



## Article

*Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic*

# Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic

Fred Van Dyke



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Today ... students in a conservation biology class will be taught that the Judeo-Christian Stewardship Ethic is [a major contributor to the solution of the ecologic crisis].

*In a period of less than thirty years, the Judeo-Christian tradition was transformed from being perceived by scientific and popular culture as the cause of the ecologic crisis to being viewed as a major contributor to its solution. The increasing attention and respect given to the Judeo-Christian environmental stewardship ethic is in large part a result of careful scholarship and effective activism in environmental ethics and conservation by the Christian community. In this article, I examine the specific events and processes that led to this transformation, what this transformation represents, and the work yet required to complete it. The present challenges for Christians active in environmental stewardship are to transform the current understanding of the purpose of conservation, the value of what is conserved, and the role of the human presence in environmental management.*

In a widely used text on conservation biology published in 1994, environmental ethicist J. Baird Callicott wrote:

The Judeo-Christian Stewardship Environmental Ethic is especially elegant and powerful. It also exquisitely matches the requirements of conservation biology. The Judeo-Christian Stewardship Environmental Ethic confers objective value on nature in the clearest and most unambiguous of ways: by divine decree.<sup>1</sup>

Callicott is referring to the text of Genesis 1, where six times in the first twenty-five

verses, God looks at what he has made and calls it good, all before humankind appears.

Somewhere today in a state college or university in the United States, or elsewhere, students in a conservation biology class will be taught that the Judeo-Christian Stewardship Ethic is “especially elegant and powerful” in its articulation of the intrinsic value of nature, one that “exquisitely matches the requirements of conservation biology.”

Recent history suggests that people have been inclined to believe exactly the opposite, an inclination captured in the words of the late UCLA historian Lynn White, Jr.:

Christianity ... not only established a dualism of man and nature but also insisted that it is God’s will that man exploit nature for his proper ends.<sup>2</sup>

Hence we shall continue to have a worsening ecologic crisis until we reject the Christian axiom that nature has no reason for existence save to serve man.<sup>3</sup>

These words are part of that infamous essay, *The Historical Roots of Our Ecologic Crisis*, published in *Science* in 1967. White’s conclusion was that the historical roots of our ecologic

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crisis originated in the Judeo-Christian understanding of the human relationship to nature. In this view, according to White, "no item in the physical creation had any purpose save to serve man's purposes."<sup>4</sup>

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*[In 1967] White's conclusion was that the historical roots of our ecologic crisis originated in the Judeo-Christian understanding of the human relationship to nature. ... White proposed that a new ethical path was needed because of moral deficiency in Judeo-Christian teaching about the environment.*

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White's essay was part of an overall trend in the late 1960s and early 1970s to discover single "root" causes for the environmental crisis, with other such efforts variously blaming common property institutions<sup>5</sup> or capitalism and colonialism.<sup>6</sup> None of these explanations proved sustainable under intellectual scrutiny, but White's thesis proved the most popular, and enjoyed a vigorous and extended life in popular environmental circles long after it had been discredited in academic ones.<sup>7</sup> One of the most influential articles of its generation, White's essay was quoted often, with and without acknowledgment, by scholars in every conceivable field, its thesis repeated, simplified, amplified, extended, or even blatantly distorted, but never ignored.<sup>8</sup> Part of its success was that it told secular academics what they wanted to hear, that religious traditions in general, and Christianity in particular, were contemptible mythologies, justifiably despised. Another element was its plasticity. As religious scholar Thomas Sieger Derr described it: "It is almost magically adaptable, serving historians, ecologists, drop-outs, religion haters, social planners, commune dwellers, and more, giving to each what he wants in his or her own situation."<sup>9</sup>

But, that point admitted, we must not overlook the fundamental nature of White's criticism. White's charge is not that Christians at various times and places have not done what they ought to have done in regard to the care of the Earth. Rather White's charges are fundamentally a *moral attack* on Christian tradition itself. White is not claiming that Christians have failed to live up to a Christian ethic, but that the ethic itself was inadequate. Thus, White pro-

posed that a new ethical path was needed *because of moral deficiency in Judeo-Christian teaching about the environment*. This distinction is important. *Historical Roots* was a call to throw off an inferior ethical authority and adopt an ethical approach that was "higher and better." This is an effective strategy for changing the direction of cultural currents. Using this technique, the objector asserts that the traditional standard itself is morally corrupt, that precisely *because* people obeyed traditional ethical authority they were destined to create moral evil. Because White held up the Judeo-Christian tradition as *morally inferior* to other ethical systems, he opened the door for those systems to be developed as legitimate intellectual and moral alternatives. Arguably this may not have been what White intended, but it is what he helped to achieve. Although other scholars, both Christian and secular, joined in White's criticisms of Christian faith and specific Christian doctrines, their critiques came after White had created the breach, not before.<sup>10</sup>

The question of interest today is, how, in a span of less than thirty years (1967-1994), did we travel from White's conclusion, that Christianity is the cause of the ecologic crisis, a conclusion popularly accepted by "everybody" in respectable intellectual circles in its time, to Callicott's conclusion, today taught in conservation biology classes around the world, that Christianity provides an ethic of conservation that is "elegant and powerful" that "exquisitely" matches the requirements of conservation biology and establishes the intrinsic value of nature in the most unambiguous of ways?

Environmental philosopher Max Oelschlaeger acknowledged the profound influence of Lynn White's essay in the formation of his own view of the environmental crisis and its cause. He wrote:

For most of my adult life, I believed, as many environmentalists do, that religion was the primary cause of the ecologic crisis. I also assumed that various experts had solutions to the environmental malaise. I was a true believer ... I lost that faith by bits and pieces ... by discovering the roots of my prejudice against religion. That bias grew out of my reading of Lynn White's famous essay blaming Judeo-Christianity for the environmental crisis.<sup>11</sup>

From this point, Oelschlaeger goes on to describe how his viewpoint radically changed, until, he now admits: "The church may be, in fact, our last best chance. My conjecture is this: there are no solutions for the systemic causes of ecocrisis, at least in democratic societies, apart from religious narrative."<sup>12</sup>

Similarly, in a published apology to Bartholomew I, Patriarch of the Orthodox Church, Carl Pope, President of the Sierra Club, speaking of his own generation of environmentalists, acknowledged:



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## Article

### *Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic*

We sought to transform society, but ignored the fact that when Americans want to express something wiser and better than they are as individuals, by and large they gather to pray. We acted as if we could save life on Earth without the same institutions through which we save ourselves.<sup>13</sup>

Speaking directly of the influence of White's essay in creating hostility between Christianity and conservation, Pope confessed:

Too many environmentalists considered the case closed. We became as narrow-minded as any religious zealot, and proceeded to glorify creation and smite those who would sin against it on our own, without regard for the faith community.<sup>14</sup>

How did we get from the words of White to the words of Oelschlaeger? How did we move from the Sierra Club's antagonism to its apology? How did Christianity change from being the *cause* of the environmental crisis to becoming the *solution to it*? I want to explain how this transformation occurred, and then suggest a path by which it might continue.

### Historical Roots and the Beginnings of Cultural Transformation

White's essay disparaged the Christian tradition sufficiently to open the door for consideration of alternatives to the Judeo-Christian tradition in all matters environmental. But it could not do this without, at the same time, making religion in general, and Christianity in particular, an ecological issue. Specifically, *White's attack* on Christianity provided occasion for the *defense* of Christianity on issues of environmental stewardship. *Historical Roots* created *relevance* for Christian interaction with the environment that had not previously existed. It was, in fact, the spark that ignited the developmental fire of the modern Judeo-Christian environmental stewardship ethic, the one that Callicott and others now recognize as "especially elegant and powerful." But first, its elegance and power had to be expressed. That expression was developed through three phases.

