

**Why “Save the Whales”?: A Philosophical Examination of  
the Justifications of Conservation Biology**

by

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*“The environment was lost by increments. It can be saved by increments.”*  
–Aviva Rahmani

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### **Abstract**

One of the struggles within conservation biology is to justify the field and its objective to preserve biodiversity. The two main camps arguing in support of conservation biology are intrinsic value theorists and utilitarians. The theoretical problems accompanying these schools of thought and the absence of a solid ethical foundation have called for a new environmental ethic. In this thesis, I propose environmental virtue-based ethics as a constructive alternative to the false dichotomy presented by traditional perspectives in conservation biology. I will demonstrate that because of its ability to account for human interests alongside the wider consideration for biodiversity, while simultaneously avoiding the problems characteristic of the dominating intrinsic and instrumental value theories, Environmental Virtue-based Ethics (EVE) is uniquely poised to justify the goals of conservation biology.

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## Chapter 1: Introduction to Conservation Biology

Though earth's history has included five mass extinctions, the sixth extinction presently occurring is unique in that it is attributed to human activities. The Holocene extinction, also known as the Anthropocene extinction, is characterized by a drastic reduction in biodiversity. At least 18% and possibly up to 38% of all species are projected to become extinct by 2050 (Thomas et al., 2004). The continued destruction of approximately 100 to 1000 species per year will have negative consequences in terms of reducing aesthetic value, economic wealth, spiritual/moral development, and more pressingly—it may end in the collapse of the human race and biosphere as a whole due to our dependence on biodiversity (Chivian & Bernstein, 2008). Moreover, to curb the high rate of extinction, scientists have responded to this crisis by developing a new synthetic field of inquiry: conservation biology.

Conservation biology is an interdisciplinary scientific field that draws on areas such as ecology, environmental science, genetics, geology, agronomy, natural resource management, economics, political science, and philosophy. What separates conservation biology from traditional fields of science is its heavy dependence on values. Classic scientific fields, e.g. chemistry, physics, and biology, are also arguably built on value-judgments-- particularly with respect to theory choice (McMullin, 1982). However, these traditional scientific areas are still considered to be more objective than conservation biology due to the absence of explicit moral agendas. Positivism, the belief that legitimate science must be value-free, and its imprint on scientific culture have intensified concerns regarding conservation biology's objectivity (Barry & Oelschlaeger, 1996). Mirroring medical science, conservation biology operates under a normative premise that directs research and decision making. Instead of focusing on healing the human body, however, conservation biology's purpose is to preserve biodiversity (Odenbaugh,

2016). The idea of biodiversity, or biological diversity, is attributed to Walter G. Rosen: creator of the National Forum on Biodiversity held in 1985 (Franco, 2013, p. 2). In Rosen's simplest conception, biodiversity is the diversity of all forms of life. The broad nature of this definition has generated conflict regarding its refinement. At the United Nations Conference on Environment and Development of 1992, the newly established Convention on Biological Diversity referred to biodiversity as "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems" (United Nations, 1992, p. 3). The inclusion of different taxonomic levels clarifies the broad nature of biodiversity while singling out the hierarchical units that enable it to be quantified. Biodiversity's ability to be measured distinguishes it and conservation biology from environmentalism and general concerns for nature, which is an elusive concept that lacks the inherent ability to be quantified (Robin, Sorlin, & Warde, 2013, p. 365). Variation in genetics, the evolution and extinctions of species, and the condition of ecosystems therefore become discrete focal areas for scientists, showing that biodiversity functions as both a tool and object of value.

Though it provided context for future models and experiments, the delineation of genes, species, and ecosystems as components of biodiversity has led to further disagreement within the field. Particularly, conservation biologists have struggled to agree on a surrogate for biodiversity measurements, insofar as biodiversity's various taxonomic levels make global estimations impractical, if not impossible. Genes, populations, species, ecosystems, and biomes have been proposed as correlative features, or surrogates, of biodiversity; however, species has emerged as the most popular and conventional surrogate. E. O. Wilson, who defines species—another

contentious term-- as “a population whose members are able to interbreed freely under natural conditions,” argues that species are the most fundamental natural unit and the “grail of systematic biology” (Wilson, 2001, Chapter 4). He appeals to the way that genetics and ecology depend upon the species concept in order to be intelligible, and also notes that the simplest natural unit is essential for studying the increasingly complex biosphere (Wilson, 2001, Chapter 4). Though not all conservation biologists agree with Wilson, the models and formulae used in ecology to measure biodiversity have focused on species as a surrogate. The Shannon diversity index, which is centered on species evenness, and species richness have become accepted tools and formulae for measuring biodiversity in the field.

The disagreements over biodiversity’s true surrogate, the definition of species, and whether science should be value-free are examples of the epistemological discord in conservation biology’s philosophy. While universal acceptance has yet to be reached, the field continues to progress in attempts to protect biodiversity. Conservation biology is unique in its ability to gloss over such substantial gaps in knowledge because of its identity as a “crisis discipline.” Michael Soulé, an early architect of conservation biology, was the first to characterize conservation biology in this light. Because conservation biology’s mission is to curb the increasing rate of species extinctions, it is inherently linked to normative postulates and acting without complete certainty when making research and management decisions (Soulé, 1985). While the urgency of responding to this extinction crisis may be enough to justify the field’s work amongst environmentalists, the perennial debates over the value of biodiversity and the role of conservation biology have prevented conservation biology from garnering unequivocal support from those outside the field. Without a viable ethical foundation, conservation biology is destined to lose at the hands of anthropocentric cost-benefit perspectives.

A myriad of scientists and philosophers have responded to this issue by explicating new theories of moral justification for conservation biology. These theories are mostly value-based and consequentialist, as environmental virtue-based ethics is frequently overlooked in this context. However, applying environmental virtue-based ethics to the field of conservation biology appears to offer distinctive advantages in terms of promoting more constructive dialogue and collaboration between devoted environmentalists and staunch anti-environmentalists. Although virtue-based ethics, like any normative theory, has deficiencies that may weaken its potential as an overarching monistic moral theory, its integration into conservation biology would grant needed ethical support. Conservation biology's heterogeneous moral principles, though apparently problematic from the perspective of unity, may actually benefit the field as it offers diversity in justification. Still, even if this variety in justification does not clearly aid the field in establishing its importance, there is not necessarily a need to elect a singular moral theory to validate scientists' call to action. As Oeschlaeger demonstrates, conservation biologists' ethical beliefs may be radically different in nature, e.g. Wilson is a scientific materialist and Prance is a theist, but they still can and have converged to support protecting biodiversity (Barry & Oeschlaeger, 1996). The introduction of environmental virtue-based ethics into the philosophy of conservation biology would likely benefit the field by reframing the moral conversation in an accessible way. By asking the public questions pertinent to virtue-based ethics, such as "what kind of person would do this?" and "how would a righteous person treat the environment?" we can revolutionize how we conceive of conservation biology. In addition, environmental virtue-based ethics may benefit the field by solving the over-arching problem of moral obligation, while allowing for a significant amount of flexibility in conservation planning.

Finally, environmental virtue-based ethics' incorporation into conservation biology's value system and discourse could benefit the field by increasing support and challenging opposition more effectively. To grasp why environmental virtue-based ethics' integration into conservation biology would grant unparalleled support for its philosophical justification, it is useful to delineate and critically evaluate the popular arguments in favor of conservation biology.

## **Chapter 2: The Intrinsic and Extrinsic Value of Biodiversity**

Though the absence of a strong and unified ethical justification for conservation biology has been a significant obstacle to the field's progress, myriad thinkers have advanced the moral conversation, thus moving environmental ethics in innovative directions. While anthropocentric approaches have been favored, the ethical movement that most consistently permeates conservation biology is intrinsic value theory. Intrinsic value theory is unique in comparison to other attitudes in conservation biology, as it has acted as the primary ethical motivation for the field's creation. In the most general sense, this theory asserts that biodiversity is intrinsically valuable, good for its own sake, and as such it diverges from the more standard anthropocentric view that biodiversity is only instrumentally valuable. Something that has intrinsic value has worth in and for itself. This concept is contrasted with instrumental value, which is an object's worth only in relation to it being a means to some other end. The claim that biodiversity is intrinsically valuable, then, means that biodiversity has inherent worth that exists apart from its value in terms of what it offers to humans, i.e. the tangible benefits of biodiversity, such as its medicinal and recreational uses for humans.

In the seminal textbook, *Principles of Conservation Biology*, Meffe et al. (1994) demonstrate the theory's influence on the field as they note, "Conservation biology views all of

nature's diversity as important and having inherent value" (p. 6). The understanding that biodiversity is inherently valuable even extends to legal documents. In the United Nations' 1992 *Convention on Biological Diversity*, the preamble asserts that the contracting parties are conscious of "the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components" (p. 1). This declaration couples the idea that biodiversity holds extrinsic value in terms of its benefits to humans along with the less tangible idea that it has intrinsic value. The inclusion of intrinsic value is significant as it stresses that biodiversity is important in ways that extend beyond instrumental uses.

A plethora of environmental ethicists have embraced the intrinsic value perspective, but limit the value to hierarchical elements of the biosphere, or surrogates, that are not explicitly identical with biodiversity. As Meffe et al. (1994) note, a number of philosophers have attributed intrinsic value, traditionally only reserved for human life, to conscious animals, sentient animals, all living things, species, biotic communities, ecosystems, evolutionary processes, and all things on earth (p. 27). Only with the birth of conservation biology did the co-founder of the Society of Conservation Biology, Michael Soulé, emphasize the claim that biotic diversity has intrinsic value (Soulé, 1985). Soulé, however, notes that his postulates cannot be "tested or proven," but still insists that the "diversity of organisms is good" (Soulé, 1985). He elaborates by discussing how humans may value biodiversity because we simply do value diversity and variety as qualities in themselves. Meffe et al. (1994) also note that David Ehrenfield, another prominent figure in conservation biology, agrees that "value is an intrinsic part of diversity" (p. 27). E. O. Wilson expounded on the appeal to intrinsic value by describing how humans' coevolution with nature imparted us with a deep appreciation of wilderness and the diversity of life as a whole

(Wilson, 2001, Chapter 15). Wilson refers to this phenomenon as *biophilia*, which refers to “the connections that human beings subconsciously seek with the rest of life” (Wilson, 2001, Chapter 15).

While Soulé, Ehrenfeld, and Wilson’s mentions of biodiversity’s intrinsic value show their support for that philosophy, their acknowledgement of biodiversity’s instrumental value prevents them from being dismissed as “radicals.” Thinkers such as Arne Naess, however, have fully embraced this radicalism, which has inadvertently spurred further division within the conservation biology community. Naess, founder of the deep ecology movement, rejected anthropocentric views of nature in favor of an ecological philosophy that acknowledges the intrinsic value of human and nonhuman life (Naess, 1973). He argues that mainstream conservation is too shallow in its focus on preventing pollution and resource depletion (Naess, 1973). He shapes his *ecosophy* around his first principle, “Rejection of the man-in-environment image in favor of the relational, total-field image” (Naess, 1973, p. 95). Naess uses the ecological concept that all living things in the biosphere are intimately connected through relationships to justify his biocentric, egalitarian philosophy. In terms of conservation biology, Naess (1973) asserts that “diversity enhances the potentialities of survival, the chances of new modes of life, the richness of forms... and survival of the fittest, should be interpreted in the sense of ability to coexist and cooperate in complex relationships” (p. 96). Moreover, Naess attributes value to the richness and diversity of life in both the instrumental and intrinsic senses, though he derives a classless, ecologically egalitarian obligation for conservation, unlike most of his contemporaries (Devall & Sessions, 1985, p. 70). Despite Naess’ divergence from environmental philosophers who continue to work within the anthropocentric framework of conservation biology, there is significance in the overlap in their axiology. The common thread connecting the views of the

aforementioned thinkers is that biodiversity is valued as both a means to preserve the stability of the biosphere and the evolutionary process, as well as valued for its own sake.

