

**FAITH & ENVIRONMENTALISM AMONG UNITED METHODISTS IN
APPALACHIA:**

**INVESTIGATING CHRISTIAN ENVIRONMENTAL ETHICS & PROMOTING
ENVIRONMENTAL CARE IN THE HOLSTON CONFERENCE OF THE UNITED
METHODIST CHURCH**

by

Hal Gunder
Justin Schott
Jesse Turner

A project submitted
in partial fulfillment of the requirements
for the degree of
Master of Science in Natural Resources and Environment
School of Natural Resources and Environment
University of Michigan
April 2006

Faculty Advisor: Professor Michael J. Wiley

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
ACRONYMS & GLOSSARY	
I. ABSTRACT.....	1
II. INTRODUCTION.....	3
III. CHRISTIAN ENVIRONMENTAL HISTORY.....	10
IV. REVIEW OF EMPIRICAL STUDIES.....	19
V. RESEARCH QUESTIONS.....	26
VI. METHODS.....	28
VII. RESULTS: RELIGION & DEMOGRAPHY.....	38
VIII. RESULTS: ECOTHEOLOGY.....	47
IX. RESULTS: INFLUENCES, ATTITUDES, & THE ROLE OF THE UMC....	64
X. RESULTS: PROGRAMS, BARRIERS, BENEFITS, & BEHAVIOR.....	71
XI. RESULTS: SEMINARY.....	87
XII. RECOMMENDATIONS.....	91
XIII. APPENDIX.....	100
XIV. WORKS CITED.....	146

ACRONYMS / GLOSSARY:

Please review the acronyms and terms on this list that we will be using throughout the document:

Creation care – language used by Christians to refer to environmental stewardship. This heading has been more favorable to many Christians as a reminder that the purpose of environmentalism is to honor and care for what God has given humans.

Ecotheology – theology about the environment. In our case, ecotheology refers to how one's belief in God, Christian faith, or United Methodist beliefs guides their thoughts about and actions toward the environment. Ecotheology seeks a spiritual basis to care for the earth.

EEN – Evangelical Environmental Network; a leading Christian environmental organization. They provide references and interpretations for environmental verses of the Bible and a collection of resources such as sermons, Bible studies, and Earth Day activities. EEN also lobbies for environmental legislation and works with groups such as the National Council of Churches and the National Association of Evangelicals to promote Christian environmental stewardship.

ERB – Environmentally responsible behavior; this term is frequently used in empirical studies of environmental stewardship. ERBs include activities such as recycling, energy conservation, purchasing environmentally-friendly products, reduced consumer consumption, letter-writing, donating money to an environmental organization, volunteering to remove invasive species, and many others. We consider ERB as one component of environmental concern, along with environmental attitudes.

GBCS – the General Board of Church and Society of the United Methodist Church. The GBCS is an international ministry who's mission is to develop and promote UMC principles of social concern.

Mastery – belief that humans were created to rule over the earth, that the earth exists to serve humans, and that humans have a responsibility to subdue nature.

NEP – New Environmental Paradigm (Dunlap and Van Liere, 1978). The NEP was developed as a standard set of measures of environmental attitudes and has been widely used in many surveys. The NEP has twelve items which typically factor into the following groups:

1) *Mastery-over nature variables*: “humankind was created to rule over the rest of nature, plants and animals exist primarily to be used by humans, humans have the right to modify the natural environment”

2) *Balance of nature variables*: “the balance of nature is very delicate and easily upset, humans must live in harmony with nature in order to survive, mankind is severely abusing the environment, when humans interfere with nature it often produces disastrous consequences”

3) *Limits to growth variables*: “there are limits to growth beyond which our industrialized society cannot expand, the earth is like a spaceship with only limited room and resources, we are approaching the limit of the number of people the earth can support, humans need not adapt to the natural environment because they can remake it to suit their needs, to maintain a healthy economy we will have to develop a "steady state" economy where industrial growth is controlled”

Theocentric: A worldview in which God is the central value around which all other values coalesce. This differs from anthropocentrism (in which humans are the central value), biocentrism (in which ‘life’ is the central value) and ecocentrism (in which ecosystems are the central value and individuals subordinate within them).

UMC: United Methodist Church

I. ABSTRACT

Increasingly Christians are expressing the need to be better environmental stewards. The United Methodist Church (UMC) has written numerous statements that charge individuals, congregations, and broader ministries with the responsibility to take better care of the environment. One of those broader ministries, the General Board of Church and Society (GBCS), oversees policies pertaining to the natural world. Stewardship of the natural world, also known as “creation care”, is one of six social principles emphasized by the Book of Discipline and Book of Resolutions (others include the nurturing, social, economic, political, and world communities). Environmental statements, however, have been slow to filter down through the UMC. At the request of collaboration with the GBCS and the Holston Conference, our research aimed to determine how the faith of United Methodists affects their environmental concern and what creation care programs should be developed and implemented. We conducted research in twenty-four Holston Conference churches (located in eastern TN and southwestern VA) to determine how United Methodists connect their faith with environmental concern. Using a combination of surveys, focus groups, and interviews, we assessed the environmental theologies, attitudes, program interests, and behaviors of lay members, pastors, and seminary students.

Analysis of 302 lay member surveys showed high interest in nature-based and environmental impact programs, but with activism and educational programs scoring the lowest. Program interests were strongly associated with an environmental justice ethic, secular environmental influences, perceived fragility of the environment, belief that the UMC should be more environmentally responsible, and perceived benefits from environmental programs. Most believed that the environment is fragile and humans are causing significant harm. Barriers toward starting an environmental program were perceived as minor. In terms of environmental behavior, efficiency behaviors such as saving energy and water were practiced more frequently than activism behaviors, such as volunteering or considering the environment when voting. This difference was much less for people with pro-environmental attitudes, and for those with orientations toward

environmental justice and liberal politics. Finally, there was a surplus of potential leaders in the Holston Conference, with 38% of respondents saying they might lead or co-lead an environmental program. Many seminary students expressed interest in developing additional competence to engage environmental issues in their careers.

Survey data and comments made during focus groups and interviews suggest that members would like to be more familiar with UMC environmental principles and with environmental issues in general. Emphasizing a biblical environmental justice perspective should also be a priority. We conclude that programs that directly reduce the environmental impact of the church or encourage its members to do so will have wide appeal and little opposition. While some skepticism exists, reframing creation care as service to God and other humans should soothe these tensions. Encouraging and training lay members and seminary students to be future leaders will help foster environmental concern in the Holston Conference and the UMC as a whole.

II. INTRODUCTION

A) Project Rationale

Environmentalists are increasingly focusing on the potential of religious organizations to help alleviate environmental problems. The progress of environmental reforms has slowed since the 1970s, and many now recognize the limits of technology, policy, and the legal system to contribute to rapid and substantive protections. Religious organizations significantly influence the attitudes and behaviors of their members, and are a promising vehicle for mobilizing additional environmental support. Previously, however, many environmentalists had blamed religious doctrines (the Bible especially) for the ecological crisis. As a result, the charge to religious organizations to green their theology has been met with skepticism. Many religious beliefs do support an environmental ethic, and it is important that attempts to foster such an ethic work within existing belief systems. Building partnerships with religious leaders, assessing existing frameworks for environmentalism, and developing educational resources are strategies to help churches cultivate a stronger environmental ethic.

As the Christian community has focused on embracing the environment, the United Methodist Church (UMC) has also begun to explore how theology might be interpreted through an environmental lens. The GBCS provides direction on how the Church should apply Biblical teachings in every day life. The Book of Resolutions is an extensive guide that suggests specific actions for individuals and congregations on issues such as energy use, agriculture, biodiversity, recycling, toxics, land use issues such as mountaintop removal coal mining, and environmental justice (Appendix A: UMC Environmental Statements). The Board has addressed appropriate environmental stewardship from a Biblical perspective and is now trying to communicate and promote this ethic throughout the levels of Church organization. A handful of creation care resources and programs are in place, though their adoption has been sparse. The challenge ahead is to translate principles in writing into an active ethic of stewardship. We hope to provide UMC with a replicable set of tools to with which to care for the environment.

Our client from the GBCS, John Hill (Program Director, Economic and Environmental Justice), expressed the need for curricula to help clergy facilitate environmental stewardship within the Church. We anticipated developing and implementing new programs would face several potential barriers. These included lack of knowledge, skepticism towards environmental agendas, and insufficient time to plan and develop resources. We investigated these barriers through interviews with clergy, surveys, and focus groups with lay members. On a broader scale, we examine the salience and receptiveness to environmental theology (which we will refer to as ecotheology) in seminaries.

B) Site Selection

We chose to work with the Holston Conference for a number of reasons. First we proposed several conferences where we could practically accomplish our research. John Hill was excited about working with the Holston Conference, and Bishop Swanson agreed to support the team's work with Holston. Mr. Hill was enthusiastic about a project in the Holston Conference because he suspected, as informed by his previous experience, that we would encounter greater resistance to Christian environmental efforts in the South. A successful project in this region was expected to forecast similar or greater effectiveness elsewhere in the country. Additionally, the demographic variety of Holston could be useful for generalizing our results to other locations.

The geography of Holston is diverse, ranging from rural, mountainous areas in the Appalachians to low-lying urban areas toward Middle Tennessee. There is also a wide range of socio-economic status and political views. The conference also spans three states (TN, VA, and a sliver of northern GA) which may encompass different environmental problems and levels of concern. Finally, we had a major benefit from existing contacts in the area, as Turner grew up in a UMC in Kingsport, TN, which is centrally located in Holston. Friends and acquaintances were able to help us locate

potentially interested pastors and churches, and to help us navigate through the organization of Holston. Research as an outsider would have been much more difficult.

C) Holston Structure Within the United Methodist Church

1) United Methodist Church Structure

The United Methodist Church is divided into five geographic jurisdictions within the United States. Each jurisdiction is made up of 9-10 states, with the Southeastern Jurisdiction seen in pink in Figure 2a. The Holston Conference is one of 14 conferences located in the Southeastern Jurisdiction (see Figure 2b). In 1994, the Southeastern Jurisdiction had a lay membership of 2,893,155 (General Commission of Archives and History of the UMC, 1996).

Figure 2a: Map of the United Methodist Church structure divided in 5 jurisdictions with Southeastern Jurisdiction seen in pink

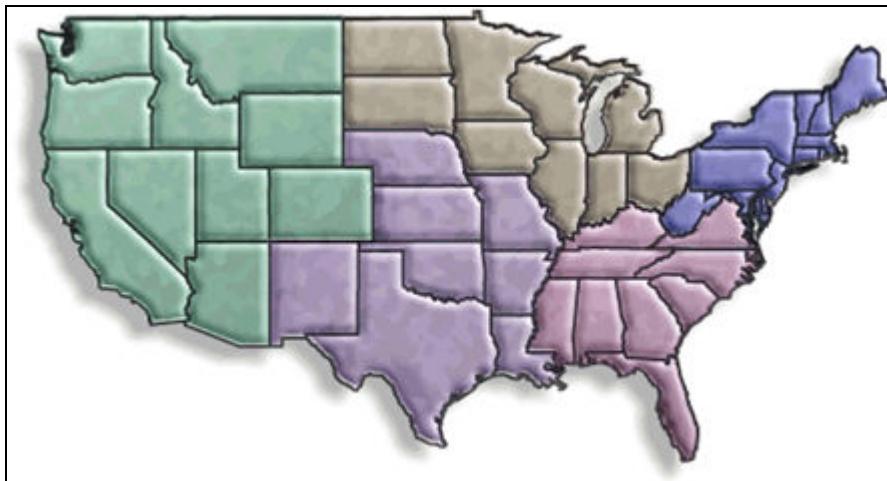


Figure 2b: Fourteen conferences of the Southeastern Jurisdiction of the UMC, with Holston Conference outlined in yellow



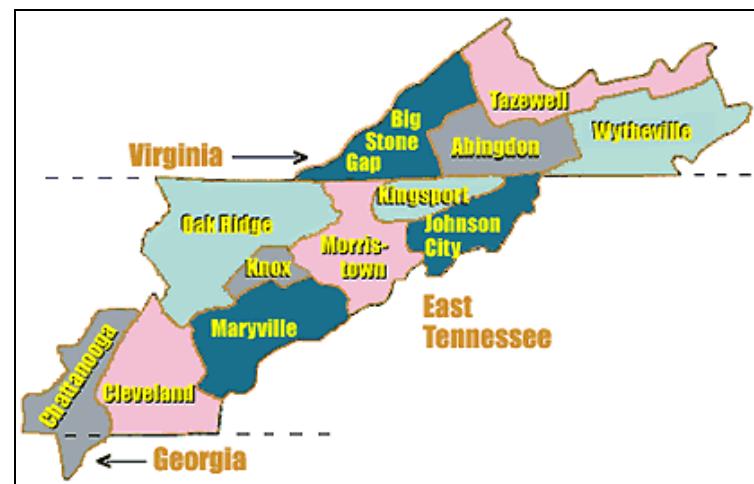
Figure 2c: Map of the Appalachian region



2) Holston Conference Structure

The Holston conference is located in Tennessee, Virginia, and a small area in Georgia within the Appalachian region (Figure 2c) of the United States. Within the Holston conference, there are 14 districts (Figure 2d).

Figure 2d: Map of the Holston Conference



3) Regional Information

The Holston Conference is special within the Southeastern jurisdiction because it is partially located in three states. This makes for different cultures and worldviews among the 938 churches around the conference. Within the Holston Conference there are urban, suburban, and rural areas; lay membership totaled 176,316 in 1994. The median age in Holston Conference geographic area is 37 years old, and the average household income is \$41,000. In this conference, about 20% of people have at least a Bachelor's degree.

We also wanted to obtain demographic data for the counties in which most of our surveys, and focus groups were performed in. We conducted four intensive studies at four different churches within the Holston Conference. They were: 1) Hiltons UMC (Scott County, VA), 2) Pennington Gap UMC (Lee County, VA), 3) First Broad Street UMC (Sullivan County, TN), and 4) Wesley Memorial UMC (Washington County, TN). We also considered demographic data from Knox and Hamilton counties in TN, where the major urban areas are located (Knoxville and Chattanooga respectively). In the tables below Scott and Lee counties represent our rural population, Sullivan and Washington counties represent our small city/suburban population, and Knox and Hamilton counties represent our urban population.

This information will allow the team to better cater to the different types of churches within the Holston Conference. This data should also be useful in helping the UMC generalize our results to other locations around the country.

Table 2a: Demographic data for small town (1-2K) study sites from 1999-2000

Demographic data	Scott County, VA	Lee County, VA	small town average
Female persons	51.7%	51.5%	51.6%
Persons \leq 18 years old	20.6%	22.8%	21.7%
Persons \geq 65 years old	17.8%	15.4%	16.6%
High school graduates \geq 25 years old	64.4%	60.6%	62.5%
Bachelor's degree or higher \geq 25 years old	8.3%	9.5%	8.9%
Median household income	\$27,339	\$22,972	25,156

(Source: www.census.gov)

Table 2b: Demographic data for small city (45-60K) study sites from 1999-2000

Demographic data	Sullivan County, TN	Washington County, TN	small city average
Female persons	51.7%	51.3%	51.5%
Persons \leq 18 years old	21.8%	21.3%	21.6%
Persons \geq 65 years old	15.9%	13.9%	14.9%
High school graduates \geq 25 years old	75.8%	77.2%	76.5%
Bachelor's degree or higher \geq 25 years old	18.1%	22.9%	20.5%
Median household income	\$33,529	\$33,116	\$33,323

(Source: www.census.gov)

Table 2c: Demographic data for medium city (155-180K) survey sites from 1999-2000

Demographic data	Knox County, TN	Hamilton County, TN	medium city average
Female persons	51.7%	52.2%	52.0%
Persons ≤ 18 years old	22.3%	23.2%	22.8%
Persons ≥ 65 years old	12.7%	13.8%	13.3%
High school graduates ≥ 25 years old	82.5%	80.7%	81.6%
Bachelor's degree or higher ≥ 25 years old	29.0%	23.9%	26.5%
Median household income	\$37,454	\$38,930	\$38,192

(Source: www.census.gov)

D) Project Goals

During this project we hoped to achieve certain goals regarding a number of issues currently facing Christian environmentalism. They include:

- 1) Identify the role religion, the Bible, and Christianity can play in resolving the environmental crisis.
- 2) Determine the influences that affect environmental attitudes and behaviors.
- 3) Help the UMC and the Holston Conference to develop and implement environmental programs.
- 4) Identify the ways the UMC can cultivate a stronger environmental ethic throughout the different levels of the organization.

More focused and comprehensive research questions are presented in Chapter V

III. CHRISTIAN ENVIRONMENTAL HISTORY

This chapter chronicles Christian environmental initiatives, beginning with a general review of Christian efforts and then focusing more specifically on efforts in Appalachia and by the United Methodist Church. Understanding the historical background of Christian environmental efforts should provide a sense for the type of programs that have been developed, strategies used by these programs, the need to assess what aspects make programs successful, and a framework from which to develop new programs in the future. For readers desiring a more theoretical background, we include a synopsis of Christian environmental thought in Appendix K. That section includes a discussion of Lynn White's charge that Christianity is the cause of the ecological crisis, interpretations of the Genesis 1:28¹, and discussions of ecotheologies such as dominion, stewardship, and theocentrism. If these topics are of interest, we recommend reading Appendix K before returning to this chapter.