Following the publication of *Historical Roots*, Christian scholars in general, and Reformed evangelical Christian scholars in particular, began a sustained intellectual response to White's work. In doing so, they not only refuted White's accusations, but also created a body of scholarship demonstrating that environmental stewardship was rooted in biblical teaching and doctrine.<sup>15</sup> Among the first to make use of such scholarship were professors at Christian colleges. As Christian academics began to incorporate these resources into their teaching, they also began to use them to shape new courses, and then, entire curricula in environmental studies, which led to the development of programs, majors, centers, and institutes dedicated to environmental stewardship. Today thirty-six of the 105 schools of the Council for Christian Colleges and Universities have majors, programs, or concentrations in environmental study. One has a graduate program. Sixty are participating colleges with the Au Sable Institute, a Christian institute of environmental studies, itself a product of this intellectual heritage. Three colleges even have separate institutes with some type of environmental mission associated with their campus.

This academic and educational response did what colleges and universities naturally do. It produced graduates, trained in science and driven by a Christian ethic, facing an urgent need. Such graduates soon became activists. Thus, by the 1980s, the Christian community had begun to enter an "activist" stage in environmental stewardship, in which initiatives in more professionally-directed environmental education and advocacy were being advanced by the Christian community.

In 1981 Dordt College established its Agricultural Stewardship Center, an institute to train future farmers in environmental conservation in the context of day-to-day life on the family farm. Two years earlier, in 1979, Cal DeWitt of the University of Wisconsin-Madison initiated, as director of the Au Sable Institute of Environmental Studies, a curriculum of advanced scientific and professional courses to support the study and practice of environmental stewardship as an expression of Christian vocation. It was a visionary initiative that would ultimately lead to Au Sable's development as an educational

institution with an explicitly Christian vision of environmental conservation serving over one hundred colleges and thousands of students on five campuses on three continents. The following year a small trust fund was established by Christians in the United Kingdom as a charity to support an obscure conservation field station in Portugal, a mustard seed that would grow to become the modern-day A Rocha, an international organization of Christians in conservation now active in fifteen countries and influential in several international conservation organizations.<sup>16</sup>

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A Rocha's work was exemplary but not unique. The 1980s saw the birth of numerous Christian organizations with explicitly environmental missions, most of which continue their work to this day. Such developments in the Christian community continued and expanded into the 90s, sometimes merging conservation education and activism in remarkably creative ways. In 1998, Greenville College (Illinois) dedicated the Zahniser Institute of Environmental Studies. Named for one of its own alumni, Howard Zahniser, for many years editor of *The Living Wilderness* and one of the principal advocates and architects of The Wilderness Act of 1964, the Zahniser Institute's stated mission is, in part, "... to promote the preservation of unique and wild places; to facilitate the integration of an ethic of environmental stewardship into the conservative moral constructs of our society; and to use muscle, sinew, will, and spirit to restore Nature." Through the Institute, an environmental consulting firm is run by Greenville faculty and students as a co-curricular program. Starting with local consulting efforts in wetland restoration in Illinois, Zahniser has expanded its work

to Missouri and Kansas, and now includes prairie, forest, and mined land restoration efforts.

As these and other efforts became established they have evolved into a third phase of Christian response, the emergence of active Christian engagement in research and management with existing scientific agencies to provide technical and scientific service in pursuit of environmental conservation. Some of these efforts have been carried on by older organizations, such as A Rocha, which is now involved in the conservation and management of forty-two species worldwide. Others have been pursued in entirely new ways, or by entirely new programs, such as the Global Stewardship Initiative, funded by the Pew Charitable Trust, which provided funds for advanced technical support, such as GIS systems, for teaching environmental and conservation studies at Christian colleges. Among evangelical colleges, Taylor University has developed a graduate research program in environmental studies. From 1995-1999, Northwestern College (Iowa) established a cooperative partnership in research and management with the US Fish and Wildlife Service through its Cooperative Cost Share and Nongame Bird Research Programs<sup>17</sup> and, in 2000, with the Natural Resource Conservation Service through that agency's Conservation Reserve Program.<sup>18</sup> From 1995-1998, persistent lobbying efforts by TargetEarth, the Evangelical Environmental Network, and other Christian environmental organizations were instrumental in derailing repeated attempts to amend and weaken the Endangered Species Act in a politically conservative, Republican-controlled Congress.<sup>19</sup>

Such efforts represent the ongoing process of cultural transformation in conservation in and through the Christian community, and I am concerned here with exploring how such transformation might continue. To answer that question, we must ask, and answer, another. Is Christianity really *necessary* and *essential* to the work of conservation, or is it just a nice "add on" to involve Christians in what "real" conservationists are doing already, and will continue to do when the church has lost interest? To provide an answer, I will divide that question into three parts. First, how does Christian faith transform the *purpose* of conservation? Second, how does Christian faith transform the *value* of what is conserved? Third, how does Christian faith transform the *role* of the human conservationist, and of the entire human presence in the conservation of the world's biodiversity and environmental resources?

## The Problem of Purpose: What Is Conservation For?

Although not always recognized, the most fundamental problem plaguing conservation today is the problem of purpose, a problem captured with eloquent brevity by Herman Daly in his classic essay, *The Lurking Incon-*



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## Article

### *Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic*

teny.<sup>20</sup> Here Daly noted that the work of conservation, with its emphasis on normative goals, ends, and values, encourages the public to inquire, as they witness millions of dollars spent on behalf of endangered species, degraded ecosystems, and rare habitats, what is the *purpose* of conservation? Although this problem is now receiving attention by scholars in environmental ethics,<sup>21</sup> their work so far has had little influence on the day-to-day thought and practice of the professional conservation community. One would think that practicing conservationists would have a ready answer to questions of purpose. They certainly need one. But sadly, most do not.

The question is often framed in economic terms (Why are we spending all this money on this species of turtle, sea grass, or sand worm?), and economists have stepped forward to argue for conserving biodiversity on economic grounds via techniques of contingent valuation. One of the most common methods of contingent valuation is the "willingness to pay" approach, in which individuals are asked "how much would you be willing to pay to save species X." Responses are aggregated to generate an economic measure of the "value" of the species, an economic metric for a nonmarket entity.

There are multiple problems with this approach, including many technical ones that are best left to debates among the economists themselves.<sup>22</sup> We will consider here only the ethical problem, what could be called "the problem of purpose." The contingent valuation approach equates purpose with preference. The value of an endangered species is no more than one is willing to pay to express his or her own environmental taste for birds, fish, spiders, butterflies, mammals, reptiles, clams, plants, or bacteria, and those who are willing to pay the most are those who get to have their preferences satisfied. This approach assumes that the only value in preserving biodiversity or ecological integrity is usefulness or attractiveness to humans, or more specifically, to the extent that the existence value of a species satisfies human preference. Determining environmental policies to satisfy the preferences of those who are willing to pay the most for them maximizes aggregate net economic benefit as a consequence of maximizing human welfare (preference satisfac-

tion). The net benefit is, in turn, measured as the amount people are willing to pay for those resources. This amounts to saying, as environmental ethicist Mark Sagoff put it, "that resources should go to those willing to pay the most for them because they are willing to pay the most for those resources."<sup>23</sup>

Encumbered by such logic, contingent valuation creates an ethical distortion in two dimensions. First, the intrinsic value of the entity to be conserved is conflated with personal benefit to those doing the conserving, i.e., humans. Second, preference satisfaction becomes conservation's moral compass. Ironically, this is usually not the ethical orientation of most respondents. When a respondent is asked, "How much would you pay to save species X?" she does not answer by calculating the economic *benefit* of the endangered species *to her*. Instead, she assigns a relative estimate of *value*, that is, she makes a judgment regarding *moral worth and ethical obligation* to the preservation of the particular species, and a level of sacrifice she is prepared to make to fulfill that obligation. The tragedy of contingent valuation is the confusion it makes between value and benefit. And in doing so, it asserts that the purpose of conservation is the satisfaction of human preference as the means to benefit maximization.