Though Naess' deep ecology movement is influential, his principles are not universally accepted. In fact, though prominent conservation biologists would agree with Naess, they ultimately abandon intrinsic value when it comes to defending the importance of preserving biodiversity. When asked about biodiversity's value, for instance, David Ehrenfeld said, "For biological diversity, value is. Nothing more and nothing less.... Well, I couldn't prove it, I guess. I just believe it," and Paul Ehrlich noted, "... I just can't have the feeling that the only value they [species] might have is what they might mean to us. But you can't possibly defend that scientifically" (Takacs, 1996, p.249-252). While Ehrenfeld and Ehrlich are proponents of embracing the intrinsic value of biodiversity, they, along with their like-minded peers, cannot help but fall back on extrinsic value and anthropocentrism to justify conservation biology. The reason intrinsic value arguments seem to be inadequate on their own stems from the fact that they are not rationally derived. They are largely intuitive, and any attempt to explain why biodiversity is intrinsically valuable collapses as thinkers mention extrinsic qualities such as beauty, natural history, biosphere stability, and evolutionary awe. Therefore, when these seemingly subjective claims are made, the field's justification depends on the acceptance of beliefs that are not grounded in demonstrable principles available to all. For a scientific field to cast off rationality in favor of faith and belief would decrease the ability to have constructive dialogue in decision making processes. Opponents of conservation biology could just as easily intuit that biodiversity has no value, and consequent debates would devolve into people fruitlessly hurling their beliefs and opinions at each other, unable to convince the other side.

This obstruction explains the coupling of intrinsic and instrumental value characteristic of conservation biologists such as E. O. Wilson and Ehrenfeld. Acknowledging the inaccessibility and improvable nature of intrinsic value arguments, they complement their beliefs with arguments for biodiversity's role in ecosystem and biosphere stability as well as human-derived values, e.g. medicinal, recreational, spiritual, and aesthetic enjoyment. While instrumental justifications seem viable, Ehrenfeld (1981) notes that conservationists find themselves emotionally invested in preserving biodiversity, particularly for the "full richness of Nature, including the apparently useless majority of species," which may unintentionally capture the motivation behind intrinsic value arguments (p. 194). Many scientists became invested in the holistic diversity-stability hypothesis presented by ecology that stressed the interconnectedness of the biosphere; complex functional relationships that define ecosystems gave reason for conservation, and that any human-caused extinction event could potentially disrupt the entire ecosystem. Ehrenfeld, noting how scientists became elated with this metaphor, pointed out that although the diversity-stability hypothesis is contested, scientists such as Goodman understood the embrace of this concept, for as Goodman observed, "there is a basic appeal [in] its underlying metaphor. It is the sort of thing that people like, and want, to believe" (Ehrenfeld, 1981, p. 194). Moreover, conservationists appear to be seeking justification through both intrinsic and extrinsic value in order to protect species that are non-resources, which Ehrenfeld (1981) referred to as the "useless majority of species" (p. 194). Considering how anthropocentrically useless species have little extrinsic value beyond the possibility that their presence secures ecosystem stability, the motivation of the appeal to intrinsic value is revealed.

Though conservation biology is directed toward conserving the diversity of life, and species may be a valid potential surrogate, the majority of effort has been applied to preserving

macroscopic species—particularly “charismatic” and economically beneficial organisms. This concentration on a specific range of species is problematic to conservation biology’s agenda to preserve overall diversity. Microbes hold the greatest diversity of life, as well as the largest biomass, than any other kind of life (Sodhi & Ehrlich, 2010, p. 29). There are possibly millions of prokaryotic species, the majority of which remain unknown (Fuhrman & Campbell, 1998). Despite this abundance of variance, microorganisms have been largely ignored in conservation biology. In the text *Conservation Biology for All*, Sodhi & Ehrlich (2010) surmise that this discrimination owes itself partly to the difficulty of researching microorganisms, as they note: “Molecular and better imaging techniques are also improving species discrimination. Perhaps most significantly, however, it seems highly probable that the majority of species are parasites, and yet few people tend to think about biodiversity from this viewpoint” (p. 30). The historic disregard for microbe conservation within biodiversity reflects the anticipated concerns of scientists who sought protection for “useless,” or even parasitic, species. The weight of anthropocentric values has skewed conservation biology from its inception, as the scope of species studied remains narrow.

The bias plaguing conservation biology is even more evident when considering the species culturally favored to be preserved. Organisms that people fear or find aesthetically displeasing are less likely to receive support in conservation efforts, while “charismatic animals” that are interesting to observe and aesthetically pleasing are socially preferred to be saved (de Pinho et al., 2014). Animals such as pandas and lions resonate with the public given their aesthetic appeal, which in turn motivates research and conservation efforts. In a less shallow instance of bias, *keystone species* in ecology are also the objects of significant investments. Keystone species are species whose presence has a disproportionate impact on the environment,

that is, their extinction poses threats to the overall threat of their resident ecosystems. Moreover, while charismatic and keystone species are priorities for conservation, anthropocentrically-deemed useless species have been neglected. This inattention contextualizes the drive of scientists to attribute intrinsic value to all forms of life and all species, regardless of their ecological or anthropocentric value.

The underlying goal of asserting intrinsic value for biodiversity, then, likely relates to the burden of proof within value systems. According to Fox, intrinsic value dictates the framework in which environmental decisions are made (Meffe et al., 1994, p. 29). Meffe et al. (1994) summarize Fox's argument, as they note that if biodiversity is only instrumentally valuable, then the burden of proof lies on conservationists to assert why species should be preserved (p. 29). On the contrary, if the intrinsic value of conservationists is recognized, then the burden of proof lies on developers to justify why they are entitled to interfere with the nonhuman world at the expense of biodiversity (Meffe et al., 1994, p. 29). This is an attractive result of the intrinsic value claim for deep ecologists who truly value the diversity of life for its own sake, and as a result, useless species that are neither keystone nor charismatic members of their ecosystems would receive greater protection under this value system.

While the intrinsic value attribution is the most inclusive for conserving biodiversity, it is problematic in various ways. First, under G. E. Moore's isolation experiment, crippling doubt may be cast upon the system. Moore proposes that in order to assess if something is intrinsically valuable, we should envision this object existing in isolation, and ask if being valuable is a property of that object (Moore, 1922). While this isolation experiment is common with deconstructing the values of "nature" and the "environment," it does not seem to be intelligible with biodiversity. Biodiversity is a measurable property of ecosystems; while these ecosystems

may exist in isolation, can we truly envision biodiversity within a vacuum? Even further, if we can picture biodiversity, what would we envision? When trying to understand the essence of biodiversity, one consequence may be introducing a hierarchical divide amongst ecosystems rich in biodiversity and less rich in biodiversity that would compromise the overall global diversity of species. There also lies the issue that even if biodiversity's definition was agreed upon, it would not mandate a clear attribution of value through this thought experiment. This idea relates to Moore's "open-question argument," as one is able to validly question if biodiversity is "good" or "valuable," and the answer is not unequivocally available to the asker (1922). Such thinking depends on intuition that fails to offer universally accepted and rationally-derived responses. Thus, in terms of this thought experiment, metaphysically deriving intrinsic value from biodiversity is problematic and offers little hope for justifying conservation biology.

Another detrimental flaw in the intrinsic value argument lies within the pattern of claiming biodiversity is intrinsically valuable, but then resorting to valuing other properties that are not identical with biodiversity. For example, Wilson depends on the value of uninterrupted evolution, the continuation of natural history, and the love of life for his assertion that biodiversity is intrinsically valuable (Wilson, 2001). While related, it appears Wilson is valuing biodiversity as a means of preserving these greater ends-- meaning he is truly instrumentally valuing it. Ehrenfeld himself couples his intrinsic value claim with the hope of preserving the "richness of nature." Biodiversity then becomes an instrument for preserving wilderness and nature, rather than an end in itself. Even in deep ecology, Arne Naess does not seem to truly value biodiversity as being solely intrinsically valuable, but instead emphasizes the value of nonhuman life. And while biodiversity is a property of nonhuman life, the normative goal is the valuing of the diversity of species, not the valuing of nonhuman individuals. By arguing for the

non-instrumental value of nonhuman life as such, Naess' postulates do not strictly justify his intrinsic valuing of biodiversity, but the presentation of these values alongside one another and the continued emphasis on ecological egalitarianism verge on the edge of transforming biodiversity into just another instrument to preserve nonhuman beings.

Despite these problems, it is possible that one may maintain that biodiversity is still intrinsically valuable. However, there is also an issue with operationalizing this claim. Given that conservation biologists are explicitly trying to justify their field, the arguments they make seek a specific end: the preservation of biodiversity. But, even if intrinsic value is agreed upon, would that lead to popular agreement that biodiversity should be preserved? Meffe et al. (1994) note that even though human life is unequivocally deemed intrinsically valuable, we still engage in war and put lives at risk in the name of aggregate utility (p. 29). In addition, there is another underlying assumption: biodiversity having intrinsic value means that we must care about it and protect it (McShane, 2007, p. 49). This is a controversial development that only shifts the focus of the argument to the problem of the fact-value distinction. Just because biodiversity is factually significant, are we morally obligated to conserve it?

Overall, though the intrinsic value arguments may have some merit and appeal, they are stunted by devolutions into even more controversial philosophical arguments. Considering the urgency of the ethical justification of conservation biology, then, the intrinsic value argument lacks strength to serve as the field's foundation. Despite the shortcomings of the intrinsic value argument, analyzing the motivations behind it offer important insight into what an effective environmental ethic for conservation biology would look like. Scientists' emphasis on the importance of interconnectedness, holism, and inclusivity in particular are enlightening. In addition, it provides context as to why anthropocentric value systems pose significant challenges

to conservation biology's justification. By further examining anthropocentric arguments, the gap between the two approaches will be better characterized. Moreover, presenting and analyzing this gap will offer an opportunity to incorporate a third type of ethics: environmental virtue-based ethics.

As previously mentioned, conservation biology's goal of providing a rational justification for preserving biodiversity resulted in the coupling of intrinsic value and anthropocentric arguments. Recognizing the weaknesses of intrinsic value arguments, pragmatic thinkers have embraced the human-centered perspective to promote conservation. Anthropocentric arguments for the preservation of biodiversity are centered on the idea that biodiversity is purely instrumentally valuable; it is worth preserving due to the aesthetic, economic, spiritual, medicinal, ecosystem-serving, and recreational benefits it offers humans. Moreover, these anthropocentric arguments are utilitarian in nature; actions are evaluated based on their end results and net benefits. The wide range of desirable ends mentioned thus substantiates the goal to preserve a myriad of species; however, there are issues with the anthropocentric argument's narrowness.