A) Christian Environmental Ethics in Practice

Many leaders of the Christian environmental movement believe it is wrong to deny responsibility for the ecological crisis on the basis of eco-friendly doctrine (see Bouma-Praediger, 2001, pp. 67-69 for discussion). Nash (1991) concludes:

It will not do to draw a neat distinction between Christianity and Christendom, between the faith itself and perversions of it by its practitioners. That distinction may be formally or logically true, as I agree, but it is facile and unconvincing when applied to history. ... The bottom line is that Christianity itself cannot escape an indictment for ecological negligence or abuse. (p.72)

Since the ecological complaint, how has Christianity and more specifically the United Methodist Church attempted to rectify its failure to take ecological action? In this section, we explore the efforts in Christianity, Appalachia, and the UMC to cultivate an environmental ethic and implement ecotheological initiatives.

¹ "God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground." New International Version

1) General efforts of the Church:

At the center of faith-based environmental reform efforts is a common overall objective – the transformation of attitudes toward, and perceptions of, the environment. Faith-based initiatives desire nothing less than to develop a corrective to all that is viewed as morally wrong with society’s treatment of nature. This is why they appeal for environmental stewardship. (p. 16, Feldman and Moseley, 2002).

While many authors concur on the clear mandate for humans to be ecologically responsible, this does not mean that Christians have widely upheld this ethic. Though such efforts may be few, Christian environmental efforts date back many centuries. Attfield (1983) describes the “minority” traditions of the Middle Ages that practiced forest conservation (p. 377, citing Glacken, 1967). Importantly, Attfield shows the continuity of this ethic through the ages, that there have always been voices to recognize environmental responsibility in the Bible. Despite a long history of active Christian environmentalism, to what extent has this remained at the margin? Does the history of Christian environmental exploitation persist among today’s believers, particularly among United Methodists?

The evidence for active Christian stewardship in recent decades is mixed. In general, we believe that confidence in the church’s ability to cultivate a powerful environmental ethic in its members may exaggerate the potential of education and moral appeals. Bhagat (1990) provides a good example of such enthusiasm: “There is no question that the key to the environmental crisis is the power inherent in the churches. They have the potential to fire the conscience of their membership into renewed activity on behalf of the earth” (p. 130, cited by Fowler, 1990, p. 160). There is a lack of evidence to support the contention that such appeals to the conscience can inspire concern. Studies of efforts to promote ERB have shown that attempts to change attitudes through education and moral pleas are largely ineffective (Bechtel and Churchman, 2002).

Fowler (1990) articulates five strategies churches employ to raise environmental consciousness and commitment: 1) creating and advocating for supportive policies, 2) changing the ecological consciousness of members, 3) direct efforts to achieve sustainability, 4) appeals to environmental justice, and 5) use of ecological activities to build community. There is no single type of communication or call; instead churches have been active in a variety of different areas, from political lobbying to energy conservation to Sunday school lessons. Among Protestant churches, energy concerns appear to be the most prominent, but it is difficult to determine whether the motivation of these programs is primarily economic or environmental (Fowler). A number of publications, both Christian and secular, have printed stories of Christian stewardship efforts. *Christian Century* and *Christianity Today* now have regular articles about creation care, and academics can refer to *Firmament: The Journal of Christian Ecology*.

Christian environmentalism has perhaps been most successful in the political arena. In one key victory to uphold the integrity of the Endangered Species Act (ESA), EEN spent over \$1 million lobbying congress and played a pivotal role in upholding “the Noah’s Ark of our day” (p. 27, Gardner 2002). Nagle notes that former Secretary of the Interior Bruce Babbitt was instrumental in using the moral of the story of Noah’s Ark. Still not all evangelicals are comfortable with the ESA, fearing that concern for nature may be associated with the worship of other gods. Dewitt reconciles this fear, stating that, “saving animal lineages was more important to God than saving those who were destroying what God ordained,” but at the same time, “people are more important than other creatures because they are given the unique character and responsibility to image God’s love” (1996).

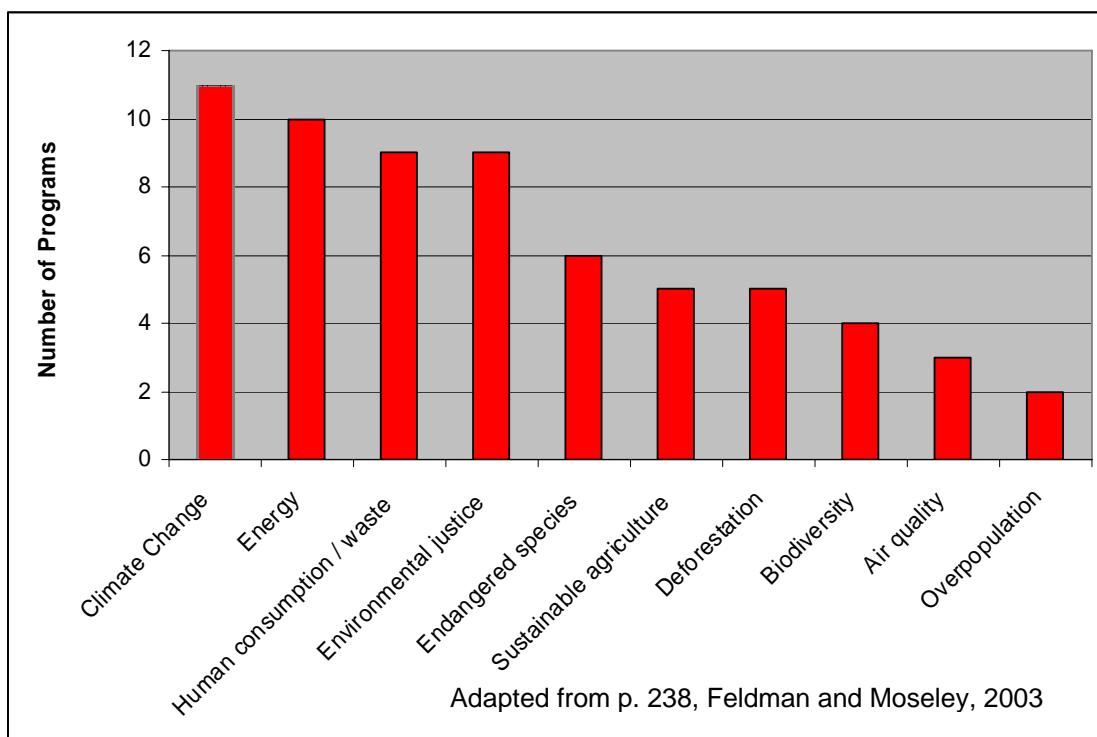
Another successful example of Christian activism comes from Episcopalian Power & Light. Following energy deregulation in California, EP & L made renewable power available to its churches and encouraged audits. Over 350 churches have participated in California alone, and Interfaith Power & Light now serves 18 states (SustainLane, 2005). Hopeful as this is, this progress is slight considering the country has about 296,000 houses of worship, accounting for about 5% of all commercial space (U.S. DOE, 1999).

Dunn laments that the minor behaviors rather than deeper lifestyle changes are those that find acceptance (1990).

2) Christian environmental initiatives in Appalachia:

Our study site in eastern Tennessee and southwestern Virginia is contained by Appalachia. Appalachia is a region with rich ties to the land and a strong Christian contingent (Feldman and Moseley, 2002, 2003). Within this context, a study from the 1970s found there were over 10,000 United Methodist churches in Appalachia, the most of any denomination (Photiadis, 1975). The Holston Conference alone is home to over 900 UM churches. Feldman and Moseley (2003) interviewed 20 leaders of Christian environmental programs in the region. Below is a graph of the scope and frequency of environmental issues covered by these programs.

Table 3a: Christian environmental program type & frequency from Feldman & Mosley 2003 survey of 20 program leaders



The interviews by Feldman and Moseley show that Christian program leaders are addressing a wide variety of environmental issues, and many of these, such as climate change and overpopulation, are issues of major global concern. Other topics, such as human waste, deforestation, and air quality may draw on more local concerns. One interesting result is the number of programs that incorporate environmental justice concerns. John Hill, our client at GBCS, is the program director for economic and environmental justice. Thus within the UMC, this perspective is regularly employed as the basis for environmental action.

Feldman and Moseley differentiate three types of ecotheologies which served as the basis for these programs: A) stewardship, B) integrity of creation, which includes reverence for God, and C) social justice. Stewardship incorporates the cultural and land use traditions of Appalachia and was the most frequently employed ethic. To engage these environmental issues and biblical ethics, programs used four main strategies:

A) better acknowledge the spiritual importance of environmental stewardship and seek to honor it through education, raising awareness; B) role model environmental stewardship; C) implement concrete actions through “partnering” with other organizations; and, D) in some cases—pursue political activism (240).

Education and awareness campaigns were employed most frequently, by over 80% of the leaders. Unfortunately, there is a large body of evidence that shows a weak relationship between attitude and behavior; and education alone is unlikely to motivate change (please see Bechtel & Churchman, 2002 for background about promoting environmentally responsible behavior). On the upside, the authoritative and credible structure of the church, the appeal to spiritual and moral motivations, and a strong network of both social support (and often mild social coercion) may enhance the effectiveness of an informational campaign. Also on the positive side, over half of the informational strategies employed a more engaging technique, such as conferences, workshops, study groups, and retreats (240). By facilitating dialogue, communicating through stories, and allowing participants to explore problems according to their own pace and interests, these initiatives stand a better chance of spurring environmentally responsible behavior.

Additionally, role modeling (including direct efforts by churches to reduce their environmental impacts) occurred in over 50% of the initiatives.

Unfortunately, Feldman and Moseley repeatedly report that Christians in Appalachia are highly resistant to attempts from secular environmental groups. This skepticism is especially high when programs are seen as having a political agenda. All of the program leaders had also experienced some resistance to environmental initiatives. The underlying reasons for this resistance may stem from fear that secular agendas would contaminate one's personal piety or for hesitation to align an unobvious concern alongside more traditional, "more spiritual", priorities such as salvation. Lastly, the complexity of environmental issues and technical jargon may frustrate potential participants. In many cases, Christians and environmentalists may be speaking different language, as pastors frequently attribute environmental problems such as stream pollution and roadside trash to a spiritual poverty (McCauley, 1995). In spite of this resistance, twelve of the twenty initiatives studied by Feldman and Moseley came from outside of the local churches (2002). This suggests that outside groups, both secular (e.g. Center for a New American Dream) and faith-based (Tennessee Interfaith Power and Light) had developed successful partnerships with local churches.

Ten of the twenty program leaders interviewed by Feldman and Moseley (2002) said that initiatives stemmed from a few strong and persistent leaders. Most churches we surveyed had at least a few individuals interested in leading a Christian environmental program, which suggests that with the support of the UMC, ideally from a larger creation care center, these desires would have positive outlets. These enthusiastic leaders are essential for ensuring that environmental rhetoric does more than collect dust on the shelves. From their research, the authors conclude these "entrepreneurial" leaders are the primary precondition for a new environmental initiative, an idea we will return to in our recommendations.

Feldman and Moseley make a valuable contribution to our understanding of the tactics used by Christian environmental leaders. Unfortunately, we were unable to find evaluations of changes in attitude or behavior of participants for any such programs,

whether in Appalachia or elsewhere. In order to understand the precursors for meaningful change in church environmental teachings and practices, it is critically important to understand members' reactions to existing programs.

3) UMC and Holston Conference Environmental Initiatives

Fowler (1990) notes the UMC as an environmental leader among Protestant denominations, citing the Department of Environmental Justice and Survival, which has prepared videos that address theology and offer avenues for participation. But more generally, speaking of the faith Christian environmentalists put in churches as vehicles of environmental change, he writes,

there are reasons to doubt these expectations. Such beliefs assume that churches have (or can have) much impact on their members' consciousness; they assume that Protestant churches can really mobilize on environmental issues *and* form a united front on what to do about them. (p. 164)

Our experiences reflect the limited influence Fowler hypothesizes, as few of our focus group members were aware of environmental statements in the Social Principles of the Book of Discipline. Similarly, pastors were aware of where they could locate these statements, but were generally unfamiliar with their content. Furthermore, only two could recall any prior stewardship campaigns by the UMC, and both referred to an initiative to recycle office paper from the 1980s that quickly fizzled out.

Over the history of the UMC, 32 environmental statements have been published, some as specific resolutions and often directed toward multiple levels of the church (from specific ministries to conferences, congregations, and individuals). The titles of these statements can be accessed in Appendix A. Today the UMC environmental principles fall under statements on "The Natural World", one of six social principles addressed by the GBCS in the Book of Discipline. The Natural World delineates the appropriate UMC response to issues from climate change to deforestation to toxic pollution to sustainable agricultural practices. These statements demonstrate an expanding focus on

environmental issues with the UMC, but it is important to remember that such statements are non-binding and of low salience.

Generally, it is fair to say that environmentalism within the UMC has received more focus in doctrine than practice. In some cases, environmental initiatives have been translated as calls to action. Two prominent examples of UMC environmental initiatives are letters from the Bishops calling on the church to protect creation. In 1992, the United Methodist Church produced a pastoral letter entitled *God's face is turned toward the Mountains: A pastoral letter of hope from the Bishops of Appalachia on the UMC*. The letter urged the church to become better friends of the poor in the region and to address social problems at the heart of the region's impoverishment, including environmental degradation. In a second publication, clergy rally against a major global threat:

We write in defense of creation. We do so because the creation itself is under attack. Air and water, trees and fruits and flowers, birds and fish and cattle, all children and youth, women and men live under the darkening shadows of a threatening nuclear winter. ... Shalom is positive peace: harmony, wholeness, health, and well-being in all human relationships. It is the natural state of humanity as birthed by God. It is harmony between humanity and all of God's good creation. All of creation is interrelated. Every creature, every element, every force of nature participates in the whole of creation. (United Methodist Council of Bishops, 1986)

At the congregational level, the GBCS website offers several dozen academic resources available for sermons, worship, and Bible study. The United Methodist Women have established their own “Green Team” that encourages environmental stewardship through outreach activities. The economic and environmental justice division of GBCS has become involved in political lobbying, and several regional seminaries (e.g. Asbury, Duke) now offer courses specific to Christian environmental ethics. Christian environmental conferences are becoming more widespread in the UMC as well, with one recently held at Asbury Theological Seminary and “Caring for God’s Creation” to be held by the Southeastern Jurisdiction (of which the Holston Conference is a part) in April 2006. The greatest environmental efforts in the conference are the environmental education programs conducted at children’s camps, which run throughout the year.

During our research, we were informed of environmental initiatives by several churches of the Holston Conference, but there are no current conference-wide efforts.

Efforts mentioned above are still only reaching a very small minority of Holston United Methodists. Furthermore, tracking down information about these efforts is a major undertaking. After several weeks, we continued to struggle to find a coherent history of environmental statements and efforts. Several weeks into then project, one of us encountered by chance a list of environmental statements for the major denominations, which had been written by Cassandra Carmichael, the director of Eco-Justice Programs at the National Council of Churches (NCC, 2005). In cases when resources have been made readily accessible, such as from the GBCS website, both lay members and clergy have very low levels of awareness. Efforts to put these resources directly into the hands of the congregations would allow pastors and others to browse materials at leisure and consider them for their churches. The presence of a physical resource located alongside other more traditional spiritual documents might raise the status of environmental issues to more of a priority.

The UMC has many well-established, well-funded programs to deal with a host of social issues. That environmental issues are so under-supported (regardless of benevolent statements) is a major impediment to the cultivation of an environmental ethic at the congregational level. Our study seeks to answer these questions from a grassroots perspective, asking questions about whether the basic interest and receptiveness are present to make new initiatives worthwhile. By determining congregational interest, resources, and strategies for implementation, we hope to provide the Holston Conference and GBCS with a roadmap for initiating successful Christian environmental programs.

IV. REVIEW OF EMPIRICAL STUDIES

A) Introduction

“It is an understatement to conclude that our understanding of the relationship between religiousness and environmental concern lacks clarity” (p. 36, Kanagy and Nelson, 1995).

Efforts by social scientists to empirically determine the relationship between Christianity and different aspects of environmental concern (e.g. attitudes and behaviors) have been surprisingly few. There is no agreement on how Christianity influences environmental concern, which we define as a combination of environmental attitudes and behaviors. As a result, those interested in prescribing appropriate Christian environmental initiatives have little to go on other than intuition.

Our lack of general knowledge about the connection between Christianity and environmental concern may stem from three problems. First, the measurements of religiosity and environmental attitudes have been narrow and the biased language of survey questions may confound these two variables. Second, surveys have explored the acceptance or rejection of only one biblical ethic – human dominance over nature, also known as the “mastery” ethic. Third, research has not examined what genre of Christian environmental programs to which people respond best. Ultimately, if this body of research is to be useful, it must explore the full range of both beliefs and program interests in order to recommend meaningful and feasible initiatives. Additional research might also evaluate current programs to develop a set of guidelines for successfully promoting Christian environmental concern. Below we review the history of Christian environmental research and identify gaps that we seek to fill with our study.