If economists sometimes confuse the issue, conservation biologists are not always able to locate it. Some would drop the whole project, affirming the sentiments of biologist Dennis Murphy, who asserted that "Conservation biology only exists because biological information is needed to guide policy decision making."<sup>24</sup> If that view is correct, all questions of value and purpose in conservation are terminated. Although most conservation biologists might shrink from Murphy's bluntness, many still wish the question of purpose would disappear because they believe that purpose is illusory, even if they are reluctant to admit it. Conservation biologists give public testimony to the media and to the Congress that we should, among other things, save endangered species. When their audience asks, "What for?" conservation biologists speak about maintaining ecosystem integrity, or fulfilling our encoded genetic love of life,<sup>25</sup> or increasing local or global biodiversity.<sup>26</sup> But these are statements of *description*, not *reason*, and do

not answer the question being asked. What appears to be “purpose” is really only an expression of genes, hormones, climate, or evolutionary history in general. The problem with such an explanation, however credible it may look in a textbook to undergraduates, is that it does not explain what we actually observe in the world or what we ourselves experience. In our life as human beings, and in our observation of all kinds of living things, particularly higher animals, we experience ourselves or observe other living things acting in a self-determining manner. That is, we experience and observe the pursuit of *purposes*. Interestingly, contemporary environmental ethicists, if not many biologists, have come to believe that purposes are important, even foundational, to environmental ethics. A fundamental premise of modern environmental ethics is that living things in a natural environment have *ends of their own, and these ends are not our ends*.<sup>27</sup> The psalmist perceived this when he wrote: “The high mountains are *for* the wild goats, the cliffs a refuge *for* the rock badgers” (Ps. 104:18). In what sense are mountains *for* goats and cliffs *for* rock badgers? In exactly the same sense that Pelican Island, America’s first national wildlife refuge, is *for* pelicans. And President Theodore Roosevelt said so, designating the sanctuary, in the words of his executive order, as “a preserve and breeding ground *for* native birds” (emphasis mine).

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All of these places are *for* these creatures in the sense that they permit them the freedom to pursue their own good, their own ends. These ends, provisioned by God, and, in the United States, protected by federal law in particular cases, are ends that can be frustrated by humans. Thus, other living creatures can be deprived, by us, of those things that serve their interests and purposes. Therefore, living things in natural environments can be treated as *moral subjects* that merit ethical consideration because they have definable interests (i.e., purposes) that can be frustrated by human action. For conservation to be conservation, it must affirm that the purposes which nonhuman

creatures pursue are, first, *real*, and second, that they are *good*. That is, the purpose of their conservation is not the satisfaction of human preference, and the value of a species’ existence is not based on the benefit that humans might derive from it. Such premises have become statutory in the United States. The US Endangered Species Act (ESA) of 1973, for example, protects the existence of listed endangered species, as well as their habitat, regardless of their economic value and benefit. This amounts to asserting, as environmental historian Joseph Petulla put it, that “a listed nonhuman resident of the United States is guaranteed, in a special sense, life and liberty.”<sup>28</sup> Petulla’s intellectual concept has become legal reality. In 1978 in *Palila v. Hawaii Department of Land and Natural Resources*, the palila (*Psittirostra bairdii*), a small, yellow-headed, stubby-billed native Hawaiian bird, was the listed plaintiff in a judicial hearing over its own conservation, ably represented through lawyers retained by the Sierra Club and Hawaiian Audubon Society.<sup>29</sup> If we affirm the statute and the rights it gives the palila and other species, we must conclude that the goal of conservation it expresses is to enhance the welfare of these creatures *for the purpose of protecting their life, liberty, and interests*, precisely because their existence is of value independent of our benefit from it.

The ESA demands that humans behave altruistically toward other species, but legal coercion is not enough. To pursue and sustain such altruism in conservation, one must have a rational foundation to support it. Is protecting species a *virtue* (because we *ought* to love and protect other species)? Is protecting species an *obligation to be discharged* (then, to what or to whom do we owe this service)? Is protecting species an act of preserving something *intrinsically valuable* (then from what source is such value conferred)? Answers to any of these questions could lead to a compelling rationale to save species, but they receive relatively little attention in current professional conservation literature. The failure to engage such questions effectively reveals the present confusion of modern conservation, and the lack of answers, its moral ambivalence. In such deafening ethical silence, the purpose of stewardship defaults to the satisfaction of human preference. Such environmental “morality” leads to the perception of humans as “users” of nature who interact with it by pursuing “satisfaction” from the “services” which nature provides. Sadly, but predictably, many studies reveal that, as human “users” of environmental entities grow more accustomed to environmental degradation, they can enjoy the “services” of such entities with no loss of satisfaction.<sup>30</sup>

Although modern environmental assessments, such as the United Nations’ Millennium Ecosystem Assessment (MA), attempt to evaluate the actual condition of ecosystems and all possible and potential dimensions of “value” they contain, such assessments still categorize all entities within the ecosystem as some form of “service,” integrated and related to the axiom of human well-being.<sup>31</sup> Such



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## Article

### *Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic*

definition and methodology reveal that increased analytical skill does not necessarily alter fundamental philosophical perspectives. Even in our most sophisticated and global assessments of the environment, preference satisfaction through "using" nature remains a dominant concept.

Preference-driven assessment creates the ethical tragedy of, as Daly puts it, "the reduction of value to taste."<sup>32</sup> If no better answer can be offered, then the public must be satisfied with this one, and do the best it can to figure out what its tastes in conservation are. But such an answer leaves the conservation enterprise with neither moral ideal nor moral direction, without which it cannot endure. As the last thirty years have seen the transformation of our culture's perception of Christian stewardship in conservation, future years must see Christians act as transforming agents in articulating a conservation purpose that creates a compelling moral motive for action. We should begin with the most fundamental question. What are *God's purposes* for his created order?

### What Are God's Purposes for Creation?

Our first insight into God's purposes for his creation are found early in his revelation to us. "Be fruitful and multiply ..." I suspect that when you read these words, you are culturally conditioned to complete them with the words of Gen. 1:28 "and fill the Earth, and subdue it." But I am quoting from an earlier verse, Gen. 1:22. "God blessed *them* saying, 'Be fruitful and multiply, and fill the waters in the seas, and let birds multiply on the Earth.'" Before the blessing of fruitfulness is spoken to men and women, it is first spoken to fish and birds, and its blessing extends to all of nonhuman life. And rightly so, because God sees and admires what he has made and calls it "good" (Gen. 1:1-25). Thus we understand that God's first stated objective in creation is to bless the life he has made that it may make more life. Therefore, we perceive the first purpose of stewardship, *to fill the world with "good" things*, such that humans ought to support and, to the extent possible, aid the divine blessing by ensuring that the world is "full" of the good, nonhuman life God has created, and which he intended to multiply on the Earth.

A second purpose of stewardship can be discovered in the book of Job. God says to Job regarding the monster Leviathan,

The sword that reaches him cannot avail, nor the spear, the dart, or the javelin. He regards iron as straw, bronze as rotten wood. The arrow cannot make him flee, slingstones are turned into stubble for him ... Nothing on Earth is like him, one made without fear. He looks on everything that is high; He is king over all the sons of pride (Job 41:26-28, 33-34).

Job asked God for an explanation of his suffering. God praised his creature, Leviathan. Did God miss the question? No. In his answer, God repeatedly hurls back the question, "Where were *you* ..." when I performed all my mighty acts of creation? God's cross-examination of Job takes him from an imaginary world centered on Job to a real world that is not—a world that existed long before Job, that does not know Job, and that is filled with magnificent creatures which have no regard for Job. As theologian Oliver O'Donovan puts it:

Job must learn not to think of nature only in relation to his own wants, but to see the irrelevance of those wants to the vast universe of nature ... He has no claim to a stable and well-balanced ecosystem in the face of a nature so diverse in its teleologies, so indifferent to human concerns.<sup>33</sup>

But God rejoices in that world. He calls Leviathan and Behemoth "the first of the ways of God" (Job 40:19). It is not because they satisfy "user satisfaction," but because they do not. Indeed, they have no regard for human preferences and provide no human satisfaction of any kind ("Will you play with him as a bird, or will you bind him for your maidens?" Job 41:5). Instead they frustrate human purpose. They humble the proud anthropocentrism of human culture.