First, while the controversial biodiversity-stability hypothesis motivates many to protect the diversity of species, there is little support for the rational preservation of biodiversity as the ultimate objective. Instead, only species with perceived utility would be protected. These species, known as resources, provide benefits to humans; for instance, the panda as a charismatic animal is the object of many conservation goals and a myriad of fish species receive protection due to their use in recreation. On the contrary, microbes and species that appear to lack utility are neglected in conservation efforts. While the instrumental value argument encompasses a plethora of species, it traditionally fails to account for overall biodiversity. The objective of conservation

biology under the influence of instrumental value arguments is more clearly to conserve useful species—not necessarily the diversity of life. Still, due to the intangible and rocky nature of the intrinsic value arguments, these anthropocentric arguments offer more weight in environmental decision making. Instead of infusing discourse and rhetoric with lofty ideas that are unreachable to economically-motivated people, conservationists speculate that the most convincing arguments are rooted in the instrumental valuing of resources.

Aside from the exclusion of species that are non-resources, problems still remain for this justification. First, there is a possibility that non-resources could indeed be resources for humans in the future. In response to this potential, Maclaurin & Sterelny (2008) developed a more inclusive, but still utilitarian, approach with their option value theory. Option value theory is centered on two principles: species that are not valuable now may become valuable later, and as technology advances, species that are useless may become resources through artificial intervention (Maclaurin & Sterelny, 2008, p. 154). Moreover, with this approach, biodiversity in itself can become a valuable end, even for anthropocentric thinkers, in so far as consideration of option value aligns with conservation biology's ultimate goal.

While option value offers logical justification, there is still a sense of incompleteness for both economically-motivated and intrinsically-motivated people. Dissenters have addressed the fact that motivation based purely on ignorance is not an effective or plausible justification for biodiversity preservation (Maclaurin & Sterelny, 2008, p. 155). In addition, if we are dependent on human ignorance to motivate us to cautiously preserve biodiversity, how can we confidently ascertain the probabilities of which species will likely be valuable and which will not be? There is also the chance that protected species that currently lack value will fail to ever bring a net profit to humans after significant costs have already been invested in their preservation. To base

the entire objective of conservation biology on a cautionary principle within a cost-benefit analysis carries the risk of being an ineffective avenue of justification. When devising conservation plans, the more compelling argument will likely be informed by empirical data and figures regarding current value; even if a non-resource may offer instrumental value in the future, the absence of empirical evidence and figures weakens this perspective when the interests of humans and non-resources conflict. The tangible and near-guaranteed benefits of the present will inevitably receive priority over the ambiguous and uncertain profits of the future when operating within the anthropocentric utilitarian framework. The possibility of species being conserved for their potential uses also includes the possibility that certain species may potentially become harmful to humans (Maclaurin & Sterelny, 2008, p. 156). Consequently, these gaps cause a rift in the cost-benefit utilitarian community.

Further dissecting the utilitarian approach, the assumption that all values can be reduced to cost-benefit terms collapses upon further analysis. DesJardins (2013) captures this problem by citing Mark Sagoff's argument in *The Economy of the Earth*; the essence of Sagoff's critique is that "markets cannot measure or quantify our beliefs or values" (DesJardins, 2013, p.67; Sagoff, 1990). Because economics is centered on interests, wants, and preferences, the market fails to account for principles outside of these categories. When environmental policy makers attempt to account for values and beliefs by equating them to wants or willingness to pay, their reduction is an inaccurate, if not fallacious, representation of these principles (DesJardins, 2013, p. 67; Sagoff, 1990). Moreover, the utilitarian view suffers from this blow, as there is a need for further justification regarding translating values into cost-benefit terms. Without this comprehensive theorizing, however, the cost-benefit assumption commits a leap in logic that undermines the environmentally utilitarian approach to conservation biology.

For non-anthropocentric environmentalists, Sagoff's criticism captures the weakness of the utilitarian perspective well. Additional light is shed on utilitarianism's deficiencies by lingering on the question: is valuing solely in terms of instrumental value a legitimate way to preserve biodiversity? The view that nature and biodiversity are purely resources for human interests has arguably led to the environmental crises we face today. To embrace this attitude seems precarious in the face of humans' escalating pattern of overconsumption. Stepping back to recognize the serious inadequacies of both intrinsic value theory and utilitarianism, then, reveal the extent of the problem with conservation biology's ethical foundation. The divide generated by these two competing theories thus foreshadows the emergence of virtue-based ethics as a solution.

Whereas utilitarian conceptions of conservation biology are more tangible and concrete when justifying policy, they depend on the normative assumption that it is good to evaluate the environment in purely anthropocentric ways. Deep ecologists, biocentrists, and non-anthropocentric thinkers reject this assumption by employing intrinsic value claims to justify conserving biodiversity. Given the flaws of the intrinsic value claims, however, there is a gap in a comprehensive environmental ethic that addresses conservation biology's objectives. The need for reconciliation between anthropocentric and non-anthropocentric thinkers has inspired revisions and modifications to the intrinsic and utilitarian approaches, yet the fundamental disagreement between the two systems continues to persist. The absence of a sound ethic poses problems for those interested in conserving biodiversity; instead of spreading concern and motivating opponents to support the movement, the field has focused on internal disagreements relating back to these traditional approaches. Given that conservation biology's crisis identity is rooted in the need to galvanize quickly and to act effectively in preserving biodiversity, it is

imperative to explore innovative approaches to the situation outside of the realms of radical anthropocentrism and biocentrism. Instead of further dividing defenders of human interests and the defenders of nature, it may be fruitful to apply virtue-based ethics in an effort to bridge the divided groups within the field. By reframing conservation biology's philosophy using virtue-based ethics, solving the question of sound justification will ideally yield more constructive dialogue as well as more impactful action in conservation. Considering that virtue-based ethics, a philosophy with ancient roots, is only recently experiencing a revival, it is best to examine this system of morality generally before applying it specifically to environmental ethics. By discussing the benefits and shortcomings of virtue-based ethics, it will then become easier to understand the positive and negative aspects of its application to conservation biology.

### **Chapter 3: Virtue-based Ethics as a Modern Ethical Philosophy**

As one of the forefathers of Western philosophy, Aristotle helped establish an ethical tradition to guide people to living a good life. This tradition, known as virtue-based ethics, served as the normative approach to morality for centuries. However, during the Enlightenment, virtue-based ethics was marginalized in favor of new ethical philosophies—namely utilitarian-consequentialism and Kantian deontological ethics. Consequentialism and deontological ethics focus solely on the consequences of actions and the duty of the person acting, respectively, in an attempt to develop a moral code fit for modern society. This development in modern ethics did not satisfy all philosophers. G.E.M. Anscombe's 1958 article, "Modern Moral Philosophy" captures this discontentment. Following the publication of Anscombe's work, an aretaic turn took place; while still a minority, many philosophers returned to virtue-based ethics as a promising alternative to consequentialist and deontological ethics. The birth of contemporary

virtue-based ethics resolves significant problematic issues in modern moral theories, but as we shall see, it still has a sense of incompleteness as an independent moral philosophy.

In his seminal work, *Nicomachean Ethics*, Aristotle develops the concept of virtue-based ethics. He begins by noting that all human actions are performed for the sake of an end, that is, for a good, and if human activities are to be ultimately meaningful, there must be a highest good, that for the sake of which all activities are aimed (Aristotle, 1999, p. 4). The highest good, he posits, is something that is valued both for its own sake and its consequences—thus leading him to argue that the highest good is *eudaimonia*, which translates as “true happiness” or “flourishing” (Aristotle, 1999, p. 5). To achieve *eudaimonia*, a person must be virtuous, for human flourishing is “already conceived of as something of which virtue is at least partially constitutive” (Hursthouse & Pettigrove, 2016). Different forms of virtue-based ethics debate the degree to which virtue is responsible for *eudaimonia*; Aristotle himself thought external goods were needed to supplement virtue (Hursthouse & Pettigrove, 2016). However, most, if not all, virtue ethicists agree that no matter the degree of responsibility, having virtue is necessary to live well.

Aristotle transitions from emphasizing the importance of virtue to describing how and why people should become virtuous by discussing the link between the soul and happiness. He notes that humans have rational souls that differentiate them from any other entity, and thus, in order to be a good human, one must excel by strengthening their ability to reason (Aristotle, 1999, p. 11). By excelling at being a rational human, a person develops *phronesis*, translated as “moral or practical wisdom” (Hursthouse & Pettigrove, 2016). This wisdom enables a person to discern what a virtue is and how to be virtuous. Aristotle argues that faculties and passions are neither good nor bad, leaving character as the only component of the soul that can be described

in such a way (Aristotle, 1999, p. 5). Thus, a person can be described as “good” or “bad” only in terms of his or her state of character, leading to virtues being best defined as a person’s positive state of character (Aristotle, 1999, p. 6). Aristotle explicates this claim when he writes, “every virtue or excellence both brings into good condition the thing of which it is the excellence and makes the work of that thing be done well...if this is true in every case, the virtue of man also will be the state of character which makes a man good and which makes him do his own work well” (Aristotle, 1999, p. 26). In order to achieve the state of character that makes someone do her work well, she must use her practical wisdom to discern the “intermediate” of any art, for every art has a moderate path between excess and defect (Aristotle, 1999, p. 26). Moreover, Aristotle concludes that “excess and defect are characteristic of vice, and the mean of virtue” (Aristotle, 1999, p. 27). Virtues are not simply traits of character, however; they are complex dispositions that “go all the way down” and influence everything from “emotions, choices, values, desires, perceptions, attitudes, interests, expectations, and sensibilities” (Hudson, 1986, as quoted in Hursthouse, 2000, p. 12). Moreover, embodying a virtue goes beyond performing a single virtuous act. A person who exhibits a certain virtue continuously lives her life in accordance with that virtue—meaning that virtue pervades her intentions, desires, and choice of action. Few people are purely virtuous, meaning their good intentions, desires, and actions are always in harmony. Many people are partially virtuous, but their desires or intentions are not in harmony with their reasoning. Thus, they depend on their strength of will and are recognized as continent (Hursthouse, 2000, p. 17). Incontinent people succumb to their weak will and act wrongly despite knowing better, and some others even enjoy acting wrongly, thus being labeled as “vicious” (Aristotle, 1999, p. 85).

The mixture of virtuous, continent, incontinent, and vicious people within society triggered the development of moral philosophies, moral codes, and governmental laws. During the Enlightenment, a movement defined by the desire to “think for oneself, to employ and rely on one's own intellectual capacities in determining what to believe and how to act,” thinkers such as Bentham and Mill divested from virtue-based ethics and formed new ethical philosophies to deal with the immorality and corruption of their time (Alexander & Moore, 2016). Bentham and Mill's philosophy, Utilitarianism, is consequentialist in that it proposes that the morality of actions should be judged based solely on their consequences. Specifically, Utilitarianism is founded on the principle of utility, meaning that what is morally good is that which promotes the greatest overall happiness (Hursthouse & Pettigrove, 2016). Thus, Bentham deems it a universal obligation for people to act in accordance with this principle. If someone ignores utility and acts in a way that does not maximize the happiness of the greatest number of people, his actions are immoral; if he does maximize the net happiness, his actions are deemed moral.