B) Methodological Issues

Approximately two dozen studies have been conducted over the past three decades, which have focused primarily on how religiosity affects environmental attitudes.

Observed correlations have shown only weak effects. This suggests that either the relationship between Christianity and environmental concern has been ambiguous or the measure of these constructs has been imprecise.

Religiosity has most often been determined by attendance at religious activities, belief in the infallibility of the Bible (which frequently concerns how literally one interprets the Bible) and fundamentalism, which refers to a denomination's degree of social and theological conservativeness. Occasionally, religious salience (e.g. how important religion is in one's daily life, frequency of prayer) is also examined (e.g. Kanagy and Nelson, 1995). In some cases, religiosity was measured by just a single question about frequency of church attendance (e.g. Hand and Liere), which does not adequately capture one's commitment to a particular faith. Guth et al. summarize the methodological flaws of measuring religiosity: "Perhaps the failure to uncover religion's impact is due in part to the crude religious items used in most studies" (p. 365, 1995). Despite the obvious complexity of religious beliefs, it has been studied as a one-dimensional demographic variable, as if simple measures of frequency and fundamentalism will unveil a deep understanding of how Christians view their relationship to the environment.

Environmental concern has not been measured adequately, either. Frequently researchers have only been interested in testing for the potency of a mastery-over-nature ethic. To do this, they typically employ two statements from the New Environmental Paradigm (NEP – see note below)². One of these statements suggests that other species were created to be used by humans, the other tests agreement with the human purpose to rule over nature. The Western definition of the verb "to rule" is in conflict with the interpretation of biblical rulership. Likewise, low scores on environmental attitudes that test interest in government spending or regulation do not exclude other pro-environmental attitudes, nor do lower rates of membership in environmental organizations dismiss environmentally responsible behavior (ERB). To date, measures of environmental concern have

² The NEP has become a standardized measure of environmental attitude. Developed by Dunlap and Van Liere, it contains twelve questions that address three aspects of environmental attitude: 1) Human mastery of nature, 2) The fragile balance of nature, and 3) Limits to human growth. Please refer to the appendix to see the full NEP scale.

unfortunately prevented respondents from identifying with a benevolent theocentric environmental ethic and from reporting other forms of ERB.

C) Studies Addressing Environmental Attitudes

Focusing on denominational differences, Hand and Liere (1984) found that United Methodist faith had a very low negative correlation with environmental concern. About 50% of Methodists rejected the mastery over nature perspective, as opposed to 75% of non-Judeo-Christians. The negative correlation between mastery beliefs and environmental concern was only modest, however. Furthermore, it should be noted that the measures of environmental concern were largely related to governmental spending and regulation, which probably explain more of this low negativity than mastery beliefs themselves.

Kanagy and Nelson (1995) found that more people believe the biblical creation story to be true than subscribe to the mastery view (79% versus 61%). While they believe that this result represents a logical inconsistency, we interpret this finding as the rejection of the hypothesized dominion-as-dominance view. This is true for only a small portion of the sample, but the rest may still equate the language “mankind was created to rule over nature” as a biblical stewardship ethic.

Boyd (1999) also looked more closely at the components of religiosity with regard to environmental attitudes, using six sub-constructs from the 1993 General Social Survey (GSS). Willingness to spend money had weak negative correlations with fundamentalism, literalism, and certainty of the existence of God. Kanagy and Nelson found this trend to be more distinct in the South, where church-goers were more likely to agree to reduce environmental protections than people who did not attend. The trend was reversed in northern states. Boyd also found the perceived danger posed to the environment by pollutants was negatively correlated with fundamentalism and positively correlated with a “graceful” (i.e. loving, compassionate, and forgiving) image of God.

Frequency of prayer had a low positive correlation with environmental behavior, while fundamentalism had a weak negative effect.

The relationship between measures of religiosity and environmental attitude may be weak because influences such as fundamentalism and literalism are mediated by other variables. Guth et al. (1995) give a more nuanced view: “evangelical affiliates are conservative on environmental issues because of what they *believe*, not where they *belong*” (374). In other words, one’s personal Christian interpretation of environmental issues, rather than membership in a particular denomination, is the causal factor of environmental concern. Wolkomir et al. (1997) hold much the same view:

“These relationships are part of the underlying pattern of correlations that we hypothesize make it *appear* that religious literalism and salience predict low environmental concern, even though specific substantive beliefs are the real determinants of environmentalism” (101).

Again, it is the environmental ethic one *interprets* from religious doctrine and teachings ultimately shapes one’s concern for the environment, rather than the religion itself.

In search of the mediating variable, Guth et al. found that conservative eschatology (a strong belief in the destruction of the earth at the second coming of Christ) has moderately strong negative correlations to environmental attitude. Furthermore, this correlation was roughly twice as strong for clergy as it was for the general public, although this does not mean that clergy held this belief more strongly to begin with. Recognizing that many religiosity factors are interrelated, Guth and his colleagues found that eschatology alone accounted for 2-12% of the variance among the sample. When other influences were statistically controlled, eschatology was the only religious variable that exerted influence on environmental attitude, with religious commitment (combined attendance and salience), evangelical identification, and denomination becoming insignificant.

Dietz et al. (1998) add to the understanding of environmental attitude by considering the effect of the perceived sacredness of nature. Interestingly, the view that nature is sacred

because it is created by God was supported more by men, conservatives, and those with less formal education. Agreement with this concept of sacredness was positively correlated with behavior that required willingness to spending money on environmental protections.

Tarkeshwar et al. examined the beliefs of elders, clergy, and lay members of the Presbyterian Church (PCUSA). Interestingly, clergy were most likely to believe that nature is sanctified by God, followed by elders and then members. Clergy also had less agreement with the conservative eschatology, more willingness to spend money for environmental protections, and higher scores of ERB. At the same time, clergy believed the Bible to be more infallible than both elders and laity. These results imply that higher environmental concern is actually due to greater understanding and application of one's religious tenets. Those who follow the Bible closely may be better environmental citizens, not worse. The authors suggest that: "the pro-environmental stance [of clergy] may also reflect the leaders' effort to maintain the survival of their organization in the midst of declining membership within mainline churches" (401). This finding that clergy could simultaneously believe more strongly in biblical infallibility and also hold a more liberal interpretation is likely a surprise to many academics.

D) Studies Addressing Environmental Behavior

Wiegel (1977) calls attention to the disparity between environmental attitudes and behaviors, arguing that we ought to be more concerned with the correlates of behaviors than attitudes. He found that high levels of religiosity had moderately negative correlations with participation in experimental opportunities to sign environmental petitions, pick up roadside trash, or participate regularly in a recycling program. These behaviors were selected to represent varying levels of anonymity, effort, and frequency.

Similarly, Shaiko (1987) found that the percentage of members of environmental groups who are Protestant (36%) was much lower than the percentage of the general public (60%). Additionally, Protestants were about 15% less likely than both Jews and those

with no religious affiliation to deny a mastery perspective of humans over nature. As suggested earlier by Feldman and Moseley (2003), this apparent disparity may be rooted in different understandings of dominion, which a measure of a theocentric perspective of the environment probably would have uncovered. Shaiko found that 25% Protestants ascribing to the mastery perspective still belonged to an array of at least 30 environmental groups. A significant portion of these people clearly associate mastery with environmental responsibility and stewardship.

“The more subtle differences point to a weakness in White’s interpretation....The results suggest that White’s dichotomy of mastery-over-nature versus unity with nature is inadequate in explaining the differences in attitudes of non-Judeo-Christians and followers of religions with a Judeo-Christian heritage, at least among environmentalists” (257).

Shaiko suggests that this middle theocentric ground supports a concept of stewardship that is absent from most surveys. Our survey focuses on drawing out this stewardship ethic and other non-mastery biblical perspectives, such as environmental justice and reverence for the sacredness of God’s creation.

Other studies have observed that ERB is correlated with higher religiosity. Kanagy and Willits (1993) and Tarkeshwar et al. (2001) both found church attendance to have a small negative correlation to environmental attitude but a slight positive correlation with ERB. The rejection of the NEP does not rule out a positive environmental ethic, it simply suggests that Christians frame and understand environmentalism differently.

Bear in mind that the empirical studies to date explain a very small fraction of the variance in environmental attitudes and behavior, thus non-religious factors must have significantly more influence on environmental concern than the religiosity measures regularly examined. The observed difference between Christian attitudes and behaviors leads to three possible conclusions. First, Christians may conceive of their attitudes in different terms than non-Christians: “[Christians] may not endorse the values of the new environmental paradigm (as Kanagy and Willits, 1993, suggest), but these positions do not necessarily exclude them from expressing and acting upon environmental concerns”

(p. 43; Kanagy and Nelson, 1995). The second possible explanation of the Kanagy and Willits results is that Christians may take their responsibility to act on their beliefs more seriously. Models of ERB have shown that high perceived responsibility might counter the effects of less favorable attitudes (Schwartz, 1974). Lastly, the higher level of ERB discovered by Kanagy and Willits may be the result of increasing environmental consciousness and engagement in the Christian community. Their study occurred significantly later than those of Shaiko and Weigel, and the creation care movement was continuing to gain steam.

E) Conclusion

Empirical research on the relationship between Christianity and environmental concern has focused primarily on the presence or absence of a mastery-over-nature ethic and its effects on environmental attitudes. Generally, more Christians agree with the NEP concept of human mastery over nature, although this effect is weaker among more socially and theologically liberal denominations. The language concerning human rule over nature may confound the notion of mastery with a biblical belief of benevolent dominion. Equivalent or higher scores of ERB show that this assumption of a mastery ethic is faulty, and other factors are interceding. Studies have shown that a stewardship ethic, a view of nature as sacred, and a theocentric perspective are all positively correlated with environmental concern. It is possible that a deeper biblical understanding, as is the case for clergy, may motivate greater environmental concern. Other ecotheologies, particularly environmental justice and a reverence ethic, have yet to be explored. No studies have critically considered interest in Christian environmental programs or focused on how to design initiatives that appeal to Christian participants and cultivate environmental concern. In the next section, we lay out research questions and hypotheses that address these gaps.

V. RESEARCH QUESTIONS AND HYPOTHESES

In response to the needs sensed by the project team and GBCS, the project aims to assess connections between religious faith and environmental attitudes and behaviors among United Methodists. The data gathered will assist both the Holston Conference and the GBCS to develop ministries that foster environmental stewardship. Recommendations to the church aim to build capacity of members and leaders to incorporate ecotheology into their spiritual practice and teaching.

To pursue the above goals, the study poses the following research questions:

1. How do United Methodists relate their faith to environmental beliefs and practices?
 - a. Are there particular Christian modes of environmentalism among United Methodists?
 - i. Do United Methodists ascribe to multiple environmental ethics or perspectives (e.g. stewardship, environmental justice, etc.)?
 - b. How do particular ecotheologies relate to expressed environmental concern?
 - i. How do these ethics relate to environmental attitudes, interest in ecotheological ministries, and environmental behavior?
 - c. How do other influences such as environmental attitudes, personal experiences, and belief in the UMC's responsibility for the environment relate to program interests and environmental behaviors?
2. Are there ways the UMC could nourish ecotheological beliefs and practices?

- a. How should the UMC target ministries to particular groups (e.g. congregations, clergy, youth)?

- b. If so, are there barriers that substantially obstruct this task?

The project team hopes to provide a replicable model for building the capacity of congregations to promote ecotheological faith and practice. This model may prove useful both to GBCS for other United Methodist conferences, and for other religious communities whose faith includes environmental concern.

VI. METHODS

A) Overview

We used a number of methods to explore the connection between faith of United Methodists and their concern for the environment and how they perceive their responsibility to care for creation. Surveys and focus groups guided knowledge of what programs should be developed in the future and how these are best implemented. In brief, our study consists of the following components, which will be explained in more detail below.

- A) Recruitment of participating congregations
- B) General church survey (primarily for lay members)
- C) Focus groups
- D) Clergy interviews
- E) Seminary surveys

B) Recruitment

For four days in June 2005 we attended the Holston Annual Conference in an attempt to interest pastors in our project. We set up a booth with a large poster and pamphlets near the dining area, and an attendant was frequently on duty to answer questions and promote participation. We were present before and after numerous meetings and events of the conference to make cold contacts and to make our face more familiar to clergy we had met. One member of the team, Turner is a member of a Holston Conference church, which gave us a base of initial contacts to work with, who were also helpful in suggesting others that we meet. Roughly twenty pastors signed up to receive more information about the project at the end of the summer. Despite numerous efforts to follow up, only one church, Wesley Memorial in Johnson City, committed to participate. Seeking a diverse demographic of churches with which to run focus groups and develop programs, we were able to recruit three more churches in the Conference.

Two churches in southwestern Virginia were recommended by personal contacts and the Bishop's office. The fourth church recruited was the local church in Kingsport which Turner had grown up attending. Initially we were apprehensive about using personal contacts in the recruitment, but concluded that this approach is quite realistic. Determining the differences between insider and outsider research could also offer valuable insights.

The selection of four churches (as opposed to more or less) was a number that would provide us with reasonable diversity among churches while remaining a feasible size for our limited manpower.

About the churches:

First Broad Street in Kingsport, TN is a large congregation with average worship attendance of about 850, and is an older, white collar church of a small city. Wesley Memorial in Johnson, City has a younger, professional demographic and about 325 in weekly attendance. Hiltons Memorial is a small country church in Hiltons, VA with about 180 working class people present on Sundays. First UMC of Pennington Gap is primarily an elderly, blue collar congregation in a small town in the mountains of southwestern Virginia.

An additional 19 churches were recruited to complete surveys for a total of two from each of 11 districts and one from the 12th. The Bishop's Office provided the recommendation of a representative set. Pastors were emailed that they were selected by the Bishop's Office to participate in the project, the rationale of the project, and how they would be asked to participate. With the exception of a few congregations which had conflicts with other programs or internal surveys, the great majority of pastors receiving this request agreed to comply. Efforts were made to find replacements for the churches that could not participate, which was successful in all but one rogue district. Unfortunately, surveys were never returned from 9 churches, and leaving us with a total congregation sample of 14.

C) General Church Survey

Surveys were distributed first to the four churches recruited for focus groups and program development. The research team requested five minutes during Sunday services to present the project and to solicit participation in surveys, focus groups, or both. Members were informed that this project was sponsored by the Bishop's office and the GBCS, that they would be representing their congregation and their district in this important work. Furthermore, we emphasized our intent to provide a service through the development and provision of a new Christian environmental program. This presentation was given to all services offered on the selected Sunday. We stayed after surveys to shake hands, answer questions, and encourage participation. In some cases we were given space in a newsletter blurb, in others the pastors gave us a longer supportive introduction, and additional blank surveys were left in church lobbies and offices. We requested that people turn their surveys in one of the two following Sundays to baskets outside of the sanctuary, or at any other time to the church office. We continued to collect surveys for about a month.

For the additional twenty survey churches participating only in the church survey, pastors were mailed the surveys and bulletin inserts and instructed on how to distribute them. To increase response rate, which we expected would be lower without our presence to promote the project, we included SASEs that participants could use, although they were still encouraged to return them to church. Additionally, we had posted the survey on the web by this time and it was linked from the Holston Conference website. Pastors were provided with a script for pitching the project and thanked for their cooperation.

1) Survey design

We recognized numerous gaps in the empirical research and desired to contribute to deeper understanding. We created a comprehensive four-page survey to explore how Holston United Methodists think about environmental issues and how the UMC should best develop and implement new programs (see Appendix C: Congregational Survey).

The length of the survey was undoubtedly prohibitive to many potential respondents, which we accepted for more comprehensive data. Several iterations of the survey were reviewed by colleagues, ecotheology scholars, and finally were pilot tested by members of the Holston Conference. The survey consists of ten banks of questions:

- 1) Ecotheology
- 2) Influences on environmental concern
- 3) Environmental attitudes
- 4) Perceived role of the UMC
- 5) Program interests
- 6) Perceived barriers
- 7) Perceived benefits
- 8) Environmental behaviors
- 9) Religious involvement
- 10) Demographic variables

Typically participants were asked to rate agreement or disagreement with various statements on 5- or 7-point scales. Below we outline the items of each question bank.

a) Ecotheology (questions 1-17)

Many studies have measured the effects of different aspects of religiosity on environmental attitudes and behaviors, but few have attempted to track the relationship between these variables and one's interpretation of how the Bible instructs us to treat nature. Mastery has been well-studied and a few studies have explored the sacredness of nature and an "end-times" or conservative eschatology. A theocentric, stewardship ethic has been proposed several times yet no study has tested for this. Conspicuously, no researchers have included a measure for a justice-based environmental ethic, even though this is the most prominent view from the New Testament.

It was our goal to pose a series of questions that might advance a standardizable measure of ecotheology. After consulting the literature and experts in the field, we hypothesized five possible ecotheologies:

- a) Stewardship – q. 1
- b) Mastery – q. 2
- c) Reverence – q. 3-6
- d) Environmental Justice q. 7-9
- e) Unaccountable – q. 10-15

We note that these measures are actually a measure of one's religious environmental ethic. None of the concepts are explicitly connected to biblical verses in the questioning, although the themes can be found throughout. We believed such a direct focus would be unrealistic, as even within the United Methodist Church people have many different sources of belief, including clergy, United Methodist principles, other sources of theology, personal convictions, and secular communications (media) and experiences. Since prior studies have shown the low utility of religiosity measures, including Biblical literalism, the concepts of our ideas originate from Scripture without expressly stating so. In this way, the salience of Scripture does not bias the responses in such a way as to inform respondents of passages to which they were previously unaware.