God cared deeply for Job, but his therapy for Job's sorrows began by forcing Job to see the world differently. Leviathan and Behemoth are not valuable because they satisfy revealed human preferences. In fact, they do the opposite. They frustrate human preference and thwart the human will to dominate and control all things for its own ends. When we understand God's pleasure in these crea-

tures, and his revealed purposes for them, we also understand the second great purpose of stewardship—to adopt a more humble view of ourselves in the greatness of God’s creation, and, enabled by this perspective, to share God’s pleasure in the things he has made that are no use to us, as well as in all the things that sustain our life and health.

If we were to press God with the question, “why did you make Leviathan?” we would find an answer in the words of Psalm 104. “O Lord how many are your works! In wisdom you have made them all: the earth is full of your possessions. There is the sea great and broad, in which are swarms without number (just as God blessed them to be), animals both small and great. There the ships move along, and Leviathan, *which you have formed to sport in it*” (Ps. 104:24–26). In other words, if we believe the theology of the psalmist, the reason God made Leviathan was so that Leviathan might “enjoy himself” in God’s ocean. The same purpose for all creatures echoes through the psalm. “The high mountains are *for* the wild goats, the cliffs are a refuge *for* the rock badgers ... They all wait for you to give them their food in due season” (Ps. 104:18, 27). Here is revealed a third purpose of stewardship—to protect and preserve the provision that God has made *for* the individual and unique “good” of every creature.

## The Transformation of Value

If Christians are to continue as transformative agents of conservation culture, they must not only transform the *purpose* of conservation, but also the *value* of what is conserved. I will not attempt to capture every possible way of thinking about or categorizing environmental entities and values, much less the complexity of ethical systems that support them. For example, in his pioneering work on human attitudes toward wildlife, Stephen Kellert identified seven different categories of wildlife “values” (naturalistic, ecological, moral, scientific, aesthetic, utilitarian, and cultural) perceived by humans based on responses to detailed questionnaires about attitudes toward wildlife.<sup>34</sup> However, what Kellert referred to as categories of “values” are actually categories of psychological response. That is, Kellert’s categories are not categories of norms that organize ideas about what is “right” or “wrong” with respect to the entity (in this case, wild animals), but rather categories of reactions humans display or experience in contact with or in thinking about animals.

Similarly, “systemic” approaches such as Millennium Ecosystem Assessment attempt to consider all “values” of environmental entities at the ecosystem level to determine the total value of an ecosystem’s goods and services for human welfare. Although commendably comprehensive and technologically sophisticated, confusion results when economists fail to understand that such methodology is designed for *environmental assessment*, not *ethical analysis*. All “values” are perceived as “services” that satisfy

human needs. For example, “spiritual and aesthetic values” of ecosystems, which are really recognitions by humans of values imputed to environmental entities from other sources, are categorized as “cultural ecosystem services.” This orientation repeats the classic error of conflating values and benefits.<sup>35</sup> “Benefits” are things that promote (human) well-being and “services” are things that contribute to the welfare of others. “Values,” in contrast, are bases for an estimation of the worth, and may have little to do with a creature’s contribution to human well-being or welfare. Systemic assessment methodologies are unable to distinguish the difference between what people *value because of services it provides for them* and what people *believe is valuable for moral and ethical reasons*.<sup>36</sup> Thus, they cannot provide *ethical categories* regarding the environment. They are not to be faulted for this. That would misunderstand their role as an assessment tool. But environmental assessment is not ethical assessment. We must begin the transformation of value in conservation with a new set of tools.

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*Categories of values [can be] organized around how [they] are affected by human perception, how they are realized or appreciated by humans, and how they ultimately influence human decision-making and environmental management.*

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Modern systems of environmental ethics address more than value. Such systems attempt to determine correct environmental behavior by evaluating the consequences of our actions (consequentialist ethics), the fulfillment of moral obligations or duties through actions that affirm an independent truth or “goodness” (deontological ethics), the preservation of interdependent associations of species and their functions in their appropriate place (ecocentric ethics), or the effect of our actions on our relationship to nature and our own moral development (“relational self” and virtue-based ethics).<sup>37</sup> But, with due respect to the nuance and complexity of multiple and various ethical paradigms, the actual categories of *values* invoked in such systems are often considerably simpler, especially when organized around how such values are affected by human perception, how they are realized or appreciated by humans, and how they ultimately influence human decision-making and environmental management.





## Article

### *Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic*

*To transform the value of what is conserved in the culture of conservation, Christians must affirm that nature is to be treated as a moral subject. It is not to be perceived simply as a source of "ecosystem services," but as a creation of God whose rights must not be withheld from it ...*

Consider a basic "value trichotomy" (Fig. 1). Environmental entities that satisfy our preferences and needs have *instrumental* value, which we obtain by use or, in some cases, non-use. If non-use, we retain their value by having the *option* of using them later, or the *possibility* that such options may exist, something ethicists and economists refer to as *quasi-option value*, a category that is invoked every time you hear someone say "we must save the rainforests *today* because *tomorrow* we may discover yet another plant compound that we can use to treat human disease." Humans value created things *aesthetically* if they possess qualities that we admire, appreciate, or enjoy. Small wonder that the symbol for the World Wildlife Fund is a panda and not a flatworm. But humans value those things *intrinsically* that they judge to possess value *in their own right*, especially value that is conferred upon them from a transcendent source. Thus, this simple trichotomy, although not providing nor intending to provide a comprehensive examination of all possible ethical categories, does offer a framework for identifying *functional value categories* needed for thinking about environmental entities and the human response to them. Identifying these categories is useful in predicting the behavior of environmental agencies toward the environment, and in understanding the underlying intent of many environmental laws.

In the United States and elsewhere, environmental management agencies are guided

by long-held and historically revered missions, missions which hold a particular perspective on the "value" associated with managed environmental entities. Agency cultures grow up and develop around such missions, and agency behavior reflects an organizational understanding of the mission transmitted through agency culture and practice. For example, if the value of environmental entities is viewed as instrumental, then the purpose of conservation is to satisfy human needs and preferences ("well-being"), and natural objects must be viewed as "resources." Their value is realized through their use, and the ideal management goal is maximum sustainable use in perpetuity.

Following the maxim of their most famous director, Gifford Pinchot, who believed that natural resources should serve "the greatest good for the greatest number for the longest time,"<sup>38</sup> the US Forest Service came to define its primary management objective as maximum sustainable yield for the five core "resources" on US national forests, which are, as a Forest Service colleague once reminded me in his best Elmer Fudd voice, "wood, watum, wange, wildwife, and wecweation." That the Forest Service has tended to historically emphasize wood, with its explicit markets and pricing, and under-emphasize "wecweation," with its less well-defined valuations, is testimony to the power of instrumental value to shape agency behavior and management action.

#### Implications of Environmental Value Categories

##### Instrumental

- Natural objects are resources of goods and services for human well-being
- Value is realized through use
- Management goal → maximum sustainable use through harvest

##### Aesthetic

- Natural objects are loci of admirable qualities or traits
- Value is realized through perception
- Management goal → maximize aesthetic perception through education and training

##### Intrinsic

- Natural objects are "good" in their own right
- Value is realized through fulfilling moral obligation toward object
- Management goal → maximize well-being of object through provision and protection

Fig. 1. Some implications of different environmental value categories and their effects on perception, value realization, and management of environmental entities.

In contrast, if natural objects are valued aesthetically, value is realized through perception, and the ideal management goal is to maximize our perception of these qualities through interpretive education and training. The US National Park Service was founded upon a Congressional mandate to preserve the *scenery* of US national parks for the enjoyment of their visitors, a mission with a strong aesthetic orientation targeted toward human appreciation. What kinds of people does the Park Service employ in this task? We call them "rangers," but the Park Service calls them "interpreters" and their job is to increase the appreciative abilities of visitors to better apprehend the aesthetic qualities, and scientific processes, present in the park's landscape.

