Intrinsic Value, Ecology, and Conservation

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In "*What is Conservation Biology?*" Michael Soulé discusses several "normative postulates" of conservation biology, including that "biotic diversity has intrinsic value" (Soulé 1985). The idea that nature and biotic diversity have intrinsic value has been defended by several influential environmental ethicists (Rolston 1986, Callicott 1989), and it has featured prominently in some significant international declarations regarding the environment (United Nations 1992a, Earth Charter International 2000). Those who endorse the view that species and ecosystems possess intrinsic value believe that recognition of it is crucial both to justifying conservation biology and setting appropriate conservation goals.

This contribution addresses these core questions regarding intrinsic value and conservation:

1. What is intrinsic value?
2. Do any environmental entities (species, ecosystems, or organisms) possess intrinsic value?
3. Why does it matter for conservation biology whether species, ecosystems or organisms have intrinsic value?

"These things [species] count, whether or not there is anybody to do the counting" (Rolston 1986).

"Species have value in themselves, a value neither conferred nor revocable, but springing from a species' long evolutionary heritage and potential" (Soule 1985).

"[Species] may not be valuable in themselves but they certainly may be valued for themselves. According to this…account, value is, to be sure, humanly conferred, but not necessarily homocentric" (Callicott 1989).

"[E]very species counts as having the same value in the sense that, regardless of what species a living thing belongs to, it is deemed to be prima facie deserving of equal concern and consideration...[Its good is] worthy of being preserved and protected as an end in itself and for the sake of the entity whose good it is" (Taylor 1986).

"[E]ndangered species are objectively valuable kinds, good in themselves; they do have their own welfare. Respect for life ought to be directly based on this value" (Rolston 1986).

Figure 1: Quotations on the Intrinsic Value of Species.

Intrinsic value is the value that an entity has in itself, for what it is, or as an end (Figure 1). The contrasting type of value is **instrumental value**. Instrumental value is the value that something has as a means to a desired or valued end. Instrumental value is always derivative on the value of something else, and it is always conditional. Something's instrumental value fluctuates based on changes in the desirability of the end to which it is a means and whether alternative, more efficient, means are available. For example, fishing line has instrumental value just in case a person wants to catch fish; and its value might diminish if a person gains access to a much more effective fishing net. It is uncontroversial that ecosystems and species possess a wide variety of instrumental values (e.g., cultural value, recreational value, medicinal value, spiritual value, transformational value, natural resource value, and ecosystem services value). What is contested (Norton 1995, Sarkar 2005, United Nations 1992b) is whether ecosystems and species have non-instrumental value, value as an end, or value in themselves as well (i.e., intrinsic value).

There are two different views on the basis or grounding for intrinsic value. On one of these views, intrinsic value is created by human valuing (Callicott 1986, Elliot 1992). On this **subjective intrinsic value** view, something has intrinsic value if it is valued for what it is, rather than for what it can bring about. Subjective intrinsic value is created by valuers through their evaluative attitudes or judgments — it does not exist prior to or independent from these. Because of this, it is, like instrumental value, conditional. People value a wide variety of things intrinsically (e.g., personal mementos, cultural and religious artifacts, ceremonies and rituals, accomplishments, performances, and historical sites) and they do so for a variety of reasons (e.g., for what an entity represents, what it embodies, its rarity, its history, or its beauty). Because it is reason-oriented, subjective intrinsic valuing is not arbitrary and it is

open to evaluation — as well as revision — through education and persuasion. In this way, it is distinguished from mere preferences or tastes.
Many people value species and ecosystems intrinsically (e.g., for their complexity, diversity, spiritual significance, wildness, beauty, or wondrousness). As a result, species and ecosystems have subjective intrinsic value. How much subjective intrinsic value they have, in general or with respect to particular systems and species, depends upon the prevalence, strength, and stability of the valuing. Many people value some species and ecosystems (e.g., charismatic megafauna and old growth forests) more than others (e.g., infections microorganisms and deserts). As a result, they possess more subjective intrinsic value (Figure 2).

Figure 2: Hall Island, Bering Sea.
Courtesy of Anne Morkill/USFWS.

In contrast to subjective intrinsic value, **objective intrinsic value** is not humanly conferred. If something has objective intrinsic value, it has properties or features in virtue of which it is valuable, independent of anyone's attitudes or judgments. This is typically thought to be the case with respect to the value of persons, for example. People have value in virtue of what they are, not because others value them. Their value is not conditional. If species and ecosystems have objective intrinsic value, then their value is discovered by human valuers, it is not created by them. There are two prominent views regarding the objective intrinsic value of species and ecological systems: the**natural-historical value** view and the **inherent worth** view.

According to the natural-historical value view, natural entities, including species and some ecosystems, have intrinsic value in virtue of their independence from human design and control (Katz 1992) and their connection to human-independent evolutionary processes (Rolston 1986). This is the conception of intrinsic value that Soulé appeals to in his normative postulate: "*Species have value in themselves, a value neither conferred nor revocable, but springing from a species' long evolutionary heritage and potential*" (Soule 1985). Although the idea of natural-historical value is conceptually coherent, it has proven to be difficult to justify. That is, it is not easy to explain why natural-historical properties of species and systems are objectively value adding (Sandler 2007).