Utilitarian-consequentialist ethics was not the only product of the Enlightenment. Immanuel Kant, one of the most influential thinkers of the time, developed his own version of deontological ethics. Deontological ethics revolve around assessing morality in terms of duty; a person acts morally if they act in accordance with an absolute moral norm, the universal moral law, in accordance with pure reason. For Kant, what is declared to be right takes precedence over what is considered good (Alexander & Moore, 2016). Though deontological and consequentialist ethics differ completely in regard to the nature of moral reasoning, they embody the same rule-based model for ethics. Enlightenment thinkers generally agreed that the purpose of a moral philosophy was to fulfill two purposes: “a) the rule(s) would amount to a decision procedure for determining what the right action was in any particular case; (b) the rule(s) would

be stated in such terms that any non-virtuous person could understand and apply it (them) correctly” (Hursthouse, 1999, p. 32). Thus, virtue-based ethics, which is agent based, was considered unsatisfactory as a modern code of ethics, for it did not satisfy rule-based standards.

In 1958, however, virtue-based ethics experienced a renaissance after the publication of Anscombe’s, “Modern Moral Philosophy.” As products of the Enlightenment, consequentialism and deontological ethics were developed as philosophies that did not rely on religion or belief in God’s divine law. Anscombe found these philosophies’ departure from religion problematic, since their use of concepts such as “moral rightness” and “moral obligation” seems to depend on God (or the divine) as a moral authority and source of obligation (Hursthouse & Pettigrove, 2016). The secularization of moral philosophy removes God from the picture, but this means that moral laws and moral codes exist without a traditional moral lawgiver, without an authority that has the right to impose obligations on moral agents. Consequently, the concept of “moral obligation” is without foundation. Deontological and consequentialist ethics thereby lack justification, as they prescribe certain principles that people are obliged to obey, but fail to explain why people have these obligations to act in the first place.

This incoherency at the heart of modern moral philosophy led Anscombe back to the philosophy of virtue-based ethics. Citing the need for moral psychology’s development in order to have an adequate moral philosophy along with the problematic nature of moral obligation, Anscombe argues that utilitarian and deontological ethics are severely lacking (Anscombe, 1958, p. 1). Continuing in the tradition of Aristotle, Anscombe confronts the problematic nature of deeming things “morally right,” by suggesting that describing the vices or virtues employed instead, e.g. using terms like “disgraceful” or “impious” instead of calling an act “morally wrong” (Anscombe, 1958, p. 6). Though Anscombe’s purpose was not explicitly to revive

virtue-based ethics, a myriad of philosophers were inspired by her work to investigate and explore the possibility of virtue-based ethics as a modern normative ethical philosophy.

The revival of virtue-based ethics owes itself both to its own attractiveness and the problems of deontological and consequentialist theories. Deontological and consequentialist ethics are rule-based theories, meaning they fulfill modern philosophers' requirements for a complete moral philosophy. However, these theories are problematic, in so far as they fail to take into account many common human experiences that are relevant to our understanding of morality, in favor of unjustified rules that lack moral authority. Virtue-based ethics, however, circumvent these problems—including the fact-value/"is-ought" predicament. By shifting the essence of morality from "What should I do?" to "What kind of person should I be?" virtues are placed at the center of ethics without requiring an external moral authority (Hursthouse & Pettigrove, 2016). Consequently, virtue-based ethics do not require the existence of God to justify their existence, but they are nevertheless compatible with a theistic approach to ethics. As a result, virtue-based ethics has the potential to be the *via media* for all people, as it can be applied to both religious and secular belief systems.

Aside from resolving the issue of divine/moral authority, virtue-based ethics accounts for common human experiences, in that it embraces features such as friendship, love, and emotions. Deontological and consequentialist ethics demand impartiality, meaning people ought to suppress any emotional attachments and feelings towards a situation in favor of a principle such as duty or utility (Alexander & Moore, 2016). Aristotle, however, emphasized the value of friendship in the *Nicomachean Ethics*, as he wrote, "Friendship and justice seem...to be concerned with the same objects and exhibited between the same persons. For in every community there is thought to be some form of justice, and friendship too" (Aristotle, 1999,

137). By insisting on the connection between justice and friendship, Aristotle maintains that in order to have a just and cohesive community, people must respect and be mindful of their friendships. Moreover, James Rachels (1993) argues that impartiality is not the answer to an ideal ethical philosophy (p.168). He notes that people are not impartial in regard to relationships with friends and family and asks if they really should be (Rachels, 1993, p. 169). To illustrate his point, he asks if a mother loving her children is partial and if it is wrong for her to be partial; he goes further to ask “[a mother] is partial to [her children] through and through...Isn’t that exactly the way a mother should be? (Rachels, 1993, p.169). For Rachels, love and friendship are inherently part of a good moral life; and when deontological and consequentialist theories discount these features, they become shallow and unfit (Rachels, 1993, p. 169). In Michael Stocker’s *The Schizophrenia of Modern Ethical Theories*, he concurs with Rachels and states that deontological and consequentialist approaches to morality neglect “the person,” meaning these philosophies do not value love or “the beloved” in a way that corresponds with living a good life (Stocker, 1976). Where modern ethical theories fail, virtue-based ethics succeeds in that it accounts for this dimension of human behavior by incorporating both partial and impartial virtues.

Virtue-based ethics also resolves issues with character within ethical theories. While deontological and consequentialist ethics judge the morality of actions, virtue-based ethics is agent-based. By employing this approach, virtue-based ethics takes the agent’s character and intentions into account—something the other two theories often neglect. The importance of good intentions stems from Aristotle’s description of a moral person—one whose desires, reasons, and actions are in harmony. Stocker emphasized the role intentions play when describing the morality of an action when he offers the example of a friend named Smith who visits a

hypothetical you in the hospital. Stocker describes the case in which you thank and admire Smith for coming, only to find out that he came to visit you purely out of a sense of duty (Stocker, 1976, p. 462). As a result, you would likely be disappointed and receive the action in a negative way; Stocker explains this response by noting how “there is something lacking... in moral merit or value” about his friend’s motivation (1976, p. 462). Situations such as Stocker’s example are not explained by other modern moral theories, for deontological and consequential ethics generally disregard intention and character. By considering the role of intention, not to mention the role played by feelings and emotions, in the context of virtue-based ethics, your reaction to Smith is valid and important. Aristotle would argue that a truly good friend would be one who willed the best for you and came out of loyalty and compassion—not one who came out of a sense of duty or mere utility.

Another benefit of virtue-based ethics is its response to the problem of ethical motivation. Moral philosophies, namely consequentialist and deontological ones (save for the Categorical Imperative, which is to be obeyed for the sake of duty alone), rely mainly on external rewards to provide motivation, which do not seem to satisfy the goal of cultivating a comprehensive worldview of morality and reaching *eudaimonia*. Virtue-based ethics, on the contrary, invokes intrinsic motivation, meaning virtuous people are generally motivated to act virtuously simply for the sake of doing so. Psychological and psychiatric researchers Deci and Ryan’s self-determination theory encapsulates the difference between intrinsic and extrinsic motivations, as they note that, “The most basic distinction is between intrinsic motivation, which refers to doing something because it is inherently interesting or enjoyable, and extrinsic motivation, which refers to doing something because it leads to a separable outcome” (Deci & Ryan, 2000, p. 55). While extrinsic motivation is not proven to be inherently inferior to intrinsic motivation, some

economic theorists assert that intrinsic motivation is the better social mechanism to be used in the checks-and-balances of an economic practice. Van Staveren, representative of these economic philosophers, notes:

It is intrinsic motivation, rather than extrinsic motivation (such as wages, profits, or status) that drives agents to contribute to the value added of a practice... When extrinsic motivation becomes dominant, feelings of responsibility will be reduced, as well as one's commitment and teamwork. When only profit counts, firm performance may suffer from reduced productivity and less commitment to innovation and joint learning (Van Staveren, 2007, p. 32).

Alasdair MacIntyre, the author of *After Virtue*, voices similar views, as he comments on how external goods are objects of competition—meaning there must be winners and losers—while the achievement of internal goods is good for the entire community, despite being the outcome of the competition to excel (MacIntyre, 2007, p. 190). This sentiment suggests that incorporating virtue-based ethics into modern economic and corporate philosophies may benefit both the community and the individuals within it, as intrinsic motivation and internal goods help promote justice (MacIntyre, 2007, p. 192).

Though virtue-based ethics offers a number of advantages as an ethical philosophy, it has several shortcomings that give it an incomplete nature. First, it is difficult to discern what the virtues truly are and exactly what one is supposed to do in order to instantiate a particular virtue. For instance, if a person wishes to be honest, how is she supposed to know what honesty involves if it is not just the disposition to follow rules such as “Do not lie” (Rachels, 1993, p.163). In addition, which states of character are virtues and why? Some critics have accused virtue-based ethics of being culturally relative (Hursthouse & Pettigrove, 2016). For example,

Capitalists consider acquisitiveness as a virtue, but Marxists consider it a vice (Pojman, 2005, p. 276). Proponents of virtue-based ethics defend their approach to ethics by noting how deontological and consequentialist ethics are also culturally relative. Some even go further to assert that virtues appear in all cultures, regardless of their place in society, and the variation of virtues among cultures is far less than the amount variation among social norms or moral codes (MacIntyre, 2007, p. 223). How a person can discern which states are virtues has also been a shortcoming. Virtues have usually been framed in connection to *eudaimonia*. A person must have virtue to achieve *eudaimonia*—but *eudaimonia* is morally charged (Hacker-Wright, 2010, p. 216) and the content of *eudaimonia* is subject to dispute. Hacker-Wright also argues that virtue-based ethics involves circular reasoning: “Our assurance of having a correct conception of virtues depends on part of our apprehension of right action, and our concept of right action depends on having a correct conception of virtues” (Hacker-Wright, 2010, p. 216). In addition, the purpose of ethical theories is to illuminate what is right and wrong without operating on assumptions. However, the cyclical relationship between flourishing and virtue does not give an explanation of why certain acts or behaviors are right or wrong (Simpson, 1992, p. 508). The problem of morally-right action and what constitutes a virtue is prevalent in virtue-based ethics, and though it is a theoretical problem, it leads to a practical problem: action guidance.

People turn to ethical philosophies in hopes of discerning what the morally-right action is in a situation. However, virtue-based ethics is an agent-based theory, and philosophers such as Anscombe advocate for the abolition of terms such as “morally-right” (Anscombe, 1958). Though deontological and consequentialist theories may act on principles that are not virtuous, they appeal to people because they offer explicit guidelines for action. Some virtue-based ethics philosophers concede that some form of guidance is needed, and in response to the absence of

rules or codes, they suggest that one should act in order to avoid vices, e.g. “Do what is honest/charitable; do not do what is dishonest/uncharitable” (Hursthouse, 1999, p. 36). This form of guidance is a generalization of the essence of virtues; still, it is not the core of virtue-based ethics. Zagzebski (2010) offers an answer to the lack of action-guidance by utilizing a moral exemplar as a role model for right action. By considering what a virtuous person would do in a particular situation, a person should be able to decide what the correct action would be. To some, this reasoning may not be enough, for the question “who is a truly virtuous person?” arises. Marianne Talbot explores this problem when she writes, “A dishonest person, for example, will want us to trust him. This gives him reason to tell the truth most of the time. But he will hold himself ready to lie to us when it will benefit him. How can we distinguish such a person from a person who really is honest?” (Boongaling, 2016). Though virtue-based ethics does not have a clear response to discerning who is virtuous, some rely on the defense that: “If virtue consists of the right reason and the right desire, virtue-based ethics will be action-guiding when we can perceive the right reason and have successfully habituated our desires to affirm its commands” (Athanasoulis). This method of guidance requires a person to have proper moral education and moral maturity, however, which seems to defeat the purpose of establishing an ethical theory that helps vicious or incontinent people become virtuous.