Questions 16 and 17 ask about the clarity of an environmental ethic in the bible, but do not relate to a particular interpretation.

b) Influences on concern for the natural world (questions 18-27)

Biel and Nilsson (2005) write that empirical research on the relationship between Christianity and environmental concern has been constrained by not measuring critical variables that could be mediators of the observed differences. This construct compares the relative importance of a respondent's faith versus the influence of important others, media, and personal non-religious experiences. Understanding the relative influence of

Christian and UMC beliefs versus secular influences indicates the potential of the UMC to cultivate an environmental ethic within its members.

c) Environmental attitudes (questions 28-35)

Due to the length of the survey and the primary importance given to understanding program interest and environmental behaviors, we used few measures for general environmental attitudes. Several questions about fragility and economic trade-offs are reminiscent of the NEP. Others ask about the seriousness of the environmental crisis and the compatibility of Christianity and environmentalism.

d) Perceived role of the UMC concerning the environment (questions 36 - 48)

This section encompasses ideas of responsibility, awareness of current efforts, belief in the efficacy of the church, and interest in making environmental issues a priority. Respondents also indicate the ease of finding out about UMC environmental efforts and their interest in learning more.

e) Program interests (questions 49-72)

An extensive list of potential programs was developed, intended to include aspects of education, worship, community building, service, direct experiences in nature, social and political activism, and leadership. Participants were also asked if they would be willing to lead a program given reasonable support from their church. Finally, participants were asked to place a check mark next to the two programs that appeal to them most.

d) Program barriers (questions 73 – 84)

We hypothesize that an array of barriers may prevent the adoption of new Christian environmental programs. We include statements about lack of expertise, conflict with other priorities, administrative hurdles, and general lack of interest or support.

e) Program benefits (questions 85 – 94)

Perceived benefits play a role in why certain types of programs are preferred and suggest how one might frame a new initiative. Leadership, educational, community-building, and direct positive impacts on the environment were considered.

f) Environmental behaviors (questions 95 – 108)

We generated a list of ERBs and asked respondents to rate how frequently they do each of them.

g) Religious background (questions 109 – 113)

From the literature, we conclude that religiosity variables such as fundamentalism and biblical literalism exert influence through ecotheologies or demographic variables and need not be considered independently. Instead, we are concerned with salience, employment or volunteering for church, and participation in focus groups where applicable.

h) Demographics (questions 114-118)

2) Statistical Analysis

302 surveys were received via drop-box, mail, and internet (50 from SurveyMonkey.com©). The survey data was entered into Microsoft Excel. No answer and ‘don’t know’ responses were excluded pairwise from data analysis. After data was entered and combined, it was exported into SPSS 13.0 for statistical analysis. Some questions were recoded such that the higher number represented a pro-environment stance. Questions already worded as such were not recoded.

We used factor analysis, a data reduction technique, to categorize our survey data using SPSS. We performed factor analysis on each bank of questions (e.g. ecotheology, program interests, demographics) using principle axis factoring with varimax rotation. In the initial analysis, we created factors with Eigen values greater than one. Following this, based on the scree plots and loading values, we either used the created factors or forced the survey data into a second factor analysis. We excluded items with multiple loadings which were closer than .050 or had a factor loading value of less than 0.45 (please see Table 10a). We then conducted reliability analysis with the factors we obtained. Factors with a Cronbach's reliability (alpha) of 0.60 or greater were used for further analysis. New variables were created by taking the mean of an individual's response for the survey questions that were contained within that particular factor. These new variables as well as singular questions were then compared with each other using a two-tailed bivariate correlation. We excluded cases pairwise, which accounts for the differing number of cases with non-missing values (n). Since the data are observed to be normally distributed, we looked at significance of the correlation with Pearson's correlation coefficient. Pearson's correlation coefficient is a measure of correlation between the variables being compared, where 1 is perfectly positively correlated, -1 is a perfect negative correlation, and 0 is no correlation. Accepted significance values for this analysis were set at $p \leq 0.05$. For the purposes of this study, we will use Table 6a as a guideline (but not absolute) to discuss the linear relationships between variables.

Table 6a: Guidelines used to interpret correlation r-values

Degree of association	r-value
Strongly positive	1.0 to 0.6
Positive	0.6 to 0.2
Little or no	0.2 to -0.2
Negative	-0.2 to -0.6
Strongly negative	-0.6 to -1.0

D) Focus Groups

Two semi-structured focus groups were conducted at each of the four churches initially recruited (see Appendix D for questions from the first focus group. The second focus group is described below). Sessions occurred at church either during weeknights or in place of other scheduled church activities, such as Sunday evening vesper services or during Wednesday night dinners. Each session had between five and twelve participants, and in several instances, pastors wished to be present for the discussion. The congregation was asked to sign-up for one or both focus groups, but recruitment proved to be difficult. We employed a snowballing technique and made individual appeals to folks who might have strong opinions, whether pro- or anti-environmental.

The first sessions were attempts to better understand how United Methodists connect their faith with environmental concern. We asked deeper questions about their ecotheologies and discussed specific passages (addressing theological literacy) or concepts they found important. We were also interested in how these translated into feelings of both personal and church responsibility, how members have applied these ethics in their daily lives, and ways in which they believed they should apply these ethics. We explored concepts of sacredness, dominion, and stewardship and how laity framed these issues in their own words. Lastly, we asked questions related to ecological literacy, about what the most pressing local and global problems are and their recommendations for solving these problems. The first session lasted about 90 minutes.

After the focus groups were conducted, the researchers did preliminary analysis of this discussion and what surveys had been returned. We summarized the first focus group and suggested what types of programs we thought they might be most interested in, giving several examples of each. The purpose of the second focus group was to brainstorm a program and develop a plan of implementation. Participants gave feedback on the program categories in general and specific initiatives, and also suggested some of their own ideas. After some dialogue, they were asked to reach a consensus on one or two programs they might pursue in the near future. We asked participants to determine

potential leaders, necessary resources, and a timeline for action. At this point, we attempted to transfer ownership of the project to the congregation members. We agreed to follow-up with them and to continue to play a supportive, consultative role. In each church, we gave some type of concluding presentation according to their interests.

E) Clergy:

We were very interested in how clergy might influence congregations to adopt an environmental program. For each of the churches we worked with, we requested an interview with the pastor. Six interviews were conducted late in the fall of 2005, mostly by phone (please refer to Appendix E for the interview questions). Pastors were asked to describe their church and how they perceive the environmental interests of the congregation. On a personal level, we asked them about what they thought the most pressing environmental issues are and what biblical passages they refer to for guidance about how to treat creation. We also asked how they understand their responsibility to engage this responsibility and how they think the UMC should train clergy to address environmental issues.

F) Seminary:

Leadership in advancing any movement or starting a new program is critical. Seminaries are the backbone of leadership training that pastors receive, and we wanted to understand how this experience affects one's interest and competence regarding environmental issues. We contacted the Holston's director of clergy services to determine which seminaries are most frequently attended. From this list of Asbury Theological Seminary, Duke Divinity School, Candler School of Theology at Emory, and the Course of Study program used regionally throughout the UMC, we contacted professors who taught classes related to ecotheology. These professors suggested possible avenues for informing students and faculty of 10-minute surveys available through SurveyMonkey© (see Appendices G and H for these questions).

VII. RESULTS: RELIGION AND DEMOGRAPHY

A) Survey Response Rate:

Although 21 out of 24 churches initially agreed to participate (87.5%) and two were subsequently added, we only received responses from 15 (see Table 7a). We suspect that 9 churches did not distribute the surveys we mailed to them, which yields a total church participation rate of 60.9%, and 52.6% from survey-only churches.

A total member response rate of 7.2% is very low, and we have little way of knowing whether our sample is representative. We had considered mailing a second round of surveys with stronger appeals or rewards attached, but given the low interest already, we decided this might lead to more frustration than good. Whether we made a Sunday morning presentation and conducted focus groups at a church did not seem to affect participation rate. The collection methods, however, were inconsistent. With focus group + survey churches, we asked that surveys be brought back to church once completed. In survey only churches, we requested return to churches to save on postage but also included SASEs. We received only one packed of completed surveys from a survey only church. Whether these were completed and not sent back we cannot be sure, but the SASEs seemed preferable. Unfortunately our budget did not allow for us to use these in focus group only churches as well. Survey congregations also had the option to complete the survey online, although this option was used by less than a dozen people. The web survey did attract responses from people who happened to notice a link from the Holston Conference website, which we included in our sample. About half of these responses were from pastors.

Table 7a: Holston Conference district, community context, average attendance, & survey response for each participating church

Church	District	Community context	Attendance (avg. 2003)	Surveys returned	Survey return
Blountville	Kingsport	Small town, blue collar	122	1	< 1
Central Radford (#)	Wytheville	Small, blue collar mtn city	201	22	10.9
Colonial Heights #	Knoxville	Middle class suburbs	146	11	7.5
First Broad Street *	Kingsport	Small, professional city	930	81	8.7
First UMC Bristol #	Abingdon	Small, middle class city	169	4	2.4
First UMC Cleveland	Cleveland	Small, middle class city	271	2	< 1
First UMC Pennington Gap *	Big Stone Gap	Small, rural farm town	121	5	4.1
Hiltons *	Big Stone Gap	Very small country village	180	13	7.2
Kern Memorial #	Oak Ridge	Upper class, professional town	322	50	15.3
Pikeville	Chattanooga	Small, rural working class town	73	1	1.4
Pittman Center Circuit #	Maryville	Very small, rural villages	98	1	1
Red Bank	Chattanooga	Medium, middle class suburb	292	10	3.4
Saltville #	Abingdon	Very rural, working class villages	60	9	15
Trinity Morristown	Morristown	Small, middle class city	175	6	3.4
Wesley Memorial *	Johnson City	Medium size, middle class city	400	36	9
Other / unknown				50	
Total			3,509	302 (252 known)	7.2

1. = One of four intensive churches where two focus groups were held and a program was implemented. We made brief presentations in these churches to encourage participation.
2. # = Pastor was interviewed.

Our survey was very detailed and mentally taxing, which we believe was the primary cause for the low response rate. A lofty 78% of our respondents had bachelor's degrees or higher, and 43.9% of the sample had graduate degrees, which is well above the average for the area. We were aware that the length of the survey would reduce both the number and diversity of respondents, but chose to accept this tradeoff to gain a deeper understanding of the issues. Future surveys aimed specifically at determining what program a congregation could successfully implement should be much shorter and more accessible (see Diagnostic Survey, Appendix C).

A) Recoding

Prior to performing factor analysis, variables framed so that a high rating equated to negative environmental stance were recoded, so positive responses and correlations always reflect a pro-environmental perspective. The rationale for this was that certain groups of variables had a mixture of positive and negative environmental statements, and needed to have a uniform direction to factor properly. Higher values now represent stronger environmental ethics. As a result, two of our analysis items now represent the *rejection* of certain ecotheologies: the rejection of gnosticism factor and the rejection of mastery variable.

Survey questions that were recoded are noted with an **(R)** in the Appendix C. Recoding was done for 8 questions in section 1 (ecotheology), 5 questions in section 3 (environmental attitude), and 1 question in section 4 (role of the UMC). Barriers were not recoded, meaning a score of 5 still represents a major barrier and a score of 1 a non-existent one. Since barriers typically had no significant correlations, we deemed recoding unnecessary.

B) Factor Analysis

The survey questions (see Appendix C: Congregational Survey) were arranged in overarching categories within the survey: 1) Biblical ethics, 2) Influences, 3)

Environmental attitude, 4) UMC interests and principles 5) Environmental program interests, 6) Environmental program barriers, 7) Environmental program benefits, 8) Environmental behavior (see Table 7b). Factor analysis was performed for each of these categories using the principal axis method with varimax rotation. Variables that had a loading value of .45 were considered for the analysis, unless these variables had multiple loadings and could not be accurately located with one factor. We add a caveat that mediating effects among these variables, or covariance, was not taken into account for this analysis. Thus we do not know the extent to which factor variables are independent of each other, and some of their loading values may be an effect of interdependence.

Factor variables were then summed and averaged. We tested for reliability with Cronbach's alpha, a measure of how reliably the items of a factor group together. Factors that had an alpha value of below .6 were excluded.

Table 7c reports the frequency of responses and their percentages for the demographic, religion in daily life, and willingness to lead or co-lead environmental program data.

Table 7b: Alphas and means for each factor, grouped by category (eg. Ecotheologies); with number of questions grouping per factor noted (eg. (5) questions)

For detail of which questions grouped with each factor, see Appendix I

Factors by category (# of questions)	Alpha	Mean (sum/total points on ranking scale)
ECOTHEOLOGIES		
Environmental justice (5)	.783	5.77
Rejection of gnostic, (3)	.716	6.09
Reverence (2)	.600	6.09
Stewardship (1)	n/a	6.59
Rejection of mastery (1)	n/a	5.80
INFLUENCES		
Christian influences (2)	.823	5.69
Outside influences (6)	.874	5.15
UMC influence(1)	n/a	4.09
ENVIRONMENTAL ATTITUDE		
Fragility (2)	.647	5.41
UMC INTERESTS AND PRINCIPLES		
Role of UMC (10)	.926	5.43
UMC Knowledge (2)	.708	3.57
ENVIRONMENTAL PROGRAM INTERESTS		
Activism programs (7)	.936	3.32
Nature-based programs (2)	.692	4.13
Worship programs (2)	.755	4.03
Environmental impact programs (2)	.774	4.21
Education programs (4)	.878	3.56
ENVIRONMENTAL PROGRAM BARRIERS		
Lack of support (5)	.748	3.02
Lack of expertise (4)	.738	3.20
ENVIRONMENTAL PROGRAM BENEFITS		
Environmental awareness benefit (4)	.871	3.91
Community building benefit (3)	.835	3.59
PRO-ENVIRONMENT BEHAVIOR		
Environmentally efficient behavior (4)	.760	4.21
Environmental activism behavior (2)	.729	2.86
RELIGIOUS VARIABLES		
Religious work/volunteer (1) [1= no, 2 = yes]	n/a	1.87 / 2
Church activities (1)	n/a	3.30 / 4
Religion daily life (1)	n/a	3.77 / 4
DEMOGRAPHIC VARIABLES		
Sex (1) [1 = male, 2 = female]	n/a	1.55 / 2
Age (1)	n/a	4.49 / 6
Education (1)	n/a	4.07 / 6
Income (1)	n/a	3.35 / 6
Politics (1)	n/a	2.85 / 5

1. Top half of ratings on a 1-7 scale
2. n/a's are next to factors that loaded alone (1) and were used for analysis
3. n ranged from 266-302, except for income (n = 249)
4. lack of expertise barrier (n = 230), and UMC knowledge (n = 172)

Table 7c: Frequencies and percentages of demographic & religious variables

Variable	Frequency	Percentage
<i>SEX</i>		
Male	128	45.1
Female	156	54.9
<i>AGE</i>		
< 25	13	4.5
25 - 34	14	4.9
35 - 44	33	11.5
45 - 55	65	22.6
55 - 64	84	29.3
> 65	78	27.2
<i>EDUCATION</i>		
< H.S.	5	1.7
H.S.	34	11.8
Assoc.	24	8.3
Bach.	99	34.3
Grad.	127	43.9
<i>INCOME (1,000's \$\$)</i>		
< 20	9	3.6
20-40	53	21.3
40-75	73	29.3
75-125	79	31.7
125-200	27	10.8
> 200	8	3.2
<i>POLITICS</i>		
Strongly conservative	8	3.1
Conservative	101	38.8
Moderate	93	35.8
Liberal	39	15.0
Strongly liberal	19	7.3
<i>RELIGION IN DAILY LIFE</i>		
A little	3	1.0
Somewhat	8	2.8
Quite a bit	42	14.6
Very important	234	81.3

C) Religious Involvement

Table 7c: Correlations between religious & demographic variables

Demographic variable	Religious variable		
	Religious work/volunteer	Church activity	Religion in daily life
Sex	ns	ns	ns
Age	.146*	ns	.196
Education	ns	ns	ns
Income	ns	ns	ns
Politics	ns	ns	-.232

1. Unless otherwise noted, all correlations significant at $p < 0.01$

2. *. Correlation is significant at the 0.05 level (2-tailed)

3. ns = non significant

4. n: Ranged from 241-287

87.4% of this population either works or volunteers for their church. There were no significant relationships between this and a person's age, education, income, or political orientation. Most people attend church activities regularly or very frequently, with a mean of 3.30 out of 4.00. Again, there were no significant relationships between this and a person's age, education, income, or political orientation. Religion is also a very important part of our respondents' lives, with a mean of 3.77 out of 4.00. There was no or little relationship between this and age, education and income. There was a slight negative relation with regard to political orientation, meaning the more conservative a person was, the more important religion was in their daily life and vice versa. As expressed earlier, tying environmental to Christian and United Methodist beliefs is critically important. The high levels of religiosity in our survey refute notions that Christian practice and environmental concern are incompatible.