According to the inherent worth view, environmental entities have intrinsic value in virtue of having a good of their own or interests that people (valuers) ought to care about (Sterba 2001, Taylor 1986). All living organisms have a good of their own. There are things that are good and bad for them independent of the effects on others (e.g., oak wilt is bad for oak trees, and ocean acidification is bad for corals). While it is uncontroversial that all organisms have a good of their own, there are a variety of views regarding which organisms' good or interests people ought to care about. **Anthropocentrism** is the view that only human interests need to be taken into account (Pinchot 1914, Baxter 1974). **Nonanthropocentrism** is the view that at least some non-human interests need to be taken into account as well. (There is another conception of nonanthropocentrism on which a view is nonanthropocentric if it implies that non-human nature possesses intrinsic value of any type e.g., natural historical value, inherent worth, or subjective intrinsic value). Within nonanthropocentrism, **sentientism** is the view that only psychologically complex entities (e.g., those that experience pleasure and pain) need to have their interests considered (Singer 1977), while **biocentrism** is the view that the good of all living things need to be taken into account (Taylor 1986). Generalization arguments are the most prominent type of argument for nonanthropocentrism. They aim to show that if humans have inherent worth, then so too do non-humans i.e., there is no adequate justification for taking the good or interests of humans into consideration, but not the good or interests of non-humans (Singer 1977, Taylor 1986, Sandler 2007) (Figure 3).

Figure 3: Endangered San Joaquin Fox.
Courtesy of "Moose" B. Peterson/USFWS.

Some environmental ethicists (Sterba 2001, Johnson 1991) have argued that species and ecosystems also have a good of their own and that their good needs to be taken into account i.e., that they have inherent worth. The difficulty with this **ecocentrism** view is that it is not clear that there is anything that could be considered the species' or ecosystem's good above and beyond (or distinct from) the good of the individual organisms that comprise them. What appears to be the good of species and ecosystems often is only a by-product, average, or aggregate of that of individual organisms (and some collectives, such as ant colonies or bee hives). Therefore, even if individual wolves have a good of their own and inherent worth, *Canis lupus*, the species, may not (Cahen 1988, Sandler 2007).

Proponents of intrinsic value — both subjective and objective — believe that it is crucial to the justification for, and practice of, conservation biology. Policies and practices aim to accomplish goals. These goals need to be justified, particularly when there are costs involved in pursuing them and alternatives to them. This applies to the goals of conservation biology and ecosystem management. There are costs associated with preserving species and effectively managing ecological systems, and there are alternative uses for managed spaces and management funds. Goals are justified by appeal to values. If restricting certain activities in an area or allocating resources to preserve species is justified, the justification must make appeal to the value of the species or the ecosystem. Sometimes, the justifying value is instrumental, as is the case with fisheries (natural resource value), watersheds (ecosystem services) and ecotourism (economic value). However, many species are quite low on instrumental value (Maclaurin & Sterelny 2008), and in

some cases instrumental value (particularly economic and resource values) will favor development and use rather than conservation and preservation. In these situations, preservation, conservation, and assisted recovery goals are justified only if the organisms, species, or systems involved possess non-instrumental (i.e., intrinsic) value.

Moreover, instrumental value is substitutable, replaceable, and compensatable. If something is instrumentally valuable as a means to an end, it is possible to compare it to other potential means to the same end. If a means is lost, but some other equally adequate means exists, then there is no net value loss. Therefore, if non-human organisms, species, and ecosystems possess only instrumental value, their value-and by extension the conservation and management goals they justify-are highly contingent, defeasible, and unstable. They can and should be treated as comparable to, and substitutable by, other instrumental values. In contrast, intrinsic value is not substitutable or replaceable (Callicott 2006). If non-human organisms, species, or ecosystems have (subjective or objective) intrinsic value, their value is not dependent upon whether alternative means come available (e.g., economic or medicinal), and they cannot be traded or substituted for without loss. For this reason, proponents of intrinsic value argue that it is more stable and robust than is instrumental value with respect to justifying conservation goals. They also believe intrinsic value is relevant to developing particular conservation and management plans, strategies, and methods, since these need to reflect the values at stake. For example, natural-historical value, because it is contrary to human impacts and control, typically favors less intensive design and management — and if individual animals have inherent worth, ecosystem management practices (e.g., methods of population management and translocation) need to respect their worth as individuals.

Not all environmental ethicists agree that intrinsic value is crucial to justifying conservation goals and developing management plans and methods. Environmental pragmatists, in particular, have been critical of the instrumental value/intrinsic value distinction (Weston 1985), as well as the cogency of the concept of intrinsic value more generally (Norton 1995). Pragmatists typically argue that management goals and plans are justified procedurally (i.e., in virtue of their being developed in adequately open, informed, collaborative, and inclusive ways) rather than by process-independent (e.g., intrinsic) values (Thompson 1996). Some environmental pragmatists advocate retaining the language of intrinsic value, because it can be useful in discourse or procedural contexts (Minteer 2001). However, the pragmatic conception of intrinsic value does not have the normative features (i.e., the distinctive stability and robustness) associated with more standard conceptions of intrinsic value.

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