts, 2006). Decisions about which ES to track, and for which human stakeholders, create normative parameters defining morally relevant state(s) of affairs (i.e., states of affairs with positive or negative IV). These parameters are not given, but chosen. Though ecosystem services might appear to be a relatively objective and generally democratic valuation framework to “frame and quantify the social costs and benefits of biodiversity and ecosystems services” (Turner and Daily, 2008, p. 29), we reiterate that measurability is not the same as objectivity. Both the basic choice of an anthropocentric utilitarian framework, as well as the decisions about value and valuation made within this framework, reflect subjective values of human valuers. The transparent recognition of IV in nonhuman nature is simply an alternative to the anthropocentric conceptualization of IV underlying the ES paradigm (Gómez-Baggethun et al., 2010; Meinard et al., 2016).

Finally, it seems generally true that there is less fault in inclusivity than there is in exclusion, so perhaps the burden of proof ought to lie with those who maintain a worldview in which human interests alone are deemed worthy of moral consideration (Birch, 1993). Unless a compelling case can be made that nonhuman nature has only instrumental value for humans, and no value for its own sake, we suggest nonhuman IV and the obligations it entails ought to be treated seriously, as moral propositions, in conservation planning and decision-making.

7. Conclusion

We have entered, or so we are told, the Anthropocene, the Age of Man, where humans dominate from the depths of the ocean to the far reaches of the outer stratosphere (Steffen et al., 2007; Waters et al., 2016). It might seem intuitive, inevitable, and supremely practical that conservation would be an anthropocentric paradigm in this new era. After all, in a “postnatural” world (McKibben, 1989) saturated and commandeered by our insuperable species, a mission focused on humans is both necessary and sufficient to protect everything worth protecting, is it not? The answer, we maintain, is a resounding no, and yet to witness patterns in the recent conservation discourse, we might be led to believe otherwise. Indeed, the current ES paradigm may very well be the consummation and grand apotheosis of the global process of anthropogenization from which this new epoch draws its name.

The Western human-nature dichotomy has long been decried by environmental ethicists as a fundamental problematic of the modern age, which must be dissolved to curb the trend of increasing and irreversible environmental degradation (e.g., Callicott, 1994; Hargrove, 1989; Plumwood, 1993; White, 1967). Dismantling the dichotomy could potentially de-center humans from the moral universe, into a more evolutionarily and ethically accurate position alongside the rest of the biota. And yet, if humans come to view themselves as part of nature, why (or on what grounds) would we ever limit the human enterprise? The great potential of a non-dichotomized view of humans and nature is balanced by an equally great risk, that the use of important conservation strategies (e.g., protected areas) often justified by ethical appeals presupposing a separation of humans and nature may no longer be utilized (even though these strategies may still be effective and justifiable on other ethical grounds). Therefore, the intellectual shift toward socio-ecological systems thinking (Berkes, 2004), “humans and nature”

(Mace, 2014), and even perhaps the Anthropocene (e.g., Gibson-Graham, 2011), is both promising and precarious. While this shift has begun to blur the boundaries between humans and nature, it also necessitates a careful and creative ethical framework suited to the unique challenges of protecting the complex world we inhabit (Batavia and Nelson, 2016). Kareiva and Marvier (2012) made an effort in this direction, proposing new normative postulates for modern conservationists in a paper that stimulated lively discussion and debate (e.g., Marvier, 2013; Miller et al., 2014). Two years later, however, this debate was stifled by the pragmatic call for conservationists to stop bickering over values, embrace their differences, and focus on outcomes on the ground (Marvier, 2014; Tallis and Lubchenco, 2014). This pragmatic turn is somewhat puzzling, in that it suggests conservation is more of a practice than a mission, or more of a means than an end. In its pragmatic stance, conservation appears to operate with the primary agenda of “working,” a normative pursuit whose only principled commitment is to be effective. But we might stop to ask, effective to what end? What actually constitutes success? As individuals and as a community, how do conservationists define their mission in the 21st century?

We agree with Martin et al. (2016) that this Anthropocene epoch (perhaps more demurely named) ought to be characterized not by even further distending human hubris, but by humility and respect. In this vein, as an intellectual community and as members of a global citizenry, conservationists cannot ignore the weight of the arguments that provide compelling reason to believe that at least some parts of nonhuman have IV, and therefore deserve direct moral consideration. But at this juncture it no longer suffices to say “nature has intrinsic value,” or “we should protect nature for nature’s sake.” Instead, we suggest conservationists need to turn this generalized sentiment into a clearer statement about what is good, what is worth protecting, and what this means about how humans ought to interact with the world around them. Our hope is that this review has provided a more thorough account of the concept of IV and nonhuman IV, equipping conservationists with the conceptual clarity and the motivation to continue articulating, debating, and defending the IV of nonhuman nature.

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Main findings

As a review of intrinsic value, and a critical reflection on its status in the ecosystem services discourse, there is not necessarily a “main research finding” to be reported from this work. However, as a result of an extensive review of literature and concerted reflection on the topic, the authors suggest the concept of intrinsic value is being mishandled in a significant portion of the recent conservation literature. The concept of intrinsic value sits at the core of conservation, including conservation as it is increasingly being implemented in the prevailing ecosystem services paradigm. As such, far from a philosophical oddity or an arcane relic of an era gone by, intrinsic value is and will remain highly relevant to the conservation community. By providing a richer background and explaining the complexity of intrinsic value, this paper will equip those who are committed to conservation with the conceptual tools and vocabulary to discuss, debate, and defend their mission as conservationists.

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