D) Demography

Some considerations must be taken after looking at our population's demographic data as it is slightly different than the actual population in the Holston conference. It is possible

that people that responded to our survey are environmentally minded already. They may come in with some ideas and notions about how they have concerned themselves with the environment and nature in the past. Thus our respondents may be in favor of protecting the environment more so than the average person in the Holston conference. However, we did specifically encourage people with anti-environmental views to participate in the survey to get a good representation.

Those who completed surveys may differ from the population in the Holston geographic area, although it is hard to say to what extent the sample accurately represents participating congregations. Our data shows that the majority of respondents were women at 54.9% while the actual population was 51% women. The average age of a respondent was around 55 while the actual population's average age was 37. Our respondents were on average 18 years older which may have some implications about how they responded in the survey as well as their income and political orientation.

One of the most significant differences is in education. Our data shows that 78.2% of our population has at least a Bachelor's degree while the actual conference population is at about 20%. Additionally, 43.9% of our population has a Graduate's degree. This may have some implications for how people answered survey questions and for their incomes. The income, however, was about average with the Holston conference average household income of \$41,000. Respondents were slightly conservative regarding politics; there is no data regarding for the Holston Conference for comparison. Most of our respondents identified themselves as conservative at 38.8% followed by moderate at 35.8%. For any wishing to distribute surveys in churches in the future, it is worth noting that about a dozen people were bothered enough by the political orientation question to write negative comments about it. They felt that by asking for political orientation the church was someone taking a stance, and likely a liberal, tree-hugging one. Or they may simply feel church is an inappropriate place to be discussing politics in the first place:

I have been a member of a very politically active church and the ministers and leadership lost sight of God and helping their members on their spiritual journey to God. I have no problem

with environmental concerns and addressing them but I came to church for spiritual guidance not political guidance.

VIII. RESULTS: ECOTHEOLOGY

A) The Influence of Ecotheologies

1) Ecotheology Overview

The first seventeen questions of the congregational survey probed various ecotheological beliefs (see Appendix C: Congregational Survey). The following analysis examines responses for twelve of the seventeen questions. The five unused questions did not cluster with any factor during factor analysis, nor did they individually represent any identifiable ecotheologies. Nevertheless, they may represent intriguing data we overlooked. Two survey questions aimed to ascertain identification with previously studied ecotheologies: mastery and stewardship. We discuss results for these two ethics along with the three ecotheologies identified through factor analysis. We call these three ecotheologies environmental justice, rejection of gnosticism, and reverence. Names for the ethics represent the underlying concepts we judge to drive cognitive grouping of survey questions into these separate categories. However, we recognize the terms describing the various ecotheologies may not convey fully the scope of each ethic, and we encourage discussion of more precise language. As described in VIIIB, we recoded data for the mastery and gnostic ethics. Consequently, the correlations explored represent relationships with rejection of mastery and gnosticism, rather than positive response to the questions as phrased. Table 8a lists the survey questions linked with each of the five examined ethics, and follows more detailed definitions of each of these ecotheologies proceeding immediately below.

a) Environmental Justice

The environmental justice ethic seems to draw on a belief of nature as some peer creation of God – perhaps that, as C.S. Lewis suggests, “(nature), like ourselves, is to be redeemed” (105). Like humans, the environment is a sacred creation of God that requires

respect and care. Furthermore, nature and humans are interdependent, and humans' disregard of nature and/or one another bears both spiritual and physical consequences.

We did not expect the first two of the five questions listed in Table 8a (all nature is sacred and harming nature is sin) to group with the three more traditional measures of the environmental justice factor. A factor including all five of these questions suggests we needed a broader conception of an environmental justice ethic, or that a more accurate name for this ecotheology could be articulated.

b) Reject gnosticism

The gnostic ethic emerges from belief in the dualism of spirit and matter, and of matter as an imperfect, fallen shadow of the spiritual realm. At the extreme, gnosticism asserts that the spiritual universe is the only true reality and matter is evil. Gnosticism developed as a geographic contemporary of Christianity, and after debate during the first few centuries A.D., the Church rejected infusion of gnostic beliefs into Christianity as heresy. Nevertheless, elements of gnostic belief persist within the Church. Yet, these beliefs are rarely recognized as gnostic, and are no longer the focus of schismatic debate. The three questions grouping under the gnostic factor (God is sovereign over nature, only concerned with spiritual realm, and caring for nature is idolatrous) seem to support gnosticism's division between God and nature, and ascription of negative values to the natural world.

We did not expect the grouping of these three questions. Duality of spirit and matter is rarely discussed in the UMC, and we did not suppose respondents would cognitively separate questions according this factor. Instead, we hypothesized the three gnostic questions might sort with three other questions: 1) "God will destroy the earth on the Day of Judgment," 2) "God cursed the environment in response to the fall of humanity," and 3) "God would not let humans damage the earth beyond repair." We thought these six questions might associate to identify a more comprehensive gnostic/end-times ethic. While there have been a few attempts to measure end-times theology (i.e. God will

destroy the earth by fire), we believe this is the first effort to explore a more comprehensive gnostic ethic. Although we expect all of these variables have negative environmental implications, our respondents did not think of them in a uniform way. Finally, recall that recoding responses to the gnostic questions means the reported results indicate rejection, rather than acceptance, of a gnostic ecotheology.

c) Reverence

The reverence ethic seems to root in the belief that one can learn about and commune with God through experiences in and observations of nature. It also recognizes God's creative endeavors and God's concern for other species.

As previously referenced, we were surprised when "All of nature is sacred" factored with the environmental justice, rather than the reverence ethic. While we expected "Actions that harm the natural world are sinful" to group with reverence, we suspected it might sort with stewardship – not environmental justice as mentioned. Finally, we hypothesized rejection of "Devoting efforts to protect the environment is a form of idolatry" might cause this prompt to sort with reverence. Instead, this question associated with the gnostic ethic. Our key misunderstanding appears to be the assumption that reverence would involve attributing inherent value to nature. Actually, inherent valuation of God's creations, natural or human, seems to be a core component of the environmental justice ethic.

d) Stewardship

The stewardship ethic seems to stem from belief that God has charged humans with the responsibility to serve as caretakers of the environment as a Godly trust (as defined in the lone congregational survey question probing this ethic and feedback from interviews and focus groups). Focus group discussions of the stewardship ethic located ownership of the environment squarely with God.

Again, we expected the prompt, “Actions that harm the natural world are sinful” would factor with stewardship if it did not group with reverence, yet it sorted with environmental justice. Also, we considered that rejection of the mastery ethic question, “God intends for people to rule over nature as they see fit,” might cause this prompt to factor with the stewardship ethic, but this link did not materialize.

e) Mastery

As described earlier, the mastery ethic represents the belief that God granted humans complete, dominating ownership of the earth, without interest in how humans exercised this authority. The mastery ethic is the attitude Lynn White and others deemed culpable for the environmental crisis.

Since other studies have investigated the mastery ethic, we asked only one question probing this belief. This question did not group with any other ecotheology questions. Also, recoded responses to this question cause us to analyze rejection, rather than support, of a mastery ecotheology.

Table 8a: Ecotheology variables grouping within each ecotheology factor

Ecotheology factor	Ecotheology variables
Environmental Justice $\alpha = .783$	1) All of nature is sacred. 2) Actions that harm the natural world are sinful. 3) Environmental impacts that disproportionately harm the poor, minorities, and the disenfranchised are a significant concern of mine. 4) Human quality of life depends on the well being of the natural world. 5) I am concerned about present environmental impacts affecting the quality of life of future generations.
Reject gnosticism $\alpha = .716$	1) God cursed the environment in response to the fall of humanity. 2) Only concerns associated with the spiritual realm concern me. 3) Devoting efforts to protect the environment is a form of idolatry.
Reverence $\alpha = .600$	1) I value opportunities to connect with God in nature. 2) God's character is revealed by the natural world.
Stewardship $\alpha = \text{n/a}$	1) God has entrusted us with the responsibility of caring for nature.
Reject mastery $\alpha = \text{n/a}$	1) God intends for people to rule over nature as they see fit.

1. $\alpha = \text{n/a}$ for factors that loaded alone (1) and were used for analysis.

Respondent's average identification with the environmental justice, reverence, and stewardship ethics was fairly strong, as was their rejection of the gnostic and mastery ethics. The stewardship ethic resonated strongest, scoring a mean of 6.59 out of a 7-point scale. The reverence ethic followed at 6.09, and environmental justice registered a mean of 5.77. Means for the gnostic and mastery ethics received very low marks of 1.81 and 2.20 respectively. When recoded for analyses, these scores translated to 6.09 for rejection of gnosticism and 5.80 for rejection of mastery. Recall that only one survey

question each corresponded to the stewardship and mastery ethics, while reverence, gnostic, and environmental justice drew from 2, 3, and 5 questions respectively. More respondents strongly agreed with the stewardship ethic than any other ecotheology question. Furthermore, the distribution of responses indicates stewardship as the ethic with the broadest and most robust support. We deliberately avoided using the term stewardship in this question in order to address the concept without biasing respondents to a familiar and amenable term. Since we have only one item measuring stewardship, the construct may be less reliable than if we had included multiple measures that factored together. The high means for environmental justice, reverence, and stewardship reveal that respondents identified with multiple ethics, although to differing degrees.

2) Relationships with Programs, Perceived Benefits, Activities, Attitudes, & Demographics

Generally, the environmental justice ethic exhibited substantially stronger positive correlations than the other ethics across the array of programs, perceived benefits, activities, and attitudes (see Table 8b). Stewardship and reverence tended to demonstrate fairly positive relationships in the $r = .2 - .4$ range, whereas environmental justice relationships typically fell within the stronger, $r = .4 - .7$, range. Only a few correlations with the reject gnostic or reject mastery ethics surpassed an r -value of .2.

Environmental justice registered strong positive relationships with the following factors: perceived sensitivity of the natural world to human influence (fragility, $r = .601$), interest in the church addressing environmental issues (role of UMC, $r = .724$), interest in ecotheological education (educational programs, $r = .631$), and interest in the benefits of increasing environmental awareness and environmentally responsible behavior (environmental awareness benefit, $r = .678$). The environmental justice ethic exhibited somewhat less strong, but still quite positive correlations with: activism programs ($r = .587$), worship programs ($r = .511$), environmental impact programs ($r = .572$), interest in benefits of building community (community building benefit, $r = .495$), and environmental activism behavior ($r = .440$).

Although the environmental justice ethic ranked lower than others, the frequencies of the environmental justice scores still show wide-spread agreement. 45.6% of respondents had a factor average of 6 or greater, 24.2% above 6.5, and 12.6% with a perfect average of 7 for this ethic. The mean for the 25th percentile displayed reasonable agreement at 5.38, and only 5.3% of respondents scored below the neutral value of 4. Because agreement with the environmental justice ethic correlates very strongly with the many factors listed above, one might expect increasing one's belief in the justice ethic would lead to stronger support for UMC environmental efforts, a more pro-environmental attitude, interest in many church programs, and undertaking more environmental activism behaviors. The very high frequency of at least moderate support for this ecotheology implies that UMC attempts to cultivate an environmental justice ethic would be successful. Response means for various other factors likewise indicate probable success in nurturing an environmental justice ecotheology. For instance, respondents report interest in the UMC's environmental involvement (role of UMC factor mean = 5.43), low awareness of UMC environmental principles (factor mean = 3.57), high support for one's local church's adherence to the aforementioned principles (5.66), and desires to learn more about and seriously consider the principles (5.26 and 5.30, respectively). While we suggest ecotheological education should focus on environmental justice, promoting an environmental justice ecotheology should not preclude attention to the also important, and likely reinforcing, reverence and stewardship ethics.

The environmental justice ethic correlated less strongly than other ethics in only four notable instances, which included relationships with interest in nature-based programs, environmentally efficient behavior, sex, and education attained. In the first case, reverence had a moderately positive association with interest in nature-based programs ($r = .318$), while similar measures were slightly weaker for environmental justice and stewardship ($r = .282, .255$) and not significant with the rejection of gnosticism and mastery. In the second case, stewardship, the most widely and deeply held of the ecotheologies, was the only ethic to correlate notably with environmentally efficient behavior – exhibiting a somewhat positive correlation ($r = .312$).

Among associations with the demographic variables, reverence positively correlated with females ($r = .215$). Environmental justice exhibited the only other significant relationship with sex, but only weakly ($r = .173$). The reject mastery ethic was the sole ecotheology (rather, rejection thereof) to significantly associate with education level attained ($r = .209$). Liberal political views had positive correlations with all ethics except reverence, and was the strongest for environmental justice ($r = .280$)

The only notable relationships with the reject gnosticism ethic were with perceived sensitivity of the natural world (fragility), desire for the church to proactively address caring for the environment (role of UMC factor), and interest in activism programs. All of these correlations were weak, with positive r-values in the .200s. However, the highest of these correlations is with the role of UMC, preserving an interesting trend wherein each ethic relates more positively to the role of UMC than to any other comparison. Also, as mentioned above, the strong belief in ecotheologies (all means > 5.5 out of 7) suggests interest and willingness to link environmental concern with biblical principles.

Table 8b: Correlations between ecotheological & other factors

Other factors	Env.'l justice	Reject gnosticism	Reverence	Stewardship	Reject Mastery
Environmental justice		.200	.418	.485	.274
Reject gnosticism	.200		.130*	.151*	.376
Reverence	.418	.130*		.323	ns
Stewardship	.485	.151*	.323		ns
Reject mastery	.274	.376	ns	ns	
Fragility	.601	.220	.275	.297	ns
Role of UMC	.724	.268	.433	.402	.286
Activism programs	.587	.202	.318	.255	.155
Nature-based programs	.282	ns	.349	.255	ns
Worship programs	.511	.125*	.360	.330	.130
Env. impact programs	.572	.186	.295	.306	.293
Educational programs	.625	.175	.312	.278	.218
Env. awareness benefit	.678	.182	.351	.377	.274
Community building benefit	.495	ns	.298	.293	ns
Env.'lly efficient behavior	.195	ns	.184	.312	.125
Env.'l activism behavior	.440	.189	.240	.236	.188
Religious work/volunteer	.123	ns	ns	ns	ns
Church activities	ns	ns	ns	ns	ns
Religion in daily life	ns	ns	.134	.154	ns
Sex (higher for female)	.173	ns	.215	ns	ns
Age	ns	ns	-.122	ns	ns
Education attained	ns	ns	ns	ns	.209
Income	-.143	ns	ns	ns	ns
Political identity	.280	.175	ns	.178	.217

1. Unless otherwise noted, all correlations significant at $p < 0.01$
2. *. Correlation is significant at the 0.05 level (2-tailed)
3. ns = non significant
4. n: Ranged from 237-291
5. Bold, underlined correlations are the highest in the row. The highest values of some rows are lower than the lowest values of other rows.

3) Analysis

Since individuals identify with multiple ethics, one is unlikely to encounter a congregation holding only one ethic. Ecotheologies of a particular church cannot be characterized by a rigidly defined package of associated beliefs and interests. One likely will discover, however, that one ethic resonates more strongly with an individual or congregation than other ethics. While a uniquely savvy leader may be able to deduce this

ecotheological profile from her interaction with a person or congregation, we suggest the use of a simple diagnostic survey. A prototype of this survey can be viewed in Appendix C. Feedback from the survey could inform what ecotheological framing might be most likely to nurture an expressed program interest, when compared with the relationships between ethics and interests in Table 8b. A congregation very high in reverence, for instance, might be especially receptive to nature-based programs. Similarly, survey feedback could be used with Table 8b to further an outcome desired by the church. For example, a congregation seeking to encourage environmentally efficient behavior should pursue this aim through a stewardship frame. Certainly, leaders could design a partially-informed effort using only the data from Table 8b. Nevertheless, we recommend this additional step of attempting to tailor environmental programs to churches' particular ecotheologies.

Recall how our client's expectation of demography's influence on United Methodists' environmental concern and practice directed our study site selection. Overall, our data indicate demographics do not substantially correlate with Christian environmental ethics, especially when contrasted with other variables. We believe this weak relationship bodes well for the generalizability of this and related studies. This is good news for GBCS – particularly if Holston's demography yields greater resistance to ecotheology than most other regions.

Still, several interesting relationships with demography deserve mention. While reverence demonstrates the only significant correlation with age ($r = -.122$). Greater distribution of ages and population sample size might yield similar, significant results. If so, one would wonder whether the relationship depends primarily on changing beliefs as individuals age, or generational differences. The weak relationships between demography and the ethics warrant little further mention without evidence of stronger ties. Nevertheless, we give mention to this data in response to the repeated calls from various focus groups for directing ecotheological ministries toward youth, and for younger persons to assume the leadership roles for ecotheological initiatives.

Intriguingly, the positive correlation between reject mastery and education attained is the only significant relationship between the ethics and education. United Methodists' traditional emphasis upon the value of secular knowledge and support of higher education institutions likely assist the church's desire to "correct" the mastery ethic. We wonder whether the correlation might emerge from broadened awareness of the scope and scale of humankind's environmental follies. If so, then churches could both share such stories and investigate local examples of environmental debacles demonstrating humankind's failure to secure even its own self interest when using the environment. Given GBCS's predominantly action-focused agenda, the negative correlation between income and the environmental justice ethic may concern their staff. Since persons with higher incomes tend to exert the most impacts upon vulnerable others, one would desire a strongly positive correlation. GBCS can be thankful that the relationship is quite weak.