Lastly, the argument has been made that agent-based ethics are self-centered, meaning virtue-based ethics focuses merely on the happiness and flourishing of the agent, rather than the community. Philippa Foot addresses this by discussing whom virtues benefit, and declares that virtues are “beneficial characteristics... a human being needs to have, for his own sake and that of his fellows” (Foot, 2002, p. 321). Moreover, it can be argued that a person acting virtuously

benefits herself and those around her, whether it is through her loyalty, wisdom, generosity, or so on.

The importance of analyzing contemporary virtue-based ethics' benefits and shortcomings stems from the way society has evolved. Virtue-based ethics were once embraced by all, as virtue was the cornerstone of Ancient Greece and traditional societies (Gong, 2010, p. 256). However, with the rise of a modern society centered on utility, virtues have been pushed to the side in favor of rule-based philosophies (Gong, 2010, p. 256). In a time where there are "stronger temptations from greed and selfish desires and a society of strangers," the need for a revival of virtue-based ethics seems to be the strongest it has ever been (Gong, 2010, p. 264). Living an ethical life and achieving *eudaimonia* offer greater internal goods than the external goods of material wealth could ever offer. With virtue-based ethics' promise to develop good persons, just communities, and a flourishing world, it may seem peculiar that it is not the most popular ethical theory. However, after examining the shortcomings of virtue-based ethics, namely the absence of explicit act-guidance and the ambiguity of what the virtues are, the prevalence of utilitarian and Kantian ethics makes sense. Though virtue-based ethics may be an incomplete philosophy, its revival has offered valuable insight to the various problems consequentialist and deontological ethics entail. As a result, virtue-based ethics has challenged philosophers to find a way to adapt virtue-based ethics for contemporary society, while also calling people to reexamine the faults of other modern ethical theories in an attempt to develop a more just world.

#### **Chapter 4: Applying Environmental Virtue-based Ethics to Conservation Biology**

##### **WHY VIRTUE-BASED ETHICS?**

While virtue-based ethics suffers from a sense of incompleteness—as all ethical systems do—applying this ethic to conservation biology can still produce valuable outcomes for the field’s justification. Though virtue-based ethics has rarely, if ever, been used to justify conservation biology, the field of environmental virtue-based ethics (EVE) has been the focus of a significant amount of philosophical theorizing throughout the past few decades. An even younger field than modern virtue-based ethics, EVE remains a nascent area of research. However, it appears to be a uniquely promising area of study due to the aforementioned general benefits, as well as reasons particular to the environment.

The aim of incorporating EVE into conservation biology is to reconcile anthropocentric and non-anthropocentric interests in order to justify the field’s goal to preserve biodiversity in a more universal and robust manner. EVE is particularly suited to mold a new worldview as it is rooted in consideration of both human interests and our relationship with nature and biodiversity. Intrinsic value theorists and their stringent non-anthropocentrism constantly conflict with the unconditional anthropocentrism of utilitarian instrumental value theorists. Not only is this conflict’s stalemate problematic, but each respective theory carries damaging internal problems with it. As previously discussed, intrinsic value theory bolsters inclusivity and justifies biodiversity conservation, but the theory is also ridden with damaging flaws such as inaccessibility and lack of demonstrability. Instrumental value theory and utilitarianism provides more tangible and accessible justification for the field, but only for established resources (species perceived as being valuable), not for biodiversity in general.

Given that both valuable and useless species contribute to biodiversity, environmental virtue-based ethics emerges as an opportunity to advance justification arguments that are more pragmatic, without disregarding inclusivity. By using EVE to justify conservation biology, the

gap between radical anthropocentrism and non-anthropocentrism is significantly mended. As EVE is centered on character and agents, it is originally rooted within an anthropocentric worldview. However, through the extension of virtue to nature and nonhuman species, virtue-based ethics transforms into a weakly anthropocentric worldview that is more “other-regarding” without disregarding our place as subjective humans. Thus, our status as human beings with ethical and higher intellectual capabilities is not denied or interpreted as an undesirable bias.

An interesting gap between anthropocentric and non-anthropocentric camps has evolved because of this rejection. Whereas intrinsic value theorists largely support ecological egalitarianism and reject speciesism, anthropocentric utilitarians have often asserted the superiority of humans over nature that has led to carcinogenic attitudes of domination and entitlement. On the one hand, Utilitarians have found the attitude that a human life is equal to a chicken’s life which is equal to the life of a microbe to be ludicrous; hence, it would be irrational to perceive the world through the biocentric egalitarian lens. On the other hand, intrinsic value theorists find the utilitarians’ view morally exclusive and discomforting. The conflict between the two competing theories has only intensified as members from each camp continue to revise and adapt philosophies in an effort for one moral system to trump the other. Instead of confining the justification of conservation biology in either box, EVE is uniquely poised to validate both human concerns and environmental concerns within one field.

In addressing both areas of concern, EVE operates by reframing the conservation debate. Instead of asking why certain actions are immoral, EVE focuses on common human experience by asking questions such as “what kind of person should I be?” and “what does a good life look like?” The shift from rule-based ethics to agent-based ethics provides space to examine one’s character in itself and its relation to the environment. Character can be understood as the

amalgamation of complex dispositions a person has, some of which could be classified as virtues or vices. To recap regarding the definition of virtues, as quoted in Chapter 3, Hudson describes them as complex dispositions that “go all the way down” and influence everything from “emotions, choices, values, desires, perceptions, attitudes, interests, expectations, and sensibilities” (Hudson, 1986, as quoted in Hursthouse, 2000, p. 12). Vices, contrasted with virtues, are defective character traits (complex dispositions) that cause harm to oneself and/or others (Cafaro, 2005, p. 136). For Aristotle, virtues are the means between extremes discerned through *phronesis* that enable one to perform one’s function excellently in the direction of *eudaimonia* (Aristotle, 1999, p. 26), while vices are dispositions that “undermine proper human functioning and well-being” (Cafaro, 2005, p. 137). Moreover, EVE proposes that thinkers answer this question: “What kind of person should I be?” through the evaluation of character, virtue, and vices.

One of the first philosophers to adopt virtue-based ethics as an environmental ethic is Thomas Hill, Jr. The origin of Hill’s adoption of virtue-based ethics as an environmental ethic is the examination of a case scenario. Hill’s neighbor covered a garden containing a diversity of species with asphalt, as the homeowner viewed maintenance of the garden as a burden (Hill, 1983/2005, p. 49). Hill’s moral discomfort could not be explained by the loss of utility, or the attribution of intuited intrinsic value; instead, he found himself asking “what kind of person would do this?” (1983/2005, p. 50). In pursuit of this answer, Hill postulates that “though indifference to non-sentient nature does not necessarily reflect the absence of virtues, it often signals the absence of certain traits that we want to encourage because they are, in most cases, a natural basis for the development of certain virtues” (1983/2005, p. 51). Developing this idea, Hill notes that remedying the absences of such traits would not guarantee virtue, but it is an

“important psychological preliminary” (1983/2005, p. 51). This idea mirrors Aristotle’s theory of *eudaimonia*, in that living virtuously is worthwhile in itself, but while one may live with virtue, flourishing is not guaranteed—especially in the case of being exposed to harmful external factors and environments. Aristotle viewed *eudaimonia* as the ideal fulfillment of human flourishing, but if a person were to live in an oppressive state, flourishing—the realization of a good life-- may not be reached even if virtues were cultivated.

This teleological relationship between virtues and ideal personhood is also exhibited in one interpretation of Confucianism. By practicing the virtue of *li*, known as the rites, one rightly orients oneself in order to attain the more comprehensive virtue of *ren*, benevolence or human-heartedness. As *li* is constitutive of *ren* but does not guarantee it, this relationship between virtues mirrors Aristotle’s theory of virtue and *eudaimonia*, for in both dynamics, the former quality is necessary but not always sufficient for grasping or achieving the latter. Moreover, noting Aristotelian and Confucian parallels highlights how Hill’s observation of the presence of indifference suggests that while its eradication may not ensure the immediate attainment of virtue, it is a sensible place to begin moral development and critical self-reflection.

Going beyond mere acknowledgment of the neighbor’s indifference, Hill expands his analysis to focus on the virtue of humility. He theorizes that indifference stems from a lack of proper humility; if a person were to truly understand her position in the biosphere and universe, an attitude of respect (or reverence) for non-sentient nature would reasonably follow. Though such a consequent attitude of reverence is probable, Hill anticipates the critique that prescriptive values do not follow from humility or grasping one’s position in the universe. As a last resort, Hill then reasons that one should respect nature when exhibiting proper humility because “given the sort of beings we are, we would never learn humility before persons without developing the

general capacity to cherish, and regard important, many things for their own sakes” (Hill, 1983/2005, p. 54). Hill’s dependence on this appeal to intrinsic value at first appears to undermine his position’s circumvention of such value theories. Interestingly enough, however, he asserts that cherishing and valuing non-sentient entities in this regard is different from “judging them to have some intuited objective property,” meaning some inalienable sense of intrinsic worth (Hill, 1983/2005, p. 54). Hill then proceeds to delineate the virtues of self-acceptance and gratitude as core environmental virtues that lead to cherishing the environment (1983/2005, p. 57). He argues that humans’ place within nature as biological beings is often ignored in favor of anthropocentric attitudes of domination. Specifically, he claims that humans’ advanced nature rooted in higher intellect and consciousness has led many to deny our biological nature that subjects us to the environment’s natural order (Hill, 1983/2005, p. 55). Instead of conceiving ourselves as members of the biosphere, as Aldo Leopold champions, self-denying persons only acknowledge their apex positions as technological beings transcendent of the natural order. Consequently, Hill maintains that fully grasping this dual nature is an act of self-acceptance, which is his second environmental virtue. A self-accepting person therefore sees herself as one among many natural creatures (Hill, 1983/2005, p. 56).

Hill’s last environmental virtue, gratitude, is developed on the same foundations as proper humility. Characterized by openness, appreciation, and responsiveness, grateful people are virtuous as they cherish non-resources and want them to thrive without regard to their utility (Hill, 1983/2005, p. 56). Hill acknowledges that gratitude towards nature and valuing non-resources for their own sake are not necessarily logically connected; however, he frames his argument on plausibility and the rationality of such attitudes following from cultivating the relevant virtues. He demonstrates the progression from gratitude to cherishing by illustrating

how if a person took joy in blowing up the natural environment after sentient life had already ended, “he would lack this common human tendency to cherish what enriches our lives” (Hill, 1983/2005, p. 57). This thought experiment mirrors the “Last Man Argument,” in which a person is the last member of the human race on a soon-to-be obliterated earth and opts to destroy the rest of nature (O’Neill, 2013). Even though the planet will inevitably be destroyed, it is suggested that the last man’s destructive acts still incite moral discomfort. O’Neill (2013) uses this discomfort to attribute intrinsic value to nature; however, this thought experiment can also be applied to Hill’s conception of virtues and their coupled attitudes. Moreover, though Hill fails to prove that one *ought* to cherish the “useless” environment for its own sake, he argues that the frequency and universality of gratitude producing cherishing is enough to be an important contribution to EVE.