In contrast to instrumental and aesthetic values, *intrinsic value* is realized not through human use, nor human perception, but through human *response*, the fulfillment of moral obligation to the environmental entity. If intrinsic value drives management decision-making, then management actions aim to maximize the well-being and continuance of the entity through acts of provision and protection. Today management agencies which were historically driven by instrumental values (the Forest Service) or aesthetic values (the National Park Service) are increasingly affected by legislative mandates, such as the ESA, or policy directives for "ecosystem management," which assume the intrinsic value of things like rare species or functional ecosystems. Such mandates are derived through public debate and deliberation, not economic assessment, and more likely to support *values* held as national or religious ideals, rather than as "ecosystem goods and services" supplied for human welfare.

One of the great questions of modern environmental ethics is: "Are environmental entities morally considerable?"<sup>39</sup> Viewed instrumentally and aesthetically, the answer is "no." If the environment is valued only in these ways, then it is an *arena of ethical decision-making*, but it can never be an *object of ethical concern*. But in the Judeo-Christian tradition, the nonhuman world is not only "good," it is explicitly treated as a *moral subject*.

Then God spoke to Moses at Mount Sinai, saying, Speak to the sons of Israel and say to them, when you come into the land which I shall give you, then the land shall have a Sabbath to the Lord. Six years you shall sow your field, and six years shall you prune your vineyard and gather its crop, but during the seventh year, the land shall have a Sabbath rest, a Sabbath to the Lord (Lev. 25:1-4).

Note the structure of the sentence. God does not say, "The sons of Israel are to cease from cultivating the land every seventh year." Rather, what God says is "The land shall have ..." In God's view, the land is not the *object* of the Sabbath, it is the *subject* of the Sabbath, and it is primarily the land, not the people, which receives this "rest" from God. Thus, God treats the land as a moral subject and the

Sabbath as its legal "right," from which it is to receive due benefit. This view that God treats the nonhuman world with moral consideration is manifested in the history of God's dealings with Israel. Second Chronicles 36 closes the book on the story of the kingdom of Judah, ending with these words:

Those who had escaped from the sword he (Nebuchadnezzar) carried away to Babylon, and they were servants to him and to his sons until the rule of the kingdom of Persia to fulfill the word of the Lord by the mouth of Jeremiah, until the land had enjoyed its Sabbaths. All the days of its desolation it kept Sabbath until seventy years were complete (2 Chron. 36:20-21, emphasis mine).

In Judeo-Christian tradition, environmental values matter. When the land was deprived of its right to Sabbath, God restored its Sabbaths by direct intervention. The people who failed to give the land its rest were deported, and did not return until the land had enjoyed its Sabbaths. To transform the value of what is conserved in the culture of conservation, Christians must affirm that nature is to be treated as a moral subject. It is not to be perceived simply as a source of "ecosystem services," but as a creation of God whose rights must not be withheld from it, a view that is derived from the intrinsic value that God bestowed upon it when he called it good, manifested when he provided it with rest, protected it under his law, and punished its abusers with deportation.

## Environmental Stewardship as Reconciliation

Finally, and perhaps most importantly, Christians in conservation work toward the *transformation of the human presence*, and thus must engage the final, and perhaps most significant question: What gives human beings the right to be the *environmental managers of creation and the agents of its conservation*? At first glance, the question might seem silly. If human beings do not act as agents of conservation, what other species would? As Aldo Leopold noted in his eulogy to the last passenger pigeon: "Had the funeral been ours, the pigeons would have hardly mourned us. In this fact ... lies objective evidence of our superiority over beasts."<sup>40</sup> Today many assert that humans have no such superiority, and no right at all to "manage" other species. From this perspective, humanity is viewed, in the words of conservationist Max Nicholson, as "earth's worst pest,"<sup>41</sup> and one the world would be better off without. It is a view manifested in groups like EarthFirst, which claim there should be no "management" at all.

If *Homo sapiens* is but one of the millions of species-specific products of natural selection, such objection is justified. Humans could make no special claim to "manage" other species, nor bear any obligation for their welfare. Indeed, natural selection directs us to further no



*The human presence begins its career on Earth as a presence of priestly service to the world. ... The citizens of the sacred space benefit from our service and protection, but our work is an offering to God, not to them.*

## Article

### *Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic*

ends but our ends, no genes but our genes, no progeny but our progeny. Yet, as human beings, we seem surprisingly disinclined to follow natural selection's guidance. We try to put beached whales back in the ocean, clean up oiled sea otters, and mend injuries to wounded wildlife. We see animals in trouble on the evening news and are moved with pity. We think that someone should help them. Why should humans display such "irrational" feelings and behaviors? What strange, non-adaptive combination of compassion and obligation toward other species comes so "naturally" to us?

The Lord God planted a garden toward the east, in Eden, and there he placed the man whom he had formed ... Then the Lord God took the man and put him into the Garden of Eden to cultivate it and to keep it (Gen. 2:8, 15).

The verbs rendered in this verse as "cultivate" and "keep" are, in most other passages, translated as "serve" and "protect."<sup>42</sup> They are usually encountered in Scripture as expressions describing service to God, especially as vocation, not as agricultural tasks, and are almost always used in sentences where the subject is a priest or a priestly functionary.<sup>43</sup> To the original audience who read the words of Gen. 2:15, they, being culturally informed, would understand that, in Eden, God had created a "sacred space" and installed the man as its priest.

As Old Testament scholar John Walton has noted, in these ancient cultures, a priest charged with the care of a sacred space had three primary duties. First, he was to see that the sacred space was kept pure, not defiled or polluted in any way, physically or spiritually. Second, he was to establish, within that space, a regular and frequent pattern of worship. Third, he was to monitor the needs of the inhabitants of the sacred space, to ensure that, while they continued in his care, they would lack nothing needful.<sup>44</sup> Thus, the human presence begins its career on Earth as a presence of priestly service to the world. A correct understanding of Gen. 2:15 not only brings clarity to the nature of human obligation, but also reveals, in a way that secular environmental philosophies cannot, to whom the obligation is discharged. The citizens of the sacred space benefit from our service and protection, but our work is an offering to God, not to them.

The sacred space of Eden was destroyed by human sin. As a result, our current situation is changed. Both human and non-human creation stand in need of reconciliation to God. Paul tells us that this is a reconciliation God is determined to achieve.

For by him all things were created, both in the heavens and on Earth, visible and invisible ... all things have been created through him and for him. He is before all things, and in him all things hold together ... For it was the Father's good pleasure for all the fullness to dwell in him and through him to reconcile all things to himself having made peace through the blood of his cross (Col. 1:16-17, 19-20).

Paul's Colossian doxology describes the cosmic nature and consequences of Christ's lordship, common themes throughout Paul's epistles (Rom. 5:12-21, Rom. 8:19-23, 1 Cor. 8:6, Eph. 1:18-23, Phil. 2:6-11).<sup>45</sup> What the Colossian doxology makes more explicit than other texts is that the reconciliation achieved through the death and resurrection of Christ affects every created thing. The recurring Greek phrase *ta panta*, translated in English as "all things," remains the same throughout the doxology. Thus, Paul asserts, first, that Jesus Christ created *ta panta* (Col. 1:16). Second, Jesus Christ sustains *ta panta* (or, in more literal Greek, "in him all things consisted" Col. 1:17). Third, the *ta panta* that Jesus created and sustains are the very same *ta panta* that he reconciles "through the blood of his cross" (Col. 1:20).

Christians have shown a historic tendency to separate the doctrines of creation and redemption. Paul links them by making Christ the agent of both. Evangelical theology, in particular, has tended to describe the effects of the atonement in personal terms that achieve reconciliation between God and human beings. Paul describes the atonement's effects in cosmic terms that achieve reconciliation between God and the entire created order. He elevates it to being the means through which Christ redeems the cosmos that he has created.<sup>46</sup>

To understand this view of atonement, we must appreciate that nonhuman creation, like its human counterpart, also shares the *need* of redemption, although perhaps in a more derivative way, from the curses,

sorrow, and frustration to which it is subjected because of human sinfulness (Gen. 3:17, Hos. 4:1-3, Rom. 8:18-22). Paul's word to the Colossians restates this truth in Christocentric terms. Jesus Christ created all things, Jesus Christ sustains all things. And the same things, the same *ta panta*, that Jesus Christ created and sustains are the very same "all things" that he reconciles to himself through his blood, shed on the cross. This reconciliation is not something that happens "naturally," or something that necessarily "evolves" out of the creation's own intrinsic properties. Paul is referring to a historic, space-time *intervention* by God into the world, precisely to *save* it from the path it was *naturally* following. Likewise, we must understand that there is an interventionist dimension of genuine stewardship when it is properly understood as a ministry of reconciliation, not merely a program of preservation.