We suspect politics, more than any other demographic variable, shaped GBCS's preference of Holston as a study site. Among the demographic variables, political identity exhibited the strongest relationships with the various Christian environmental ethics. However, none of the correlations were especially high, and r-values for stewardship and reject gnosticism were below .2. Of greatest interest is the reverence ethic's lack of relationship with political identity. The reverence ethic seems particularly suitable for ministry among politically mixed audiences. Additionally, while the data suggests ecotheology may fair less well among conservative congregations, both the receptiveness and the conservativeness of the Holston conference should be remembered. Finally, the weak correlations between demography and the assorted ethics imply demographic questioning should not be included on the proposed diagnostic survey. The emotional sensitivity of people to these questions risks psychological reactance against the survey and future ecotheological ministries. We expect such reactance contributed to many persons not completing our survey when they reached the demographic questionnaire, as evidenced by numerous submitted surveys lacking responses for this section.

Leaders may wish to cultivate greater ecotheological belief and practice by activating multiple motivations. Psychological studies indicate that behaviors are reinforced through additional motivations (Bechtel and Churchman, 2002). Considering ecotheologies, environmental justice, stewardship, and reverence seem to root in different core motivations, while associating with complementary benefits. Consequently, they provide different avenues for exploring belief and inspiring practice of ecotheology through environmental justice's concern for the other, reverence's appreciation of spiritual experience from the natural world, and stewardship's attention to one's role as a trusted tenant of God's creation. Additionally, the observed positive correlations between environmental justice, reverence, and stewardship suggest these ethics are either mutually supportive, or that one ethic drives adoption of another.

Importantly, the church desires to enrich not just practice, but also faith. Multiple ecotheological approaches may further this latter goal. However, focus groups and especially clergy interviews highlighted the exhaustive ministerial demands on clergy and the strained schedules of potential parishioner participants. Therefore, churches may limit their portfolio of environmental ministries due to practical constraints and worthwhile competition from other ministry fields. For these reasons, integration of ecotheology throughout a church's ministry is seems wise. For instance, efforts to build houses for the homeless might follow green building standards, or church social functions might serve locally grown, organic foods whenever possible. In this way, environmental awareness and commitment to responsible stewardship can occur in non-traditional forums.

Given scripture's emphasis on coupling faith with works, cultivating and activating an environmental justice ethic seems an advisable priority for leaders. Nevertheless, potential leaders should note that both interest in nature based programs and practice of environmentally efficient behavior correlate more strongly with reverence and stewardship respectively. Environmental justice seemingly attributes greater value to nature (sacredness) and the interdependency between humans and the environment. Consequently, the stronger relationships between this ethic and other program interests

and activism behaviors make sense. The environmental justice factor revolves around impacts on others – be they human or non-human nature. Apparently, when programs or behaviors stray from this focus on others, the environmental justice ethic is less of a motivation for interest in the program or practice of the behavior.

For example, for someone ascribing predominantly to an environmental justice ethic, nature-based programs may offer no clear promise of transforming behavior of others or improving the plight of humanity or the environment. Although worship programs show a more positive relationship with environmental justice than nature-based programs ($r = .511$ versus $.282$), they include the possibility of changing one's environmental knowledge and attitudes. This difference may explain their greater appeal to people with strong justice orientations.

Understandably, nature based programs correlated most strongly with the reverence ethic, which is a measure of one's sense of God's character and appreciation of God's presence in nature. Feedback from focus groups included enthusiastic support for such ministries as Easter sunrise services in nearby nature areas, and various church beautification efforts. Consequently, reverence-based language should be used when framing nature-based programs.

During our research, one of the studied churches, First Broad Street UMC, hosted a flower-festival celebrating creation with elaborate floral interpretations of the Genesis creation stories. This ministry seemed to pique members' interest and awareness of ecotheology, perhaps buoying support for our research efforts. Notably, organizers of the festival pursued multiple objectives, associated with multiple ecotheological and other ethics. The festival provided an opportunity for the church to witness United Methodist faith to the community as visitors filled the building for three days to explore the art. Members and visitors could take surplus flowers for gifts or for beautification of their home or office. Furthermore, people were informed that donations received in excess of costs would support United Methodist Committee on Relief (UMCOR) aid for Hurricane Katrina victims. Overall, the festival nurtured both reverence and environmental justice

ethics. While exemplary, attention to and shared information about securing the flowers from a sustainable source (stewardship), and attention to Katrina as both an environmental and humanitarian disaster (environmental justice) could have enhanced the potential impact of the festival to promote care for creation.

Like nature-based programs, environmentally efficient behavior is only modestly associated with environmental justice. Interpreting environmentally efficient behavior as an inwardly focused practice clarifies its weaker correlation with the environmental justice ethic and strongest correlation with the stewardship ethic. The stewardship ethic seems to center on one's personal responsibility to the environment. Given the hypocrisy of desiring change of others for the benefit of others without altering one's own behavior, we hope and we encourage leaders to assure that an individual's other-focused environmental justice ethic is complemented with the personal accountability of the stewardship ethic.

While surprising to some, survey results suggest that persons believing the earth will be destroyed ("end-times" ethic) during the second coming of Christ can still support other ecotheological ethics. Correlations between this belief and the environmental justice, reverence, and stewardship ethics were all weak ($r \leq .200$). Therefore, the church may not need to concern itself with the belief in the destruction of earth at the Messiah's return as it relates to ecotheology.

We anticipated greater identification with the mastery ethic than was evidenced by our study. Even among conservatives, the mean agreement for rejecting this ethic was 5.44, although about 20% of conservatives scored 3 or lower and 15% scored were at 2 or 1. Comparative evaluation with other conferences might demonstrate that Holston congregations are more resistant to Christian environmental practice than most others in different regions. However, one would not reasonably conclude this difference emerges from Holston's proclivity toward mastery, given the overwhelming rejection of this ethic. This assertion is corroborated by the strong support for prompts contrary to the mastery ethic, such as, "Actions that harm the natural world are sinful."

Similarly broad rejection of the gnostic ethic is consistent with United Methodist and general Christian theology. Gnosticism was debated in the early church, and the letters of the apostle Paul include arguments against the belief. Soon thereafter, the church deemed gnosticism heretical, and this conviction abides today. In the amused, but sincere, words of one of our clergy informants, “Anything you don’t like, you call gnostic.” Given nearly two millennia of anti-gnostic doctrine, finding that about 7% of respondents support this form of heresy could seem surprising. Yet, the commissioned intent of our project stems from a similar, if less explicit, disjoint between doctrine and belief. Potentially, pop-Christian literary works emphasizing the spirit-world could have yielded a resurgence in gnosticism among United Methodist that our surveys, but not our interviews or focus groups, recorded. Notably, we do not contend mastery or gnostic ethics preclude Christian care for the environment. However, we expect the framing of other ecotheologies to prove richer, more robust, and more consistent with United Methodism.

In total, our findings support GBCS’s typical framing of care for the environment through an environmental justice ethic. The ethic is the most salient ecotheology in the New Testament scriptures, which are central to United Methodist belief. Additionally, environmental justice’s overlap with other social objectives of the church facilitates both bureaucratic accommodation of the ethic by UMC structures and programs, and cognitive accommodation of the ethic by UMC members.

Focus group discussions revealed passion for engaging environmental justice issues as a United Methodist concern – as corroborated by the very strong correlation between the environmental justice ethic and interest in the UMC’s role in caring for the natural world. However, as was most clearly expressed in a Hiltons Memorial focus group, members believed no other actors were confronting environmental justice challenges, and that they (as a church) lacked the unified front necessary to provoke change.

Despite the sense of impotence shared at Hiltons, each ecotheology's strongest correlation is with interest in the church addressing environmental issues. Irrespective of other factors, one would expect respondents of favoring any ethic to favor GBCS's engagement of ecotheology and efforts to translate their ministry, from the General Conference down to the five-point circuit church. One also would advise GBCS to consider the helplessness voiced at Hiltons Memorial, and to allow this need to inform the design and implementation of their outreach to local churches.

Given both existing interest in environmental justice and the ethic's preeminence as the strongest link between faith and works among the ethics, we suggest GBCS continue to focus on environmental justice. In particular we advise sharing information to build ecotheological literacy and conveying detailed, instructive knowledge of constructive responses to newly gained and activated ecotheological understanding. Both environmental and theological knowledge should be addressed, and these efforts should target both clergy and congregants. Thereby, the desire to practice ecotheological works may be facilitated by helping churches define and understand both the environmental problems they face and how they may productively confront them. Combined, GBCS and congregations seem to possess sufficient expertise and willingness to pursue these aims, yet at present, the necessary structures to avail such action are not apparent at the conference, district, or church level.

The extensive and highly publicized Hurricane Katrina relief efforts of the UMC comprise a substantial missed opportunity for the church to engage the environmental justice ethic. We observed no efforts by UMCOR or the Holston Conference newsletter (*The Call*) to address the connections between human suffering and environmental problems such as climate change or land use change, such as wetland conversion. In contrast, the recent Evangelical Climate Initiative employs environmental justice framing, and seems to have successfully increased dialogue about Christians' responsibility to thwart human-induced climate change (<http://www.christiansandclimate.org/>). This effort by evangelical leaders to prompt

action against human-induced global warming largely casts the problem as one requiring Christian care for others.

Our research suggests that whether global, regional, or local in scope or message, framing environmental problems with a biblically-based environmental justice ethic could prove a powerful driver for development of United Methodist ecotheological faith and practice. Congregations might be reached best initially through elaboration of proximate versus ultimate ways of caring for “the least of these” (Matthew 25:45) and “(loving) your neighbor” (Matthew 22:39).

IX. RESULTS: INFLUENCES, ATTITUDES, & THE ROLE OF THE UMC

The underlying assumption behind our survey is that members will be responsive to both existing doctrine and new initiatives. In this section of our survey, we explore three interests: 1) To what degree are members influenced by UMC and Christian principles as opposed to secular influences? 2) What is their awareness, interest, and support for UMC environmental principles? 3) To what extent do members want the UMC to promote creation care?

A) Influences

The UMC's influence on environmental concern stands apart from both other Christian influences (biblical principles and personal beliefs) as well as secular influences such as discussions with important others, knowledge of local and global environmental issues, media, and personal experiences in nature. Not only did respondents view the influence of the UMC in a unique context, but it had significantly less influence on their environmental concern than either of the other two factors (mean UMC = 4.09 versus 5.69 for Christian influence and 5.15 for outside influences). Both the Christian and outside influences factors correlated with environmental efficiency behavior, albeit weakly, but the UMC factor did not. Outside influences had a moderately strong correlation to activism behavior ($r = .526$), and had substantially higher correlations for program interests and perceived fragility of the environment than either of the religious influences. These correlations are quite possibly a function of greater familiarity, salience, and knowledge conveyed by outside influences. Respondents probably have less experience considering how to apply Christian principle to environmental problems.

Table 9a: Correlations of Christian, secular, & UMC influences with other factors

Other factors	Influence factors		
	Christian	Secular	UMC
Environmental justice	.344	.603	.399
Reject gnostic	ns	ns	ns
Reverence	.189	.377	.155*
Stewardship	.267	.346	.183
Fragility	.185	.451	.289
Activism programs	.222	.580	.184
Nature-based programs	ns	.342	.156*
Worship programs	.252	.439	.245
Environmental impact programs	.321	.464	.351
Education programs	.282	.519	.372
Environmentally efficient behavior	.181	.233	ns
Environmental activism behavior	ns	.526	ns
Religious work / volunteer	.124*	.134*	.186
Church attendance	.208	ns	.130*
Daily importance of religion	.406	ns	.271
Sex (higher toward female)	ns	.135*	ns
Age	ns	ns	.155*
Income	ns	ns	-.208
Politics (higher toward liberal)	ns	.310	ns

1. All correlations significant at the 0.01 level (2-tailed), unless marked by an * denoting significance at the 0.05 level (2-tailed).
2. (N: Ranged from 226-290)

The low influence of the UMC suggests two potential interpretations. First, the small, infrequent efforts of the UMC efforts to promote environmental concern may be less salient for many people. Low awareness of principles (mean 3.40) and perceived ease of locating them (3.41) confirm this, as does the fact that over 30% of the sample abstained or marked “I don’t know” for these questions. Furthermore, when we asked focus groups

if they were aware of UMC environmental statements or initiatives, only a few people correctly suspected some mention in the Book of Discipline, and none were aware of any specifics. Clergy interviews make the same point, as all could relate specific biblical themes or verses to creation care, but generally could not recall critical UMC positions on the environment.

A second interpretation of the low correlation is that ambivalence toward or dismissal of UMC programs and statements is mixed. Respondents were moderately supportive of two variables measuring interest in learning more about UMC principles and adhering to them (means of 5.26 and 5.30, respectively). Few people refrained from rating their interest to these questions, indicating a more confident, though lukewarm, interest. Focus group respondents were somewhat supportive of learning more about UMC principles, though not genuinely enthused. Several mentioned more prominent cultural influences, such as participation in the environmental movement during the late 1960s and 1970s. Some pastors noted that while they believe the Book of Discipline is important, it is a guide with no mandatory regulation of preaching or other engagement of the congregation. Many choose to emphasize aspects of the UMC liturgy, but choose to nurture spiritual growth and understanding through biblical theology, rather than UMC doctrine. Only one pastor reported informing his congregation of statements about the natural world in the Book of Discipline. We conclude that UMC statements are respected but the profusion of social issues discussed in the Book of Discipline may be overwhelming. Members determine their environmental concern primarily by non-UMC aspects of Christian faith followed by outside influences.

The influence of UMC principles may be weak due to a combination of minor attention given, difficulty locating these principles, and greater concern with other influences. On one hand, it may be disappointing that UMC influence is just one of a universe of influences on environmental concern. On the other hand, this weak influence may serve as the impetus to raise awareness about the denomination's efforts to promote creation care. Because the Book of Discipline refers to principles that do not mandate action, we suggest the UMC focus informing congregations of available Christian environmental

programs. This would be a more concrete strategy and would make action-based resources more accessible. Although our data are correlational and do not establish causality, we believe these results suggest that continuing to focus on the connections between Scripture and personal convictions about God and creation is also a successful approach. Members rated general Christian influences higher than outside influences, but were less likely to translate these influences into personal behavior or interest in church environmental programs. There is hope that providing meaningful outlets for participation and knowledge of how to apply Christian principles in one's daily life would be well received. Lastly, the positive effect of increasing ecological literacy and facilitating environmental engagement through discussion and direct experience should not be overlooked.

B) Attitudes

Our sample held positive attitudes toward the environment and believe it is threatened in a number of ways. More specifically, respondents agree that the balance of nature is fragile and being severely abused by humans (means of 5.26 and 5.58 respectively), that the condition of the environment is not good (2.87 on original negatively framed scale), and that environmental interests are not incompatible with Christianity (1.94 on original scale). Interestingly, people rated the negative environmental statement “the condition of the natural world is very good” (2.87) higher than belief that the condition of the environment is where God wants it (2.37). This disparity may suggest that people think God sets higher standards for stewardship than humans do. Of the attitude variables, the question about God’s perspective on the environment had the only significant correlation with efficiency behavior ($r = .20$).

All of the attitude variables had significant but generally low correlations with activism behavior; those who were more comfortable being associated with the environmental movement had a moderate correlation ($r = .51$). Clearly there is something to be gained by partnering with outside environmental groups. Dispelling myths of environmentalists

as tree hugging nature worshippers, as well as the myth that Christians have nothing to say about environmental issues should be an important goal.

Table 9b: Means of attitude towards the environment variables

Variables	Attitude towards Environment	Means
Balance of nature is fragile	5.26	
Humans severely abusing nature	5.58	
Condition of environment is very good	2.87	
Environment is as God wants	2.37	
Environmentalism threatens economic livelihoods	3.89	
Uncomfortable associating with environmental movement	2.96	
Christianity & environmentalism incompatible	1.94	

With the exception of the economic growth variable, the correlations between environmental attitudes and the environmental justice factor were moderately high, compared to low correlations with the other factors. As expected, a negative rating on the “God wants” question had the highest correlation with the reverence ethic, at $r = .36$. No other environmental attitude variable had a stronger correlation with that ethic. Comfort being associated with the environmental movement and belief in fragility each had moderate correlations ($r > .5$) with UMC attitudes and interests, followed by belief that the condition of the environment is not very good ($r > .34$).

3) Role of the UMC

The role of the UMC factor (which includes variables such as perceived responsibility for the entire UMC organization and one’s congregation, interest in adhering to UMC policies, making environmental issues a priority, and learning more about UMC environmental principles) had moderate to strong correlations with several factors (see Table 9c). These include activism behavior ($r = .567$), activism programs (.679), worship programs (.600), environmental impact programs (.645), and education programs (.742).