Hill’s attempt to distinguish between his sense of intrinsic value and philosophers such as Moore’s intrinsic values is somewhat problematic in the face of staunch anti-environmentalists. The lack of development poses philosophical challenges that Hill does not comprehensively resolve. The implicit need for intrinsic value to exist as an objective reality in the system of EVE, however, is one of the general objections to virtue-based ethics, and will be addressed later. Overall, though Hill’s arguments in themselves may be weaker than necessary to justify conservation biology, they frame EVE in a way that enables further development in the field. Hill introduces proper humility, self-acceptance, and gratitude as central environmental virtues. He justifies each virtue based on natural facts and our psychological experiences as humans with the environment, with appeals to metaphysics of morals. While sensible, one is then left wondering about what constitutes virtues and vices within EVE.

Many environmental virtue-based ethicists have proposed environmental virtues and vices in attempt to capture what makes a person an ideal member of the biosphere. While there is no necessary limit to the amount of virtues and vices, there needs to be a standard to which proposed traits can be measured. The ability to discern virtues is crucial for a comprehensive and intelligible ethic. Although a monistic or overarching unification of virtues is not necessary for the field's validity. Without some methodology or rubric for realizing the identity of virtues, however, EVE suffers from being dismissed as culturally relative, entirely subjective, and ultimately baseless. By examining ways in which philosophers have devised lists of virtues, the process of discernment supports EVE's applicability and power as an environmental ethic.

Louke van Wensveen (1997/2005) typifies virtues through surveying and categorizing them. Using her definition of cardinal virtues, van Wensveen seeks to catalog virtues within EVE by determining the most essential traits (van Wensveen, 1997/2005, p. 178). To accomplish this, van Wensveen develops a neurobiological rubric for assessing cardinality in conjunction with Aristotle's traditional conception of cardinal virtues-- defined as the virtues that "are necessary constituents of all other virtues" (1997/2005, p. 179). The neurobiological approach to discerning cardinal virtues does not seem particularly enlightening or helpful, as van Wensveen draws analogies between brain function and the functions of virtues. However, her filtration of the array of virtues within the sieve of cardinality offers merit. Given the exhaustive list and plurality of virtues, the question of validity arises. By dissecting common virtues, van Wensveen reveals that there are some virtues more fundamental than others. Van Wensveen then groups these new environmental cardinal virtues into four categories: virtues of position, virtues of care, virtues of attunement, and virtues of endurance (1997/2005, p. 187). These virtues exist alongside, or were transformed from, the classical virtues of practical wisdom, justice, temperance, and courage.

Covered under the umbrella of van Wensveen's cardinal environmental virtues are: sensitivity, humility, respect, gratitude, benevolence, frugality, and attentiveness (1997/2005, p. 187).

Despite coupling novel and Aristotelian approaches, van Wensveen's conclusions offer a sense of timeless universality. In fact, her analysis of post-1970 environmental literature shows that care, respect, love, compassion, reverence, humility, creativity, hope, sensitivity, identification with nature were the most frequent virtues referenced in relevant works (van Wensveen, 1997/2005, p. 175). This list encompasses nearly all of the environmental virtues espoused by Wensveen and Hill (save for gratitude and frugality).

Though seemingly tangential, the frequency of the same environmental virtues leads to another mechanism for discerning virtues in an effort to combat the inevitable charges of ethical relativism. This consideration is appropriately framed by Callicott's defense of his nonanthropocentric biosentimentalism. Norton, a fellow nonanthropocentrist, describes Callicott's defense of his intuitionist ethics succinctly as he notes, "[Callicott] points out that a 'consensus of feeling' emerges on important points, providing a 'functional equivalent of objective moral truths.' There is a standardized 'psychological profile' on such matters as murder and theft that transcends cultural differences" (Norton, 1997, p. 175). Though neither Norton nor Callicott advocate for EVE, the commentary is fitting in deconstructing the implications of such ethical literature surveys. Certain qualities, just like certain acts, appear to have sufficient universality that permits one to regard them as objective normative judgments. Whereas not every culture will agree that a trait such as assertiveness is a virtue, certain virtues such as benevolence and care seem to rise above the particulars of diverse cultures. Moreover, while the ubiquity and frequency of traits regarded as environmental virtues does not logically necessitate

their status as “moral truths,” consideration of this “consensus of feeling”—or consensus of virtue--may assist in bracing virtue-based ethicists’ against crippling relativism charges.

Universalizability is also a consideration for Schmitz and Zwolinski in their attempt to provide a procedure for identifying virtues. Taking their inspiration from Kant, they write, “the idea is that to act in a way that you could will to be a universal law is arguably the essence of acting with integrity” (Schmitz & Zwolinski, 2004/2005, p. 115). A person who has good character has a good will and thus acts accordingly. By assessing a character trait or disposition through the lens of universalizability and good will, another means of discerning virtues is presented. To apply this technique, one would ask if a potential virtue could be reasonably universalized to ensure integrity. For example, if I were uncertain of the status of assertiveness as a virtue, I could theoretically universalize this trait, and use the anticipated outcomes to inform my judgment. Given that there are certain contexts in which a virtuous person would not behave assertively, I could judge that assertiveness is not necessarily a virtue by this standard.

While consensus of feeling, universalizability, and analyzing for reducibility may help in discerning virtues, a more compelling method for discerning virtues is the return to Aristotle’s definitions. While van Wensveen uses Aristotle’s conception of cardinality to guide her theory, Aristotle’s teleology and *phronesis* are especially helpful in discernment. As Keown notes, Aristotle defines virtue most fully as “a state of character (*hexis*) concerned with choice (*prohairesis*) lying in a mean, i.e. the mean relative to us, this being determined by a rational principle, and by that principle that the man of practical wisdom (*phronimos*) would determine it” (Aristotle, as quoted in Keown, 2007, p. 99). He then defines the human *telos*, understood as the ultimate human good, as “the activity of soul in accordance with virtue and, if there is more than one virtue, in accordance with the best and most perfect” (Aristotle, 1999, p. 11). Thus,

potential virtues can be evaluated in terms of whether or not they are necessary for a “balanced and rounded life” that ultimately results in a “state of fulfillment, happiness, or flourishing” (Keown, 2007, p. 99). Contemporary scholars, inspired by Aristotle’s theory, have further interpreted virtue as “a characteristic trait a human being needs for *eudaimonia*, to flourish or live well,” and “a disposition to act, desire and feel that involves the exercise of judgment that leads to a recognizable human excellence or instance of human flourishing” (Macmillan 2002, as quoted in Keown, 2007, p. 99). The ultimate goal of flourishing remains constant throughout each virtue theory.

Virtues can thereby be determined using flourishing as a benchmark and point of reference. If a trait leads to a good life, it may be partly responsible for the actualization of *telos*. To assess this, then, one invokes *phronesis*. *Phronesis*, translated as prudence, or practical reasoning, is the ultimate tool of discernment in the quest to establish some standard of virtues in EVE. As Keown describes it, prudence entails “taking counsel, deliberation and contemplation, critical self-reflection, and...the practical execution of what has been decided upon” (Keown, 2007, p. 100). Thus, prudence is not simply an insubstantial ideal or a shallow tool; it is a virtue that entails serious intellectual processes, and is the means by which all other virtues are discerned and cultivated. As practical wisdom is necessary for determining virtues, applying *phronesis* to the discernment of virtues enhances this technique’s viability. Could anyone *reasonably* refute that environmental virtues such as humility, compassion, and sensitivity are not virtues--meaning that they are not necessary for good character and flourishing? On the contrary, the example of assertiveness can once more be applied to this rubric. If a person were to be assertive, would that trait reasonably be necessary for achieving human excellence? Does practicing assertiveness generally result in living well? Most likely not. Consequently, this

method allows us to weed out traits that are occasionally positive but are not necessarily virtues. Prudently analyzing character traits in the context of Aristotelian teleology thereby enables us to seek justification more firmly grounded than previously mentioned standards.

Continuing in the vein of Aristotle, Ronald Sandler (2007) develops an innovative and unique form of EVE that helps in discerning virtues. Instead of extending classical virtues or transforming them into environmental virtues, Sandler develops a theory centered on “the natural goodness approach” (2007, p. 14). This approach is rooted in assessing teleology and refining what “living well” and “being good” really mean for individuals of distinct species. Sandler poses that for humans, as we are biological and ethical beings, our natural goodness generates the following thesis:

“A human being is ethically good (i.e., virtuous) insofar as she is well fitted with respect to her (i) emotions, (ii) desires, and (iii) actions (from reason and inclination); whether she is thus well fitted is determined by these aspects well serve (1) her survival, (2) the continuance of the species, (3) her characteristic freedom from pain and characteristic enjoyment, (4) the good functioning of her social groups, (5) her autonomy, (6) the accumulation of knowledge, and (7) a meaningful life, and (8) the realization of any noneudaimonistic ends (grounded in noneudaimonistic goods or value)—in the way characteristic of human beings (i.e., in a way that can rightly be seen as good)” (Sandler, 2007, p. 25).

Sandler’s thesis relates to his desire to clearly characterize agent-dependent and agent-independent ends within and beyond *eudaimonia*. While traditional virtue-based ethics considers *eudaimonia* as the ultimate good, Sandler considers the existence of other worthwhile goods (that may be good for their own sake). This perspective endorses plurality and the possibility that

some ends are good independent of an agent's own flourishing (Sandler, 2007, p. 27). Sandler's comprehensive standards offer a level of refinement that no other environmental virtue ethicist has established regarding human *telos*. Consequently, these evaluative criteria can be used to more accurately discern virtues and vices, as they provide a specific framework. To determine if a character trait is a virtue by Sandler's system, then, one uses reflection of whether or not the trait will "serve well the eudaimonistic and noneudaimonistic ends" (Sandler, 2007, p. 29).

Now that the methods of discerning virtues and the refutation of relativism have been addressed, the relevant environmental virtues may be expounded. As noted, environmental virtue-based ethicists frequently cite proper humility, openness, sensitivity, care, respect, and love as essential virtues, but each thinker has specific methods in determining and categorizing their selection of virtues. For Sandler, he initiates his own catalog by categorizing virtues in terms of intrinsic and relational properties. Sandler argues that virtues such as compassion are extended based on intrinsic properties (e.g., the capacity to suffer), whereas virtues such as gratitude are defined by relational properties (e.g., being benefitted) (2007, p. 41). In the case for conservation biology's justification, it appears that virtues with relational properties offer the most compelling basis for ethics. Environmental virtue ethicists commonly reference sensitivity and attunement; attunement is defined as "an opening up of all our senses to the greatest degree of sensibility. It demands gentleness, a dwelling on details, and personal vulnerability" (van Wensveen, 1997/2005, p. 24). Sensitivity and attunement can be further validated by using any previously mentioned approach to virtue discernment; they are widely valued, capable of being universalized, constitutive of flourishing, and reasonable, moderate traits to adopt. Their importance to conservation biology is also enhanced by their mirroring the first step of the scientific method: observation.