### The Future of Christian Environmental Stewardship

Although a variety of ethical positions vie for attention on matters of the environment,<sup>47</sup> it is the ethics of ecocentrism, the view that environmental value resides in the integrity and function of natural communities and ecosystems, that today dominates modern scientific conservation biology, while, at the level of environmental activism and popular support, the Judeo-Christian environmental stewardship ethic is increasingly emerging as its primary ethical rival.<sup>48</sup> In the conservation ethic of ecocentrism, value lies in the whole and its functions. It follows that the purpose of stewardship is to *preserve* the integrity and stability of the natural world by removing those human effects which separate and disintegrate natural communities. Thus follows the moral maxim of Aldo Leopold's Land Ethic, *a thing is right when it tends to preserve the integrity, beauty, and harmony of the biotic community. It is wrong when it tends otherwise.*<sup>49</sup> In management and conservation, an ecocentric approach focuses on the state of the community or ecosystem, and attempts to achieve a desired state of function through various combinations of management, regulation, and education.

In the Judeo-Christian tradition, the purpose of stewardship is to *reconcile* the human and nonhuman creation on Earth to a productive, beneficent, and loving relation-

ship with God and with one another (Fig. 2). God in human flesh is the agent of that reconciliation, and those humans who are his disciples are to work with him to bring it about. *In that day I will make a covenant for them with the beasts of the field, the birds of the sky, and the creeping things of the ground, and I will abolish the bow, the sword, and war from the land and will make them lie down in safety...Then you will know the Lord* (Hos. 2:18, 20). Such an approach, although concerned with the state of natural systems and their components, perceives the fundamental problem very differently than ecocentrism. Here, the problem to be solved is fundamental *antagonism* between the human community and the natural creation, an antagonism that is rooted, in humans, in a hostile relationship toward God and his intentions for both the human and nonhuman world. Further, although both human and nonhuman creation are loved and valued by God, humans are considered more valuable (Matt. 6:26), and their reconciliation must come first, because the reconciliation of nonhuman nature depends upon it (Hos. 2:18-23, Rom. 8:19-22).

The importance of the reconciliation concept, as expressed theologically in Paul's Colossian doxology, helps to explain the sensitivity to the human community that is manifest in many examples of Christian environmental stewardship, but is often absent in ecocentric approaches. Perhaps no example displays that contrast more clearly than the work of environmental conflict resolution by Susan Drake Emmerich, former US Department of State Delegate to the United Nations Environmental Programme. In her doctoral research, Emmerich examined the role of faith-based approaches to environmental conflict resolution in a community of commercial fishers (watermen) on Chesapeake Bay's Tangier Island, many of whom were evangelical Christians.<sup>50</sup> Here, in the late 1980s and early 1990s, conflicts between conservationists, especially between the Chesapeake Bay Foundation (CBF), a regional conservation NGO, and watermen had reached an impasse. CBF had followed the traditional conservation approaches of combining more environmental education with advocacy for more restrictive harvest regulations. Far from solving the problem, this strategy escalated the conflict beyond verbal disagreement to acts of property damage, arson, and death threats.

Some Comparisons of Ecocentrism and Judeo-Christian Stewardship	
Ethical System	Fundamental Task to Be Accomplished/Problem to Be Solved
Ecocentrism	Preserve functional and compositional integrity of ecosystems (the land) because functional ecosystems are good
Judeo-Christian Stewardship	<i>Original task:</i> Manifest God's will and care to created order through human action because God is good <i>Contemporary problem:</i> Reconcile human and nonhuman creation to God because God is good

Fig. 2. Some comparisons of the fundamental tasks of stewardship as perceived by ecocentrism and Judeo-Christian stewardship.



*The Christian conviction that both humanity and nature are objects of God's redemptive plan and purpose (Rom. 8:18–22) generates conservation strategies inclusive of human need. Such approaches perceive the fundamental conservation problem to be an estrangement between God, humanity, and nature, and the solution to be one that reconciles human beings to their natural surroundings ...*

## Article

### *Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic*

Emmerich began her efforts on Tangier Island by recognizing the legitimacy of local churches as the primary decision-making institutions of the Tangier community, an approach CBF had never considered. She also began by centering her concerns on the human community rather than the catch species. Emmerich came to realize that the watermen's first concern was the threat to their existing way of life, a threat they perceived to originate from restrictive harvest regulations and insensitive conservation organizations like CBF.<sup>51</sup> The lack of cooperation and outright hostility watermen displayed toward environmental regulations and the "environmental ethic" advanced by government agencies and the CBF was a reflection of their view that these entities had no regard for their way of life, a way of life which watermen wanted to preserve.

Working and speaking in the churches to establish a faith-based environmental ethic, Emmerich's efforts led to the development of the "Watermen's Covenant," a pledge written by watermen binding its signers to respect conservation laws as an expression of obedience to biblical commands and principles of stewardship. The Covenant was not the product of long committee meetings and public debates. It arose out of a spontaneous response by watermen resulting from a new awareness of their sins against God and his creation. Explaining her firsthand experience at a local church service, Emmerich said:

I preached on biblical environmental stewardship and loving one's neighbor. At that service, fifty-eight watermen bowed down in tears and asked God to forgive them for breaking fishery laws. They then committed themselves to a Stewardship Covenant ... Watermen in their seventies and eighties, an age when habits tend to be fixed, began bringing their rubbish back to the island, rather than dumping everything overboard. Many apologized to fellow-Tangiermen working for the Chesapeake Bay Foundation, for their animosity over the years. Individuals spoke emotionally in church of their conviction of sin after throwing metal cans overboard or taking undersized crabs. Government officials, scientists, and environmentalists, all of whom had experienced difficulty in instituting change of any sort, have been

stunned by the dramatic change in the people of Tangier.<sup>52</sup>

Acting from the same theological insights as Emmerich, A Rocha's emphasis on developing embedded indigenous conservation efforts among local (usually poor) communities and the Zahniser Institute's stress on service to local community and government are manifestations of this same theological understanding. The Christian conviction that both humanity and nature are objects of God's redemptive plan and purpose (Rom. 8:18–22) generates conservation strategies inclusive of human need. Such approaches perceive the fundamental conservation problem to be an estrangement between God, humanity, and nature, and the solution to be one that reconciles human beings to their natural surroundings, not one that merely supplies "education" or regulatory constraint.

This understanding of stewardship incorporates some of the perspectives of the emerging science of restoration ecology, at least in redefining the human role toward nature. Pioneer restorationist W. R. Jordan, when speaking of human use of prescribed fire to restore tallgrass prairie, explained:

The need of the prairie for fire demonstrates its dependence on us, and so liberates us from our position as naturalists or observers of the community into a role of real citizenship.<sup>53</sup>

Restoration is an important and tangible side, the human-nature side, of understanding and practicing stewardship as a ministry of reconciliation. In restoration, we are not to view nature as something that must be protected and preserved *from* human presence, but something which has been created to benefit from constructive human care and, at times, intervention. As environmental philosopher Fredrick Turner said: "Potentially, at least, human civilization can be the restorer, propagator, and even creator of natural diversity, as well as its protector and preserver."<sup>54</sup>

Although Turner and Jordan speak in a secular context, their words capture a portion of the truth required for a correct understanding of Christian environmental stewardship as a ministry of reconciliation. The restorationists also reveal the fallacies inherent in animism, or in any other alternatives that produce the enchantment (or, in

modern culture, the re-enchantment) of nature. As Thomas Sieger Derr notes: "When nature was considered sacred, it was as much feared as loved. Biblical thought removes the fear while leaving the love intact."<sup>55</sup> Thus, the task of "stewardship" is not to re-enchant nature, to placate imaginary spirits present in real created things, nor is it to preserve some particular "state" of nature. Stewardship is an interventionist vocation. It cannot be otherwise. We dare not commit the fallacy, which is both scientific and ethical, that "nature is always right" in whatever condition we find it. Nevertheless, we approach the required interventions of stewardship with humility, seeking to determine the pattern that such intervention should take, the way in which humans should be involved in it, and the proper end it should serve. Understanding the particulars of intervention in specific time-place contexts requires diligent scientific study and technical skill, but, as a ministry of reconciliation, it is guided by the determination to work toward God's revealed purposes for nature, which are redemption (Rom. 8:18-22), reconciliation (Col. 1:15-20), and restoration (Rev. 21:1-4).