These correlations differed only slightly when examining individual variables (not shown), with the exception of belief in the relevance of environmental issues to the

UMC, which had low or non-significant correlations to program interests and the lowest correlation with behaviors. Perceived relevance had the strongest correlation with barriers ($r = -.26$ and $-.17$), and no other variables correlated with the leadership and experiences barriers. From these results, we suggest that communicating the responsibility of individuals and the church, fostering beliefs in the efficacy of UMC and Christian environmental programs, and making UMC environmental principles more accessible and more salient might increase a number of program interests and the likelihood of performing activism behaviors. There is a strong connection between an environmental justice ethic and the UMC attitude factors, and encouraging this step might be an important step in a two-stepped process of promoting environmental concern.

Table 9c: Correlations of the role of the UMC with other factors

Other factors	Correlation with role of the UMC
Environmentally efficient behavior	.214
Environmental activism behavior	.567
Environmental awareness benefit	.758
Community building benefit	.494
Environmental activism programs	.679
Nature-based programs	.420
Worship programs	.600
Environmental impact programs	.645
Education programs	.742
Lack of support barrier	-.184
Lack of environmental expertise barrier	ns
Religious work/volunteer	.186
Church attendance	ns
Daily importance of religion	ns

1. All correlations significant at the 0.01 level (2-tailed)

4) Summary

The environmental concern of Holston Conference United Methodists is strongly influenced by their personal Christian faith, biblical principles, and outside influences. Secular influences had the strongest correlations with ecotheology, environmental attitude, program interest, behavior, and liberal political orientation. The influence of UMC principles was substantially lower and did not correlate with any form of behavior. For those who are influenced by UMC, its correlation to the constructs listed above is roughly equivalent to the Christian influences factor. Promoting greater understanding of UMC principles might lead to a modest increase environmental concern. The strength of outside influences on environmental concern might be attributed to greater time and engagement in secular

Correlations with environmental attitudes variables tended to be low. Among the attitude variables, support for fragility, comfort with environmentalism and its compatibility with Christianity, and belief that the state of the natural world is not where God wants it had the highest correlations, particularly with the Role of the UMC variables. Support for UMC responsibility, efficacy, and making environmental concerns a priority were strongly correlated with program interests and moderately with activism behaviors; awareness of UMC principles had no significant effects. Most people were unfamiliar with these principles, and raising this awareness could increase environmental concern. From the UMC's perspective, a multi-faceted approach that communicates biblical ethics, UMC principles and responsibility, and environmental literacy would encourage participation in new programs and environmental behaviors.

X. RESULTS: PROGRAMS, BARRIERS, BENEFITS, & ENVIRONMENTAL BEHAVIOR

A) Introduction

The primary purpose of our project is to promote deeper environmental concern in members and congregations of the United Methodist Church. Using data from surveys and focus groups, we hope to identify which creation care programs are of greatest interest to whom and which programs have the greatest potential to inspire ERB.

Additionally, we explored environmental programs with regard to perceived barriers and benefits, religious variables, and demographic variables. Lastly, we examined the correlates of willingness to lead or co-lead a creation care program. We hope insights from this portion of our research can guide the Holston Conference and the GBCS to develop and implement creation care programs that engage a wide range ecotheologies among United Methodist congregations.

B) Environmental Program Interests

Programs factored into five types: 1) environmental activism programs ($n = 7$), 2) nature-based programs ($n = 2$), 3) worship-based programs ($n = 2$), 4) programs that have a direct impact on the environment ($n = 2$), and 5) educational programs ($n = 4$). Factor analysis can be viewed in Table 10a, which shows individual variable means, factor means, factor loadings, and Cronbach's alpha. Factor loadings concern the degree to which an individual variable relates to some common concept with which all items share a relationship. For instance, one can see in the activism programs factor that an environmental committee and leadership training are a better fit (closer to the essence of this factor) than Earth Day programs. Three of the education variables double-loaded, but we believed it was appropriate to group them with this factor. Four other variables (sermons, retreats, community service, and environmental library) did not fit well in any factor and correlations were not analyzed.

Activism programs were the least desired (although still above neutral interest) with a mean of 3.32 on a 5-point scale. Leadership training was of substantially stronger interest than any other activism programs, with a mean of 4.25. Unexpectedly, donating money to environmental causes ranked second in this factor, with a mean of 3.80.

The contingent of disapproval for activism programs was substantial, with 14.4% scoring 2 or less and 27.7% scoring less than 3. This core of disinterest was more than twice as strong as any of the other programs except educational programs. Respondents with low or negative interest in activism programs typically had comments like this:

I have been a member of a very politically active church and the ministers and leadership lost sight of God and helping their members on their spiritual journey to God. I have no problem with environmental concerns and addressing them but I came to church for spiritual guidance not political guidance.

Interest for in educational programs was only slightly higher at 3.56. The remaining three factors all had means above 4.0, with the direct environmental impact factor being the highest at 4.21. Respondents were eager to educate fellow church members about how to adopt ERBs and to see their church take on stewardship projects such as recycling and energy conservation which reduce the building's ecological footprint. In our second round of focus groups, the program selected for actual implementation in all four churches was some variation of an impact-based program. These included the formation of a stewardship committee to guide environmental best practices, making one Sunday a month "green Sunday" when reusable mugs are used for coffee (which was "fair trade") and aluminum cans are collected from home, and an evening program to encourage household energy conservation. In addition to the tangible benefits of these programs, they seemed not to conflict with other church activities and members would have an easy choice of whether to participate or not. Surprisingly, the environmental justice ethic had a much stronger correlation (.587) to these programs than the stewardship ethic (.306). The high correlations for the justice factor and program factors (except nature-based) indicate that formal and collective action by the church is important to people with this orientation. It is possible that the stewardship ethic did not correlate highly with

environmental impact programs because people believe stewardship is an individual concern that requires little guidance:

It's more an individual thing than it would be a church concern. We have to thank Jesus our Lord and Savior that we don't need to be told to be good stewards of God's creation. That's been my feeling for a long long time that it's an individual thing. You can't legislate morality. You can put tremendous fines on litter or whatever but it has to begin right here am I willing to go out and pollute God's creation, this wonderful beautiful place that he's allowing me to live in? (focus group participant)

Factor analysis can be viewed in Table 10a, which shows individual variable means, factor means, factor loadings, and Cronbach's alpha. Factor loadings concern the degree to which an individual variable relates to some common concept with which all items share a relationship. For instance, one can see in the activism programs factor that an environmental committee and leadership training are a better fit (closer to the essence of this factor) than Earth Day programs. Three of the education variables double-loaded, but we believed it was appropriate to group them with this factor.

Table 10a: Variable groupings by factor; factor & variable means & factor loadings

Variables by factor	Means (out of 5)	Factor loadings within each category (α values)				
		Activism	Nature	Worship	Impact	Education
ACTIVISM	3.32	.936				
Env. committee	3.46	.770				
Leadership training	4.25	.760				
Donate money	3.80	.737				
Political activism	3.24	.735				
Partner with env. org.	3.63	.712				
Youth programs	3.67	.656				
Earth Day event	3.46	.529				
NATURE	4.13		.692			
Fellowship in nature	3.63		.744			
Beautification	3.21		.617			
WORSHIP	4.03			.755		
Prayer	2.83			.730		
Hymn	3.27			.612		
IMPACT	4.21				.774	
Guide members	3.41				.687	
Reduce church impact	3.88				.674	
EDUCATION	3.56					.878
Outside speaker	3.67	.444				.557
Discussion forum	3.99	.410				.544
Bible / Sunday school	4.27	.457				.520
Env. missions work	3.84					.490
DID NOT FACTOR						
Service project	4.00	.437	.410			.505
Library	3.80	.491				.495
Retreat	3.45		.509			.511
Sermon	3.23	.457		.465		

1. Faded r-vales display loading of the associated variables across multiple factor categories, and non-faded r-values display the loadings used in further analysis.
2. Extraction Method: Principal Axis Factoring
3. Rotation Method: Varimax with Kaiser Normalization
4. A rotation converged in 10 iterations
5. Factors (n ranged from 272 – 293; 226 valid listwise)
6. Factor means significantly different ($p < .000$ in one-way ANOVAs)

Interest in educational and nature-based programs was mixed. Educational programs are generally of less interest, which may reflect a perception of speakers, Sunday school lessons, and discussion forums as boring or unengaging. The environmental justice ethic had its highest correlation with educational programs, however ($r = .631$), and people with liberal or strongly liberal political orientations also rated this interest highly (mean = 4.20; see Table 10b). This interest was echoed by focus group participants who frequently spoke of the need to teach children about the value of environmental stewardship.³ We observed very significant differences ($p < .01$), one-way ANOVAs (see Appendix J) between program interests of conservatives and those of moderates and liberals for all programs except nature-based. Furthermore, the means for interest in educational programs were significantly different between moderates and liberals ($p < .01$). Differences in means between other programs were weaker but show the same trend (activism $p < .085$, worship $p < .052$, impact $p < .059$) We expect that with larger groups these differences would have reached significance at the $p < .05$ level.

Table 10b: Program interests vs. political orientation

Program Factor	Conservative (n = 102-107)	Moderate (n = 89-92)	Liberal (n = 55-56)
Activism	3.08	3.39	4.05
Nature-based	4.02	4.23	4.24
Worship	3.75	4.06	4.53
Environmental Impact	4.00	4.29	4.61
Education	3.21	3.71	4.20

1. Significant differences ($p < .001$) within all program factor means, except within the nature-based program factor. See Appendix J for ANOVA and Bonferroni results.

Interestingly, environmental missions activities (e.g. planting trees in developing countries) also loaded with this factor. Although the idea of environmental missions were unfamiliar to most respondents, most were supportive of these programs when they

³ It seems unlikely that childrens' programs would load on the activism factor rather than with the educational factor or not at all. It is possible that people see this as a proactive form of shaping future environmental leaders. Alternatively, this may be a function of the physical grouping of this question within other programs. This was the longest section of the survey and participants may have been fatigued by this point. The correlations between the activism factor with and without childrens' programs were checked and very consistent ($r = .994$), thus we kept childrens' programs in this factor for analysis.

thought more about it. Below is a commentary from one focus group about environmental missions (researcher's questions in *italics*):

"I don't think we do a lot of environmental work, it's more humanitarian."

"Do you see those as pretty separate?"

"Yes, they apparently are, when push comes to shove we separate them in our little world."

"Would env missions be a good thing for church to look at?"

"We should look at it but we don't...yeah definitely."

"I like the idea of environmentalism and humanitarianism going together, I don't see how it can't."

"Well, there is a concept called environmental justice that generally says that the poorest people live in the worst environments." (respondent comment)

"How do people feel about that as Christians?"

"It's a shame."

"It's a shame, it's not fair."

"You've got people here that probably don't have running water."

"I think we saw a lot of that on the gulf coast, you just don't think that's going to happen in America."

The means for both missions (3.63) and service programs (3.84) moderate, though they might be much higher if people had a better concept for the relationship between environmental quality and human quality of life. This might be a promising program area for the UMC to develop. Missions were brought up by others in survey comments and focus group discussions. In fact, many who seemed most resistant to

environmentalism liked the idea of there church (both locally and the UMC as a whole) being a leader in the creation care movement. One astute survey respondent writes:

This is a difficult survey to complete as it is too narrow focus. It doesn't establish the foundation for the church in relationship to the environment. In other words, I didn't see a set of questions that relate this issue directly to witnessing, feeding the hungry, spiritual growth, etc. I think it misses the mark on identifying where environmental projects fit – spend time in focus group study or install a filter on a person's well water so they have better water to drink, how do we use environmental projects to take the gospel to a last and dying world. At least the survey mentions a mission trip. But mentions nothing about being employed in a job that is directly associated with making the environment better. The environment is cleaner now in the U.S. than it was 30 years ago, but much remains to be done in the world. The survey doesn't get you to that point – just creating more programs in the church that folks are too busy to participate in – the focus ought to be the message of Jesus Christ and the tools we use to get that message out.

Nature-based programs such as church-beautification were generally desirable: "All churches should do a better job in making their landscaping attractive, the very first impression of an individual is how they dress. What is a visitors first impression on their first visit?" For people with a justice orientation, nature-based programs were relatively unimportant when compared with other program interests ($r = .282$; among justice and other program interests $r > .5$). Folks holding a reverence perspective are particularly amenable to nature-based programs ($r = .349$).

Unexpectedly, program interests had no significant correlations with interest in leading, barriers, or level education. Program interests did correlate positively with women and liberal political orientation and negatively with age and income, which reflects a general trend in environmental attitudes. These correlations were generally weak, although somewhat higher with education and activism programs ($r = .376$ and $.349$, respectively). Although a more liberal orientation is associated with higher program interest, there was no significant correlation between strongly conservative or conservative respondents and program interest.

This finding suggests that the liberal members will be the active leaders and implementers of these different programs. This will, perhaps, increase the difficulty in prescribing programs for the church because there is a core of resistance at most and at worst a feeling of ambivalence (36.8% were neutral) toward the environmental movement. This is indicated with both environmental activism programs and the environmental justice ethic scoring the lowest in the survey. This poses a problem for the UMC in implementing its environmental policies. This also poses a problem for people interested in activism programs -- they may find it hard to be peacemakers and not resistance builders as they pursue these ministries.

None of the other demographics showed strong relationships with the different programs. However, there was a high correlation between UMC principles and program interest. The highest correlation was with activism programs. It is likely that enhancing the perceived credibility, efficacy, and belief in UMC responsibility would encourage activism interests. This means that most people varied greatly on which type of program they saw as beneficial to their congregations.

With regard to the relationships between the different programs, environmental activism programs and bible and church activities showed the strongest relationship ($r=0.801$). In fact all programs showed the strongest relationship with education programs. This may be a function of how these congregations view the importance of their faith as the guiding force behind environmental efforts. For any program to be a success there needs to be a built in religious component.

Table 10c: Correlations between program factors and other factors grouped by category

Other factors	Program factors				
	Activism	Nature	Worship	Env.'l impact	Education
<i>ECOTHEOLOGIES</i>					
Environmental justice	.587	.282	.511	.572	.631
Reject gnostic	.202	ns	.125*	.186	.202
Reverence	.318	.349	.360	.295	.319
Stewardship	.255	.255	.330	.306	.283
<i>INFLUENCES</i>					
Christian	.222	ns	.252	.321	.282
UMC	.327	.169	.312	.351	.372
Secular	.580	.342	.439	.464	.519
<i>ATTITUDES</i>					
Fragility	.516	.251	.452	.444	.532
Role of the UMC	.679	.420	.600	.645	.742
<i>PROGRAM INTERESTS</i>					
Activism		.493	.562	.564	.796
Nature-based	.493		.480	.438	.484
Worship	.562	.480		.450	.666
Environmental impact	.564	.438	.450		.652
Education	.796	.484	.666	.652	
<i>BARRIERS</i>					
Lack of support	ns	ns	ns	ns	ns
Lack of expertise	ns	ns	ns	ns	ns
<i>BENEFITS</i>					
Environmental awareness	.715	.423	.556	.696	.713
Community building	.577	.431	.411	.464	.527
<i>ENVIRONMENTAL BEHAVIOR</i>					
Efficiency	.169	.165	.157	.229	.144*
Activism	.634	.296	.477	.397	.543
Recycling	.160	ns	.128*	.297	ns
<i>RELIGIOUS VARIABLES</i>					
Religious work/volunteer	ns	.204	.149*	.146*	.165
Church activities	ns	.124*	ns	ns	ns
Religion in daily life	ns	.119*	ns	.128*	ns
<i>DEMOGRAPHICS</i>					
Sex	ns	.175	.192	.129*	ns
Age	ns	-.141*	ns	ns	-.152*
Education					
Income	-.192	ns	-.136*	ns	-.160*
Politics	.365	ns	.308	.265	.376

1. All correlations significant at the 0.01 level (2-tailed), unless marked by an * denoting significance at the 0.05 level (2-tailed).
2. ns = not significant; n ranged from 231-290

Overall, all programs showed a positive relationship with each other. Education programs correlated very strongly with activism followed by worship and environmental impact programs. However there does not need to be a sharp distinction made among them. A Sunday school lesson might well include a prayer about creation, an educational component, and efforts to guide members to reduce their personal environmental impact. It could even be taught in a natural setting. Because churches are already inundated with ministries, events, and other programs, a multi-dimensional program that appeals to diverse interests and perspectives of the congregation is more likely to be successful.

3) Leadership Roles

When asked if they would like to lead or co-lead an environmental program the majority of people answered no at 61.7% (see Table 10d). When looking at correlations we excluded cases where ‘no’ was the response and looked at just people who answered yes and maybe (38.2%). There were no significant relationships between leading programs and people’s biblical ethics, influences and attitudes, age, or political orientation. There were some differences between leaders and non-leaders, however. Leaders scored significantly higher on rejection of mastery, Christian influence, awareness of UMC environmental principles (see Table 10e). Potential leaders were significantly younger as well, by approximately 9 years ($p < .0001$). Trends were also observed toward lower perceived expertise barriers, environmental awareness benefits, interest in nature and educational programs, support for UMC environmental responsibility, working for church, and activism behaviors, although these trends failed to achieve significance at the $p < .05$ level. Surprisingly, the biblical ethics and belief in environmental fragility were not different between potential leaders and non-leaders. We suggest interest in leading a program has to do with one’s perceived efficacy as a leader, with other religious and environmental factors of less importance. Leaders can be supported by providing resources that provide information about environmental issues, highlight the role of the UMC, and communicate the willingness and enthusiasm of the church to participate.