To cultivate attunement is to develop excellence in observation and perception. As Sandler remarks, virtues are also valuable in their ability to transform attitudes, but before attitudes are transformed into actions defined by other virtues, one must exhibit openness and sensitivity first. Attunement enables a person to consider her environment more fully; by being sensitive, a person becomes receptive of the world around her in a way that promotes moral consideration. Sandler argues that moral consideration can be pluralistic, and responsiveness to environmental components such as species, ecosystems, and individuals can vary based on the object in question (Sandler, 2007, p. 41). Moreover, the first step of cultivating any environmental virtue begins with being receptive to the natural world and its elements. Though sensitivity and attunement do not prescribe rights or intrinsic value to biological components, these virtues are fundamental in how they are the basic traits inspiring moral consideration. To develop an outward-looking environmental ethic, one's worldview is most impacted by responsiveness as such a disposition heightens one's relationship with the environment. While many ethicists begin with compassion, I find that sensitivity precedes this virtue. In addition, sensitivity is uniquely important for conservation biology, as compassion is typically extended towards individuals and not collectives—especially individuals of charismatic species. Sensitivity's foundational status in conservation biology is demonstrated by the observation that if people lacked sensitivity, no one would have noticed the rapid extinction of the diverse species of insects and amphibians. By fostering attunement, scientists thus rely on sensitivity to guide their intuitions, hypotheses, experiments, conservation plans, and advice. This virtue is at the forefront of the environmental crisis, as it has led scientists to conduct surveys revealing the extent, rates, and impacts of species extinctions.

Not only is sensitivity a powerful virtue for its ability to make us more fully aware of nature and biodiversity's "health," but it also reinforces the virtue of humility. As explicated by Thomas Hill, Jr., proper humility is the recognition and consequent appreciation of one's place in the natural order (Hill, 1983/2005, p. 53). Hill stresses that intellectually recognizing one's position in the biosphere differs from truly understanding it. He develops the case for proper humility by noting how "we are a speck on the cosmic scene, a brief stage in the evolutionary process, only one among millions of species on Earth, and an episode in course of human history" (Hill, 1983/2005, p. 51). Though we view ourselves as the top of the hierarchy, humans are recent newcomers to a biosphere that is billions of years old. Hill's argument relates to van Wensveen's cardinal virtues of position, as she argues that humility, respect, and gratitude all follow from "the cultivation of practical wisdom" and recognition of an "agent's modest sense of place" (2005, 187). To accurately assess our powers and authority as human beings, we depend on this sense of proper humility. When humans began altering the environment globally through industrialization, the lack of humility enforced the idea that humans were masters of the environment. Given that climate change, the cause of many extinctions, is occurring due to these anthropogenic impacts—and humans are suffering as a result—the origin of this hubris can be attributed to the deficiency of humility.

Humility reminds people of their limitations associated with our place in the natural order; thus it works in conjunction with prudence. Hill's mention of self-acceptance also ties into humility, along with van Wensveen's virtues of position. Though humans are technologically and intellectually advanced, we are plagued by attitudes of entitlement and superiority rooted in denial of our biological status. Aldo Leopold's land ethic addresses this discrepancy between place and attitude within the natural order. Leopold conceives of humans as "members of the

natural community,” participating in and subjected to the complex, interdependent relationships of the biosphere (1949, 204). He writes, “all ethics so far rest upon a single premise: that the individual is a member of a community of interdependent parts. His instincts prompt him to compete for his place in that community, but his ethics prompt him also to cooperate” (Aldo Leopold, 1949, 203, as quoted in Bill Shaw, 2005, 96). Bill Shaw interprets Leopold’s statement to mean that an ecosystem’s survival-based relationships have an “accumulated evolutionary wisdom of natural systems...that...urges the expansion of our natural universe beyond the bounds of the human community” (Shaw, 2005, 96). Acknowledgment of human membership of the biosphere connects to humility once more; no matter how evolved humans are, we cannot escape what Dr. Martin Luther King, Jr. calls the “web of mutuality.” Moreover, practicing and attaining humility is conducive to extending moral consideration beyond humans to other nonhuman beings and collectives. Humility also informs Hill’s associated virtues of respect and gratitude. Again, though cultivating humility does not impose an obligation or demand one to respect the environment or biodiversity, such reverence for life tends to be a reasonable outcome.

For Taylor, he develops his biocentric environmental ethic around “respect for nature” being the “ultimate moral attitude,” which seems akin to the concept of keystone environmental virtues (1986, p. 90). Considering respect for nature as the ultimate moral attitude requires more theoretical development than traditionally embraced virtues. To justify this attitude, Taylor bolsters his argument by depending on the intrinsic value of life and only considering individuals and not species as having moral standing (Taylor, 1986, p. 118-119). He notes that because life has worth, higher biological units such as species, ecosystems, and the biosphere derive their value from individuals’ lives and are not intrinsically valuable in their own right (Taylor, 1986, p. 118). As intrinsic value arguments have already been addressed, and the preservation of

species diversity is at the forefront of this project, Taylor's contributions to conservation biology remain peripheral. Despite Taylor's rejection of environmental holism and his denial of higher biological units having their own value, it is useful to analyze the presence of respect for nature in the context of conservation biology. Many conservation biologists and environmentalists champion respect for life as an obligatory value, but do not develop this perspective as thoroughly as Taylor. One telling pattern is how thinkers such as Naess, Soulé, and Ehrenfeld tend to present their biocentric arguments alongside commentary on their appreciation of evolution and reverence for life and its development. Taylor also uses an appeal to evolution's grandeur as contributing reason for his biocentrism, as he notes, "We have all emerged in fundamentally the same way... evolution... offers a unified explanation for the existence of both human and nonhuman life... to look at ourselves in this way is to have a vivid sense of our membership in the Earth's total Community of Life" (Taylor, 1986, p. 111-113). While Taylor incorporates the panoramic consideration of evolution into his argument, he uses this reasoning to justify the egalitarian aspects of his biocentrism—not necessarily to assert evolution as the source of nature's value. Continuing in a similar rejection of anthropocentrism is Ehrenfeld, who notes that "living things that deserve a chance to play out their evolution unhindered," (Ehrenfeld, 1981, p. 192). In addition, Soulé postulates that "life itself owes its existence and present diversity to the evolutionary process," and goes further to assert, "Evolution is the machine, and life is its product. One possible corollary of this axiom is an ethical imperative to provide for the continuation of evolutionary processes in as many undisturbed natural habitats as possible" (Soulé, 1985, p. 399). Naess also praises diversity, evolution, and complexity as normatively good things, and appeals to the essential roles of cooperation and competition in the biosphere to justify these principles (Naess, 1973). While the natural progression for some

thinkers would be that appreciating evolution necessitates a respect for nature, I would argue that appreciation for these principles relates more soundly back to the virtue of humility.

As members of the biosphere, the diversity of life arising from evolution is something both personal and impersonal. Evolutionary processes gave rise to humans as well as all other species in the biosphere. While kinship and compassion may develop from this appreciation, the impact on humility seems to be a uniquely critical response. The entire evolutionary process is something outside the realm of human power; though we are partaking in artificial genetic modifications, we will never be able to perform or replicate evolution, as it is an unfathomably long continuation of natural history. Once again, acknowledging these natural facts does not make us obligated to protect evolution and the consequent diversity of life. However, grasping this notion fully would reasonably inspire humility. And it would be reasonable to induce that a humble person would find some meaning in the greater evolutionary process. The meaningfulness humans find in recognizing evolution's nature seems powerful enough to transform (or enhance) attitudes characterized by embracing reverence, respect, and the appreciation for evolution and the diversity of life. Though this transformation is not necessarily coupled with cultivating humility, it is useful to deliberate the connection between virtues of position and biodiversity.

Relating this issue to the justification of conservation biology, one could argue that the preservation of biodiversity is warranted as an exercise in humility. When exhibiting arrogance, a vice, a person disregards her place in the natural order—especially in the evolutionary context. The lack of humility is replaced by a sense of authority that tends to (but does not necessarily) breed wanton destruction. A humble and sensitive person considers the grandeur of evolution and naturally produced biodiversity, and acknowledges that replicating this process to generate

its product is beyond her capability. Consequently, the natural diversity of life, as a humble person would recognize, is irreplaceable and irreproducible. In the face of anthropogenic destruction of biodiversity and the interruption of evolution, then, a humble person would seek to mitigate these impacts and preserve biodiversity. Not every “humble person” *must* respond this way, but it is a reasonable and probable outcome of cultivating the virtue. Conservation biology’s goals would then be somewhat justified in this context of humility.

Informed by the same natural facts as humility, another virtue helpful in justifying conservation biology is prudence. Though reasoning and practical knowledge are necessary for every virtue, prudence carries significant weight in the pursuit of preserving the diversity of life. As Aldo Leopold wrote in *The Sand County Almanac*, “To keep every cog and wheel is the first precaution of intelligent tinkering” (1949, p. 190). Given that the biosphere is an almost unfathomably complex system, humans have limited knowledge regarding its functions. Ecology, the study of the biotic and abiotic relationships within the biosphere, emerged in an effort to obtain knowledge of our planet, but the nascent field is far from revealing everything there is to know. Because of the introduction of colossal stress on the planet through industrialized human activity, there is no corner of Earth left untouched by our influence. The rapid rate of change imposed by human activity is the object of environmentalists’ concern. While the earth’s complex processes include bioregenerative capacities and feedback systems that promote stability, such safeguards are incapable of buffering cataclysms in the face of accelerated human change. Habitat destruction, invasive species introductions, and widespread pollution are all contributing to the Anthropocene’s mass extinction. This rapid loss of biodiversity poses a threat to the entire biosphere. While biodiversity is not “proven” to ensure stability in every context, there is scientific evidence of its importance nonetheless. To

irreversibly destroy the environment and decrease biodiversity would be far from the “intelligent tinkering” Leopold prescribes. Not only is such an activity a sign of hubris or arrogance, but it is also demonstrates a lack of prudence. Even if a person refuses to marvel at evolution and biodiversity, only irrational and arrogant persons would believe this destruction is a good thing. In positive terms: a prudent person would seek to mitigate destructive influence on the environment, and a prudent person would agree that biodiversity should be preserved. This reasoning mirrors the environmental holism movement, but is another worthwhile angle to consider morally.

The inclusion of prudence as an environmental virtue is supported by Ehrenfeld’s idea of “conservative value,” which he defines as “the belief that man-made, irreversible change in the natural order—the loss of a species or natural community—may carry a hidden and unknowable risk of serious damage to humans and their civilizations” (Ehrenfeld, 1981, p. 187). Ehrenfeld’s conservative value is inspired by the same precautionary premise as Maclaurin and Sterelny’s “transformative value,” as both camps support the preservation of biodiversity and voice concern for non-resources. However, Ehrenfeld fervently rejects humanism (such as Maclaurin and Sterelny’s), due to humanistic arguments for preserving non-resources failing “to be convincing even when they are truthful and correct” (Ehrenfeld, 1981, p. 192). This may be somewhat true as in the case of the shortcomings of transformative value described in Chapter 2. However, Ehrenfeld condemns generally all humanistic accounts of conservation, which does not seem necessary. His opinion is that “when everything is called a resource, the world loses all meaning – at least in a humanist value system” (Ehrenfeld, 1981, p. 192). EVE, armed with virtues such as prudence and humility, however, provides a counterexample to Ehrenfeld’s ideas. Though the system is weakly anthropocentric, it does not validate or endorse viewing species merely as a

resource to be exploited. The cultivation of virtues and extension of consideration provide meaningful arguments for biodiversity conservation; the attribution of intrinsic value or denial of human bias is therefore not necessary to protect non-resources.