Humans have not only physical needs, but moral ones, and their moral capacities and potentials are not developed simply by receiving the material benefits of stewardship that manifest themselves as healthy air, clean water, and abundant food. Vital as these are, it is the actual acts and processes of being a steward that shape human character to become more like the Lord they serve. Because God is interested not only in the outcomes of stewardship, but also in the moral development of the stewards who perform this work, modern Christian environmental ethics also has rightly begun to recognize the importance of virtue-based ethics in conservation. Our ability to serve and protect the creation, and to achieve God's intended reconciliation and redemption for it, is not only a matter of scientific and technical expertise, or even solely a matter of understanding our duties and obligations, important as they are. It is also an expression of the kind of people we are to be and become.

Bouma-Prediger, in his classic paper, "Creation Care and Character: The Nature and Necessity of Ecological Virtues" develops seven "virtue couplets" of stewardship based on biblical motifs that reveal the nature of the created order and our intended relationship to it. These ecological virtues are respect and receptivity, self restraint and frugality, humility and honesty, wisdom and hope, patience and serenity, benevolence and love, and justice and courage.<sup>56</sup> Although economist Christopher Barrett has noted that social norms often sustain such ecological virtues in many societies,<sup>57</sup> it takes more than social norms to produce them, and the kind of moral choices and character required for genuine environmental stewardship is more likely to lead one to become the object of social and professional censure rather than the recipient of endorsement and reward.<sup>58</sup> To persist in practice, such virtues

must be ultimately supported by transcendent value and authority that is more than accepted social behavior. The necessity of appropriate virtue-centered orientation in understanding stewardship as a ministry of reconciliation stems from the reality of that transcendent source, and from the knowledge that the creation, for all its beauty, complexity, and self-renewing capacities, is not its own steward. Humans are its steward. And because they must reflect the image of God to the created order in their rule and will, human virtue matters.

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Lynn White, Jr. called Christianity "the most anthropocentric religion the world has ever seen."<sup>59</sup> In an unintended way he was right, for God chose to achieve reconciliation through incarnation. He determined that the reconciling agent would bear human form and flesh, and that the humans who followed in his ministry would come to bear his likeness. If the historical roots of our ecologic crisis are anthropocentric, its future solution is even more so. The human presence is *essential* to the purpose of stewardship, not only as a loving caretaker carrying out the will of God to and for the creation that he loves, but as an image-bearer of Christ, active in the work of reconciling a fallen world to God in preparation for its final restoration and, in that work, becoming conformed to the image of Christ. The acts of stewardship have eternal significance when they are united to the ultimate purposes of God for his creation. They are not simply "what we have to do," and being stewards is not simply what we merely become as part of a "natural" process of our social evolution. Acts of stewardship are acts of moral significance because they



*Acts of stewardship are acts of moral significance because they are acts that fulfill moral obligations toward the intrinsic value of what God has created. By such fulfillment, our character is shaped and changed as we also shape and change the Earth toward the ends God has in view. This ... is the ultimate environmental transformation.*

## Article

### *Cultural Transformation and Conservation: Growth, Influence, and Challenges for the Judeo-Christian Stewardship Environmental Ethic*

are acts that fulfill moral obligations toward the intrinsic value of what God has created. By such fulfillment, our character is shaped and changed as we also shape and change the Earth toward the ends God has in view. This mutual and simultaneous reshaping of humanity and nature toward the plan and purpose of God is the ultimate environmental transformation.

In a single generation, Christians have changed the perception of the Judeo-Christian tradition in conservation from being the cause of the ecologic crisis to a solution to it. Now, to complete what has begun, Christians must transform the *value* of what is conserved, from what is of instrumental value to us to what is of intrinsic value to God. Further, Christians must transform the *presence* of the human species from being a cancer on creation to being a priest of God's sacred space. And, finally, Christians must transform the *purpose* of conservation from the satisfaction of preference, or even the preservation of environmental systems, to the *reconciliation* of human and nonhuman creation to God.

The task of stewardship, in Judeo-Christian understanding, is not to restore or preserve some particular "state" of nature. It is rather to work with God as cooperators in his purposes for nature, which are the purposes of redemption (Rom. 8:18–22), reconciliation (Col. 1:15–20), and restoration (Rev. 21:1–4). Let our efforts be directed to further these ends, and thus transform conservation's culture to affirm the purposes that bring dignity, coherence, and significance to its work. ☩

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#### Notes

- <sup>1</sup>J. Baird Callicott, "Conservation Values and Ethics," in *Principles of Conservation Biology*, 2d ed., eds. G. K. Meffe and C. R. Carroll (Sunderland, MA: Sinauer Associates, 1994), 24–49, 36.
- <sup>2</sup>Lynn White, Jr., "The Historical Roots of Our Ecologic Crisis," *Science* 155 (1967): 1203–7, 1205.
- <sup>3</sup>*Ibid.*, 1207.
- <sup>4</sup>*Ibid.*, 1205.
- <sup>5</sup>B. J. McCay and S. Jentoft, "Market or Community Failure? Critical Perspectives on Common Property Research," *Human Organization* 57 (1998): 21–9.
- <sup>6</sup>J. O'Connor, "Capitalism, Nature, Socialism: A Theoretical Introduction," *Capitalism, Nature, Socialism* 1 (1988): 11–38.
- <sup>7</sup>Elspeth Whitney, "Lynn White, Ecotheology, and History," *Environmental Ethics* 15 (1993): 151–69.
- <sup>8</sup>Thomas S. Derr, "Religion's Responsibility for the Ecological Crisis: An Argument Run Amok," *Worldview* 18 (1975): 39–45.
- <sup>9</sup>*Ibid.*, 40. For some noteworthy examples cited by Derr, see Ian McHarg, *Design With Nature* (Garden City, NY: Natural History Press, 1969); Paul Ehrlich and Richard L. Harriman, *How to Be a Survivor* (New York: Ballantine, 1971).
- <sup>10</sup>For example, Robert B. Fowler provides a lengthy examination of both Christian and secular critics of Christianity on environmental matters in his chapter on "The Argument Over Christianity," (58–75) in his book *The Greening of Protestant Thought* (Chapel Hill, NC: University of North Carolina Press, 1995), but Fowler fails to note the significance of the fact that all his sources are "post-White," and many explicitly draw upon White's essay as a basis for their own attacks.
- <sup>11</sup>Max Oelschlaeger, *Caring for Creation: An Ecumenical Approach to the Environmental Crisis* (New Haven, CT: Yale University Press, 1996), 1.
- <sup>12</sup>*Ibid.*, 5.
- <sup>13</sup>Carl Pope, "Reaching Beyond Ourselves: It's Time to Recognize Our Allies in the Faith Community," *Sierra Magazine* 83 (November/December 1998): 14–15, 14.
- <sup>14</sup>*Ibid.*
- <sup>15</sup>Some of the best early responses include Francis A. Schaeffer, *Pollution and the Death of Man* (Wheaton, IL: Tyndale House, 1969); Richard T. Wright, "Responsibility for the Ecologic Crisis," *BioScience* 20 (1970): 851–3; Joseph Sittler, *Essays on Nature and Grace* (Philadelphia: Fortress Press, 1972); Paulos Gregorios, *The Human Presence: An Orthodox View of Nature* (Geneva: World Council of Churches, 1978); Loren Wilkinson, ed., *Earthkeeping: Christian Stewardship of Natural Resources* (Grand Rapids, MI: Eerdmans, 1980). A comprehensive bibliography of hundreds of scholarly sources defending and articulating a positive understanding of Judeo-Christian environmental stewardship has been prepared by Joseph K. Sheldon in *Rediscovery of Creation: A Bibliographic Study of the Church's*

- Response to the Environmental Crisis* (Metuchen, NJ: American Theological Library Association and Scarecrow Press, 1992).
- <sup>16</sup>Peter Harris, *Under the Bright Wings* (Vancouver: Regent College Publishing, 1993).
- <sup>17</sup>One example of this cooperation describing the research and management involved can find in Fred Van Dyke, Sarah E. Van Kley, Christy E. Page, and Jodi G. Van Beek, "Restoration Efforts for Plant and Bird Communities in Tallgrass Prairies Using Prescribed Burning and Mowing," *Restoration Ecology* 12 (2004): 575-85.
- <sup>18</sup>A prairie restoration on lands owned by Northwestern College was funded by the Natural Resource Conservation Service Conservation Reserve Program in Sioux County, Iowa, beginning in 2000, and is described in Fred Van Dyke, *Conservation Biology: Foundations, Concepts, Applications* (Boston, MA: McGraw Hill, 2003), 319.
- <sup>19</sup>Calvin B. DeWitt, *Caring for Creation: Responsible Stewardship of God's Handiwork* (Grand Rapids, MI: Baker, 1998), 22-3.
- <sup>20</sup>Herman Daly, "The Lurking Inconsistency," *Conservation Biology* 13 (1999): 693-4.
- <sup>21</sup>Michael S. Northcutt, *The Environment and Christian Ethics* (New York: Cambridge University Press, 1996).
- <sup>22</sup>Richard Carson, Nicholas E. Flores, and W. Michael Hanneman, "Sequencing and Valuing Public Goods," *Journal of Environmental Economics and Management* 36 (1998): 314-23.
- <sup>23</sup>Mark Sagoff, "Environmental Economics and the Conflation of Value and Benefit," *Environmental Science and Technology* 34 (2000): 1426-32, 1430.
- <sup>24</sup>Dennis Murphy, "Conservation Biology and the Scientific Method," *Conservation Biology* 4 (1990): 203-4.
- <sup>25</sup>E. O. Wilson, *Biophilia* (Cambridge, MA: Harvard University Press, 1984).
- <sup>26</sup>Daly, "The Lurking Inconsistency."
- <sup>27</sup>For two of the best explanations of this premise, see Holmes Rolston III, *Philosophy Gone Wild: Essays in Environmental Ethics* (Buffalo, NY: Prometheus Books, 1986); Roderick Nash, *The Rights of Nature: A History of Environmental Ethics* (Madison, WI: University of Wisconsin Press, 1989).
- <sup>28</sup>Joseph M. Petulla, *American Environmental History* (San Francisco: Boyd and Fraser, 1977).
- <sup>29</sup>Nash, 177.
- <sup>30</sup>Daniel L. Dustin and Leo H. McAvoy, "The Decline and Fall of Quality Recreational Opportunities and Environments," *Environmental Ethics* 4 (1982): 48-55.
- <sup>31</sup>Joseph Alcamo and others, *Ecosystems and Human Well-being: A Framework for Assessment* (Washington, DC: Island Press, 2003).
- <sup>32</sup>Daly, "The Lurking Inconsistency" 694.
- <sup>33</sup>Oliver M. T. O'Donovan, "Where Were You ...?" in *The Care of Creation: Focusing Concern and Action*, ed. R. J. Berry (Downers Grove, IL: InterVarsity Press, 2000), 90-3, 90.
- <sup>34</sup>Stephen R. Kellert, "Social and Perceptual Factors in the Preservation of Animal Species," in *The Preservation of Species: The Value of Biological Diversity*, ed. Bryan G. Norton (Princeton, NJ: Princeton University Press, 1986), 50-73.
- <sup>35</sup>Sagoff, "Environmental Economics and the Conflation of Value and Benefit."
- <sup>36</sup>Ibid.
- <sup>37</sup>Northcutt, *The Environment and Christian Ethics*.
- <sup>38</sup>J. Baird Callicott, "Whither Conservation Ethics?" *Conservation Biology* 4 (1990): 15-20.
- <sup>39</sup>Although framing the query in their own unique styles, this is the primary organizing question of Leopold, Nash, and Rolston, among others.
- <sup>40</sup>Leopold, *A Sand County Almanac*, 117.
- <sup>41</sup>Max Nicholson, *The Environmental Revolution* (London: Hodder and Stoughton, 1970), 264.
- <sup>42</sup>For more detailed studies of translation and context, see Fred Van Dyke, David C. Mahan, Joseph K. Sheldon, and Raymond H. Brand, *Redeeming Creation: The Biblical Basis for Environmental Stewardship* (Downers Grove, IL: InterVarsity Press, 1996), 96; Steven Bouma-Prediger, *For the Beauty of the Earth: A Christian Vision for Creation Care* (Grand Rapids, MI: Baker Academic, 2001), 74;
- John H. Walton, *Genesis: The NIV Application Commentary* (Grand Rapids, MI: Zondervan, 2001), 172-4.
- <sup>43</sup>Walton, *Genesis*, 172-3.
- <sup>44</sup>Ibid., 196.
- <sup>45</sup>B. Gibbs, "Pauline Cosmic Christology and Ecological Crisis," *Journal of Biblical Literature* 90 (1971): 466-79; Colin Gunton, "Atonement and the Project of Creation: An Interpretation of Colossians 1:15-23," *Dialog* 35 (1996): 35-41.
- <sup>46</sup>Gunton, "Atonement and the Project of Creation."
- <sup>47</sup>Bryan G. Norton, *Toward Unity Among Environmentalists*.
- <sup>48</sup>Van Dyke, *Conservation Biology*, 65-6.
- <sup>49</sup>Leopold, *A Sand County Almanac*, 262.
- <sup>50</sup>Susan D. Emmerich, "Faith-based Stewardship and Resolution of Environmental Conflict: An Ethnography of an Action Research Case of Tangier Island Watermen in the Chesapeake Bay" (Ph.D. diss., University of Wisconsin, 2003).
- <sup>51</sup>Susan D. Emmerich, "The Declaration in Practice: Missionary Earth-keeping," in *The Care of Creation: Focusing Concern and Action*, ed. R. J. Berry (Downers Grove, IL: InterVarsity Press, 2000), 147-54.
- <sup>52</sup>Emmerich, "The Declaration in Practice," 151.
- <sup>53</sup>William R. Jordan III, "'Sunflower Forest': Ecological Restoration as the Basis for a New Environmental Paradigm," in *Beyond Preservation: Restoring and Inventing Landscapes*, ed. A. D. Baldwin, J. De Luce, and C. Pletsch (Minneapolis: University of Minnesota Press, 1993), 17-34.
- <sup>54</sup>Fredrick Turner, "The Invented Landscape," in *Beyond Preservation: Restoring and Inventing Landscapes*, 35-66.
- <sup>55</sup>Thomas S. Derr, *Ecology and Human Liberation: A Theological Critique of the Use and Abuse of Our Birthright* (Geneva: WSCF Books, 1973), 43.
- <sup>56</sup>Steven Bouma-Prediger, "Creation Care and Character: The Nature and Necessity of Ecological Virtues," *Perspectives on Science and Christian Faith* 50 (1998): 6-21.
- <sup>57</sup>Christopher R. Barrett, "Markets, Social Norms, and Governments in the Service of Environmentally Sustainable Economic Development: The Pluralistic Stewardship Approach," *Christian Scholars Review* 29 (2000): 435-54.
- <sup>58</sup>Fred Van Dyke, "Ethics and Management on US Public Lands: Connections, Conflicts, and Crises," *Evangelical Review of Theology* 17 (1993): 241-56.
- <sup>59</sup>White, "The Historical Roots of Our Ecologic Crisis," 1205.

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