One outcome of determining that a prudent person would care about biodiversity is the point that a person can believe or support something as guided by reason, but that does not necessitate any action. It could be argued that a prudent person who believes something is dangerous (biodiversity loss) would consequently try to act in line with those beliefs (support conservation biology). However, there is another virtue that captures the disposition to act in response to mitigate human-caused environmental destruction: benevolence. Geoffrey Frasz actually develops a theory of benevolence virtues extended as environmental virtues. He defines benevolence as an umbrella of virtues “that involve a direct concern for the happiness and well-being of others” (Frasz, 1993/2005, p. 123). The benevolent person “does not merely seek to avoid wrong actions, but rather seeks to promote the good of others,” meaning that she “is open to the concerns, interests, goals, and needs of others and [actively] pursues plans that would help others in those respects” (Frasz, 1993/2005, p. 124). While sensitivity entails openness and humility entails consideration, benevolence more directly calls for the expansion of concern. Expansion of concern is not equivalent to granting moral standing or affirming the rights and intrinsic value of nonhumans. It is centered on the premises that “the flourishing of one’s self and that of others occurs in, and is made possible by, an extended environmental community,” which mirrors Leopold’s worldview of a whole natural community (Frasz, 1993/2005, p. 126). Given humans’ dual identities as intellectual and biological beings who participate in the biosphere, an “environmentally benevolent life involves ‘an excellence or relationship among the parts of the self and with the outside world’” (Newton, 2003, as quoted in Frasz, 1993/2005, p.

126). Frasz maintains that objects of concern do not need sentience or to meet prerequisites for humans to act benevolently towards them. Relating back to humility, Schmidtz and Zwolinski affirm that a humble person can see himself as “a locus of value in a world where there are many loci of value, and recognizing that it is not only humans who can be worth of appreciation” (2004/2005, p. 114). Such nuanced explications of concern risk invoking intrinsic value theory, but when framed in this way, the ability to appreciate nonhumans and non-resources does not necessarily require axiological arguments.

To strengthen this idea, the context of relationships is useful in developing benevolence. Building on the idea of the “common good,” Keown notes that “the well-being and flourishing of individuals can only be achieved in community” (Keown, 2007, p. 107). In an effort to rationalize this premise, ecological principles referenced by conservation biologists come to mind. The interdependence of the biosphere stresses the connectivity amongst all species. From this point, Deane-Drummond, as referenced in Keown, then affirms that “the flourishing of all living things needs to be promoted because it is constitutive of our own flourishing,” (Deane-Drummond, 2004, p. 42, as quoted in Keown, 2007, p. 107). Deane-Drummond develops this concept by noting how we share in a common life with myriad species, and because humans have the power to consider nonhuman flourishing, humans should do so (Deane-Drummond, 2004, p. 66, as quoted in Keown, 2007, p. 108). Though this progression suffers from the naturalistic fallacy in jumping from descriptive to prescriptive terms, it may be constructive to rephrase this idea in terms of virtue. Because human flourishing is intertwined with nonhuman flourishing, and humans have the power to consider nonhuman flourishing when acting, a benevolent person would embrace these habits to promote common well-being. Furthermore, benevolent persons would also find themselves concerned with and motivated to act towards

preserving biodiversity, as species are capable of flourishing (propagating as a viable population consisting of mostly healthy individuals) as collective units composing the greater whole (the biosphere, or common good).

Whereas a benevolent person promotes the common good, someone who lacks in this virtue may suffer from associated vices such as being unjust. Whether or not the infliction of harm is intentional, vice is at the root of a person causing or allowing it. The participation in environmental destruction and apathy towards biodiversity loss can reasonably lead to the characterization of a person as being defective in some regard. Would a virtuous person enjoy participating in wanton destruction? Most likely not. Vices such as greed, selfishness, arrogance, and apathy fuel many anti-environmentalists. Introducing vices allows for a change in perspective of the conservation biology discussion. Instead of asking if a certain person, plan, or behavior aligns with environmental virtues, it may be more evocative to evaluate people and behavior in terms of vices. Rather than asking if a person seeking to tear down a diverse forest is acting sensitively, humbly, prudently, or benevolently, it may be productive in certain cases to ask if such a person is acting cruelly, arrogantly, selfishly, or greedily. Philip Cafaro focuses on the environmental vices of gluttony, arrogance, greed, and apathy, and in doing so, attributes these defects to overconsumption rooted in ignorance (2005, p. 153). The vices, he identifies, can be rehabilitated through education and conservation action. Though not essential to proving virtue-based ethics' viability, recognizing the role of vices provides a foundation for extending the application of EVE beyond intellectually justifying conservation biology, which would be a meaningful place to continue research.

One criticism of virtue-based ethics referenced in the discussion of Hill's EVE is that it depends on values to have any real meaning (Rolston, 2005, p. 73). Rolston believes that a person cannot act virtuously towards an object without attributing (intrinsic) value to that object. If the object is worthless, then the act loses meaning; or, if the object only has instrumental value, then the act is self-seeking and falls short of virtue due to shallow motivations. One response to this critique by Hursthouse is that "if arrogance is a vice, to recognize an act of wanton destruction of a living thing as arrogant is thereby to recognize it as wrong and no further account of wherein its wrongness consists is called for" (Hursthouse, 2007, p. 159). Hursthouse's rebuttal directly addresses this issue. However, there may be problems with this defense, as there is still reason for doubt. Could destruction be deemed arrogant if it were directed towards inanimate garbage?

An additional argument advanced by Sandler also defends EVE against value objections. Sandler first notes that in viewing the "last man" argument, the man's destruction of the environment is wrong because it is "ecologically insensitive, cruel, wanton, disaffected, and indifferent to the worth of living things and the goods that the natural environment has provided him over his life" (Sandler, 2007, p. 113). Sandler argues that there is no need to appeal to values beyond the context of agents' actions. This argument is stronger, but still leaves confusion surrounding his mention of "worth." Sandler implies that this worth stems from the interaction between humans and the environment, but does not develop this comment further.

A recent development in value theory may inform Sandler's intuitions. In order to transcend the binary presented by the instrumental and intrinsic value theories, relational value offers itself as an alternative. Relational value is described as the "values linking people and ecosystems via tangible and intangible relationships to nature as well as the principles, virtues

and notions of a good life that may accompany these” (Klain et al., 2017). Specifically, relational value is constitutive value that means it “is an integral part of a greater valuable whole that does not have intrinsic value, for example, a flourishing human life or partnership” (Knippenberg et al., 2018, p. 41). While EVE does not explicitly state that flourishing is “intrinsically good,” the field is centered on the notion that *eudaimonia* or flourishing is the ultimate human good. Moreover, invoking this value theory may be useful due to its affirmation that the human-nature relationship may be good in itself, but it does not necessitate that it has a good of its own or would be objectively valuable within a vacuum. Given that EVE embraces context, agency, and stresses the relationships between humans and the environment, the next step for bolstering this ethic may be to invest in applying relational value to the field. In speaking of tackling the issue of ecosystem management, Sandler notes that as species are lost in nature, “the relationships that are the basis of their value may be lost” (Sandler, 2016, p. 366). While he may have been referring to the instrumental value, the context of his discussion leans towards that previously unarticulated relational value that seems to underpin EVE. The emergence of relational value in conservation biology was somewhat foreseen by Charles Elton, who theorized that the justification for the “conservation of natural variety” is found in the welding of three principles: “because it is the right relation between man and living things, because it gives opportunities for richer experience, and because it tends to promote ecological stability” (Ehrenfeld, 1981, p. 209). The incorporation of relational value alongside instrumental value in terms of justification mirrors the nature of EVE, as EVE embraces anthropocentric concerns with an inclusive, other-regarding perspective.

By employing relational value in the justification of conservation biology, some problematic issues associated with intrinsic value theories are resolved. Those who argue that

biodiversity is inherently good and must be conserved ignore how certain instances of extinction are part of the evolutionary process. Before the age of the Anthropocene, the era of human-induced mass extinction, five naturally occurring mass extinctions took place. These five mass extinctions would then be seen as something normatively bad to an intrinsic value theorist, though they are part of the evolutionary process and natural history. In the lens of virtue-based ethics, however, one is able to differentiate between anthropogenic environmental destruction and such instances of natural destruction. This is the benefit of agent-based ethics, and why the “anthropocentrism” involved can be a significant tool for moral reasoning. As EVE considers human virtues and vices, the issue with the current anthropogenic decline in biodiversity is attributed to the defects in humans’ behavior. The problem is not adequately represented when human perspectives are removed from the equation. By contextualizing the biodiversity crisis, then, EVE captures the moral discomfort, implications, and reality of the situation more fully and reasonably. The issue is not refined to the decline of biodiversity, but rather humans’ role in precipitating such environmental crises. Adopting EVE empowers people to examine their character in relation to their position as members of the natural community. Critical self-reflection then allows humans to evaluate their identities and roles within the context of biodiversity loss. Prompts beginning with “What kind of person would I be if...” can be paired with predicates such as “I caused a decline in biodiversity?”, “I was complicit in the destruction of biodiversity?”, and “I did not care about biodiversity’s preservation?” Such examinations will yield different answers, but such a person would reasonably be lacking in sensitivity, humility, prudence, and benevolence.

## **Conclusion**

Overall, virtue-based ethics helps justify conservation biology by adopting an extensionist approach to anthropocentric concern. Whereas utilitarianism's anthropocentric character hinders holistic protection of biodiversity, and intrinsic value theory's denial of human bias tends to breed irrational attitudes, virtue-based ethics embraces humanism and transforms it into a more other-regarding worldview. The relevant virtues of sensitivity, humility, prudence, and benevolence altogether constitute environmentally virtuous persons who exhibit this type of worldview. Upon cultivating these virtues, attitudes of respect and concern for biodiversity arise or are enhanced. Virtue-based ethics also aids in justifying conservation biology by avoiding the flaws exhibited by both intrinsic value theory (e.g. lack of rational proof) and utilitarianism (e.g. the general objections as well as environmentally-specific problems with cost-benefit assumptions).

Though the scope of this thesis was limited to exploring the ethical justification of conservation biology, there is great potential for virtue-based ethics' application to other aspects of the field. While the virtues of sensitivity, humility, prudence, and benevolence relate to the justification of conservation biology, different virtues may be emphasized in speaking towards environmental activism, conservation planning, and environmental policy. For example, while patience is not necessarily pertinent to conservation biology justification, it appears to be essential to conservation action. Future studies would benefit from exploring conservation action—rather than simply theory-- through the lens of virtue-based ethics.

In addition, given relational value's embryonic status, I believe that further theoretical development in this area is essential if virtue-based ethics is to respond adequately to axiological objections. Though I posed it as an answer to criticism about value-claims, the theoretical

foundations need to be fleshed out further, as there the relationship between relational and intrinsic value, e.g. especially with the idea of *relata*, while muddled, is full of potential.

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