Because only one or two leaders are needed in each congregation, this rate of interest ensures there will be an ample supply for each church.

Table 10d: Willingness to lead or co-lead an environmental program

Will lead or co-lead environmental program	Frequency	Percent
No	156	61.7
Maybe	41	16.2
Yes	56	22.1
Total	253	100.0

Table 10e: Difference between leaders' & non-leaders' mean responses to other factors

For ANOVA results, see Appendix J

Other factors	Leaders	Non-Leaders
Mastery	6.36*	5.70*
Christian influence	6.06*	5.53*
Role of UMC	5.63**	5.29**
UMC aware	4.09*	3.28*
Nature programs	4.25**	4.03**
Education programs	3.68**	3.37**
No expertise	2.85**	3.22**
Awareness benefit	4.02**	3.72**
Efficiency behavior	2.99**	2.69**
Church work	1.95**	1.85**
Age	3.83	4.71

1. Correlations significant at the 0.01 level (2-tailed), unless marked by an * denoting significance at the 0.05 level (2-tailed) or ** denoting significance at the 0.15 level (2-tailed)
2. n ranged from 39-154

With regard to leading or co-leading a program, the barriers were somewhat correlated at around $r=0.200$. This may be due to lack of resources provided by the UMC or that they are just not comfortable in their congregation toward leading program regarding the environment when there are already so many other programs in churches. Some potential leaders also see lack of environmental expertise as a potential barrier toward leading a program ($r=0.272$).

4) Potential Barriers

The means for the potential barriers were 3.02 out of 5 (5 being a “major barrier”) for the lack of support barrier and 3.20 for the lack of environmental expertise barrier. This shows that our population sees lack of support and lack of environmental expertise as moderate barriers. The lack of expertise barrier is a perception of few resources and capable leaders. Allaying this barrier should not be difficult. Pastors should have no trouble finding capable leaders and the UMC could take steps to publicize its creation care resources. The lack of support barrier is more troubling and is reflective of the skepticism mentioned earlier. Disagreements about Christian compatibility with environmentalism, time, and competing ministries are more difficult to diffuse. Below is a sampling of anti-environmental sentiment that could obstruct the implementation of environmental programs:

“I enjoy the outdoors and many outdoor activities. You probably will not believe that statement when you read my answers to your slanted survey. I think the church can do things, such as recycle, turn off lights, etc. to conserve. However, I believe my tithes and offerings should be spent on other, more important ministries.”

“We have much more to do in terms of basic faith and evangelism to waste time and resources on this issue. If we are to be good stewards of our finite times and resources we should be focused on evangelism, faith development, and basic needs charity (food, clothing, health, housing). When these are done, and done well we can look at peripheral issues such as this – hardly a care not to fall into nature worship and pagan idolatry.”

Perhaps this respondent’s charitable intentions could be channeled to environmental service and missions by reframing what constitutes a high standard of living.

Apathy or too few participants may also reduce the effectiveness of environmental programs, as demonstrated here by a focus group discussion:

“I think part of it is the apathy of the people, it takes people it takes motivation...I went before the school, I went to the church, I went before the school board, I went to the PTA, that’s personal for me because my son died at 23 with a brain tumor.”

“Is it apathy that preventing the necessary protections or are people simply not capable and lacking the resources to take care of issues like this?”

“I think overall people are afraid to stir the pot, I don’t want to cause ripples, one or two people can’t do much but if you get a movement going.”

“Apathy stems from not having any resources or thinking that you don’t have the resources, but we can have the resources to do anything we choose to do, if choose to do it and to pursue it and choose to search for those resources than we can find them I agree but just thinking that oh its trouble to look for it, we don’t have that here, I think apathy stems from that.”

As Christians, then, is this a worth cause to be devoting our efforts to?

“If we don’t do it, who will?”

“Numbers are a key, if all of us went down to the board of supervisors tonight and stood up and we talked to them and we talked to them individually, this would make more of a difference than just one or two going, it takes numbers.”

As we got into our research, we were generally surprised to see so much support and less frequent and strong opposition. Others, too, were sentimental of environmental programs succeeding in Appalachia:

This congregation is primarily composed of upper / middle-class southern-minded conservatives, and most upper / middle-class conservatives do not care the last bit about bettering the environment. Environmental activism is a dead from the start issue in a southern-minded conservative thinking congregation. I GREATLY appreciate your effort.
GOOD LUCK!

It turns out barriers are not so insurmountable as one might think. In spite of lack of time and the occasional touchiness of the environmental issues, finding a niche for *some* form of environmental involvement is possible in every church.

5) Benefits:

Benefits factored into two categories: 1) Environmental awareness (mean = 3.91 out of 5.00) and 2) Community bulding (mean = 3.59) for community building benefit. All programs showed a strong relationship with the potential benefits of the program (r values ranged from .41 to .72). Nature-based programs and worship programs showed the weakest relationship with the potential benefits. Environmental awareness as a benefit showed a stronger relationship with the different programs than the community building benefit, particularly for activism, impact, and educational programs. Both this correlation and the survey results for these benefits suggest that environmental awareness is valued more than community building. Churches already have a number of programs that build community, whereas increasing environmental awareness would be a unique benefit. By emphasizing a combination of benefits, churches may raise interest and support for environmental programs.

6) *Pro-environment Behavior*

One of our hypotheses is that pro-environment behavior may make a person inclined to participate in environmental programs within the UMC. It was important that we assessed the environmental practices within the Holston Conference congregations with regard to this type of behavior. We would like to recommend to the UMC what types of behaviors are common among their congregations and assess the possible barriers to implementing environmental programs.

Energy saving behaviors and recycling were performed most often (means from 4.12 – 4.56; 1 means “never” and five means almost always “almost always”). Composting, vegetarianism, and carpooling, and air-drying the laundry were less common, with means at or below 2.60.

Environmental behaviors factored into two categories: 1) environmentally efficient behaviors (three electricity-saving measures and water conservation; mean = 4.21) and 2)

environmental activism (volunteer and voting green; mean = 2.86). The two factors were only weakly correlated ($r = 0.163$), meaning they exist largely independently of each other. The fact that the stewardship ethic had the highest correlation with efficiency behaviors ($r = .312$) and the justice ethic with activism behavior ($r = .440$) corroborates this finding (see Table 10f).

Table 10g: Correlations between environmental behaviors & other factors grouped by category

Other factors	Environmental behaviors			
	Efficiency	Activism	Fuel-Eff. Vehicle	Recycle
<i>ECOTHEOLOGIES</i>				
Environmental justice	.195	.440	.188	.239
Reject gnostic	ns	0.189	ns	0.161
Reverence	0.184	0.240	ns	ns
Stewardship	0.312	0.236	0.191	0.121*
Mastery	0.125*	0.188	ns	0.179
<i>INFLUENCES</i>				
Christian	0.181	ns	ns	0.119*
Secular	0.233	0.526	0.243	0.244
UMC	0.204	0.127**	ns	ns
<i>ATTITUDES</i>				
Fragility	ns	0.424	0.199	0.168
Role of UMC	0.214	0.567	0.236	0.180
<i>PROGRAM INTERESTS</i>				
Activism	0.169	0.634	0.180	0.160
Nature	0.165	0.296	0.126*	ns
Worship	0.157	0.477	0.249	0.128*
Environmental impact	0.229	0.397	0.140*	0.297
Education	0.144*	0.543	0.198	0.170
<i>BARRIERS</i>				
Lack support	-0.172	ns	-0.121**	ns
Lack expertise	ns	-0.146*	ns	ns
<i>BENEFITS</i>				
Environmental awareness	0.228	0.592	0.232	0.287
Community building	0.169	0.359	0.189	ns
<i>BEHAVIORS</i>				
Efficiency	1	0.163	0.318	0.185
Activism	0.163	1	0.169	0.273
Low-fuel vehicle	0.318	0.169	1	ns
Recycle	0.185	0.273	ns	1

1. Correlations significant at the 0.01 level (2-tailed), unless marked by an * denoting significance at the 0.05 level or ** denoting significance at .056 level

2. ns = not significant; n ranged from 219-277

Our sample was more likely to practice environmental stewardship at home but less likely to have adopted more activist behaviors. Behaviors generally had low correlations with demographic variables and replicate previous findings of many studies. The association between liberal political orientation and activism behaviors was more striking ($r = .480$) (see Table 10g). However, it is interesting that political orientation has no effect on environmentally efficient behaviors ($r=0.022$). This may implicate that these behaviors have universal motives other than helping the environment, such as frugality.

Table 10g: Means (out of 5) of environmental behaviors for all respondents & for liberals only

Environmental behavior	Mean	
	All	Liberals
Compost	2.42	2.72
Recycle	4.32	4.55
Minimize toxics	3.68	3.86
Turn off appliances	4.56	4.47
Buy efficient	4.27	4.33
Save water	3.91	3.86
Lower heat / AC	4.12	4.09
Air-dry clothing	1.73	1.72
Fuel-efficient vehicle	3.42	3.59
Carpool	2.34	2.47
Volunteer or give money to env.	2.47	3.40
Vote green	3.22	4.37
Buy local foods	3.43	3.55
Eat less meat	2.60	2.91

1. For “All,” n ranged from 263-285
2. For “Liberals,” n ranged from 56-58

XI. RESULTS: SEMINARY

We spoke with the director of clergy services, who informed us that roughly ¼ of Holston Conference pastors had degrees from each of the following seminaries: Asbury, Duke, and Candler at Emory. The remainder completed the United Methodist Course of Study. We contacted staff and faculty at each institution to request them to inform students of a ten-minute survey on the web (see Table 11a; Appendix G). Most responses were from Duke, with a smattering of others from several other seminaries. Faculty members were also asked to complete a survey specific to their position, though too few were obtained for anything beyond qualitative analysis.

Table 11a: Means for seminary student survey by question

Question	Mean
# of ecotheology courses taken/will take	1.05*
Competence with environmental issues critical to career	5.7
Interest in ecotheology course	5.26
Peer interest in ecotheology	5.11
Faculty interest in ecotheology	5.37
Environmental knowledge	5.31
Ecotheology knowledge	5.35
Seminaries responsible to teach ecotheology	6.2
Plan be UMC pastor	4.83
Politics (liberal higher)	3.25**

1. *Mean for number of courses students had addressing environmental concerns
2. ** All scores on a 1-7 scale (1 = strongly disagree, 7 = strongly agree), except politics (1=strongly conservative, 5 = strongly liberal).

Students were asked to write down all the courses they had taken which covered Christian environmental ethics or theology. The more courses one had, the more likely one was to consider engaging environmental issues as a critical career responsibility ($r =$

.378*) (see Table 11b). This career responsibility variable also had moderate positive correlations with interest in taking a course covering environmental issues ($r = .506$), perceived peer environmental interest ($r = .392$), self-evaluated environmental knowledge ($r = .387$), biblical environmental knowledge ($r = .294^*$), seminary responsibility to educate about environmental issues ($r = .464$), and liberal political orientation ($r = .331$). It is clear that seminary courses that address environmental issues and the importance of Christian environmental responsibility do have an important influence on how students intend to engage environmental issues in their career.

Table 11b: Correlations between variables for seminary students

	Courses	Critical Career	Course Int	Peer Int	Fclty Int	Env Knwlq	Bib Knwlq	Sem Resp	UMC Pastor	Age	Politic
Courses	x	.378*	ns	ns	.423*	ns	ns	ns	.332*	ns	ns
Critical Career	.378*	x	.506	.392	ns	.387	.294*	.464	ns	-.288*	.331*
Course Int	ns	.506	x	.334*	ns	ns	ns	.445	ns	ns	ns
Peer Int	ns	.392	.334*	x	.531	ns	ns	ns	ns	ns	ns
Fclty Int	.423*	ns	ns	.531	x	ns	ns	ns	ns	ns	ns
Env Knwlq	ns	.387	ns	ns	ns	x	.588	.431	ns	ns	ns
Bib Knwlq	ns	.294*	ns	ns	ns	.588	x	.327*	ns	ns	ns
Sem Resp	ns	.464	.445	ns	ns	.431	.327*	x	.307*	-.335*	ns
UMC Pastor	-.332*	ns	ns	ns	ns	ns	ns	-.307*	x	.378	-.317*

1. Correlations significant at the 0.01 level, unless marked by an * denoting significance at the 0.05 level
2. Bolded & underlined correlations are of particular interest

There were a few negative correlations that should concern the UMC. First, those who had taken more courses also had lower intentions of becoming UMC pastors ($r = -.322^*$).

Those who will be in the pulpit with the potential to guide environmental efforts in their congregations do not take courses that would train them in this area. On the contrary, there was no significant correlation between course interest and pastoral intent. Future pastors may have additional interests in courses on preaching, liturgy, counseling etc. that override their environmental interests. Alternatively, those who are interested in becoming pastors may be less aware that ecotheology courses exist. Given that those intending to be pastors are older and more politically conservative, they may be less proactive about seeking courses with an environmental focus, even though they expressed an equivalent interest in taking them. Seminaries ought to make special efforts to inform their students of environmental course offerings. The other possibility, however, is that interest in becoming a UMC pastor is negatively correlated with seminary responsibility to teach about environmental issues ($r = -.307^*$). This difference could be a relic of age and political orientation or different academic needs.

Pastoral interest, expertise, and leadership on environmental issues is critical for promoting environmental concern within churches. Several of the most prominent seminaries attended by future Holston Conference United Methodist pastors now offer courses that address environmental issues as they relate to theology and Christian ethics. This is not the case for Course of Study students, who follow a more rigid course schedule, intended to expedite ordination.

In our research on seminaries, we also interviewed a few faculty members, received surveys from several more, and interviewed the assistant general secretary of the General Board of Higher Education Ministries (GBHEM). There was general consensus among these respondents that environmental topics are important to cover and that students are interested to learn about them. Given pressure to cover a vast array of theology, professors agreed that integrating environmental concerns into existing courses, especially ethics courses, is preferable to teaching entirely separate courses. Faculty believed that integrating ecotheology and teaching on creation care should be up to their discretion, and that any stand-alone courses should not be mandated. The seminaries have considerable autonomy when deciding how to integrate “secondary” Christian

concerns such as the environment. Furthermore, we were informed the GBHEM is unlikely to change this mandate, and opportunities to do arise only every four years, with the next coming in 2010. Course of Study faculty were particularly concerned about additional requirements in an already packed schedule. In lieu of faculty concerns, we believe the most reasonable approach for individual seminaries and the GBHEM is to hold discussions with faculty for how they might incorporate environmental concerns into their courses. Also helpful would be to inform students of this field and relevant literature and to provide extra-curricular opportunities for ecotheological training. Lastly, seminaries should communicate their expertise in the field to current pastors in the Holston Conference who wish to more competently lead their congregation in environmental issues.

XII. RECOMMENDATIONS

A) Theology

Ecotheologies have significant relationships with environmental attitudes, support for UMC environmental efforts, program interests, and behavior. The environmental justice ethic generally has much more substantial correlations with these dependent measures. In the case of environmental efficiency behaviors, stewardship has the highest correlation. In light of these findings, we recommend to the UMC:

1) *Pay special attention to raising awareness of an environmental justice ecotheology.*

Passages about caring for the poor (e.g. James 2:14-17) and loving one's neighbor (e.g. Matthew 22:39) should be explicitly linked to environmental justice. The UMC should develop an index of environmental justice theology for pastors, Sunday school teachers, and Bible study leaders. This resource should also include local and global case studies of how environmental degradation has harmed humans, and an explanation of how current environmental behaviors affect the lives of one's neighbors.

2) *Develop a practical definition of stewardship for both members and congregations.*

A biblical environmental stewardship ethic has strongest relationship to environmental efficiency behaviors such as reducing energy and water use. Members of the Holston Conference showed very strong support for this ethic, and would be receptive to appeals to apply this ethic to a number of different behaviors. Highlighting biblical examples of environmental stewardship (e.g. Noah as the first conservation biologist, Sabbath years for fields) should be used to spur people to consider how they might reduce their personal and church environmental impacts. Every behavior in our lives has some effect on the environment. The UMC should work to expand the notion of stewardship to include practices like energy conservation, an environmentally-friendly diet, and a simple, non-material lifestyle.

3) Promote a low-consumption lifestyle.

The environmental effects of materialism are the least recognized among respondents. Purchasing consumer products requires extracting raw materials and using energy and other resources in manufacturing and transportation. At the end of a product's life, more resources are used to dispose of it, and toxins and other pollutants may be released into the environment. The Bible has much to say on living simply and warns against storing treasures on earth rather than in heaven (Matthew 6:18-20, many passages in the Book of Ecclesiastes). Furthermore, God's simple but ample provisions for humans are apparent in the manna He offered during the exodus (Exodus 16:32), in His provisions for sparrows and lilies (Matthew 6:25 – 6:34) and in the feeding of the 5,000 (e.g. John 6:1-13). Promoting a simple, low-consumption lifestyle ties in to both the reverence and environmental justice ethics.

B) UMC Environmental Statements

The UMC has extensive statements on its responsibility to care for creation care in the Book of Discipline and the Book of Resolutions. These statements implore individuals, congregations, and other ministries of the UMC to respond to environmental problems.

1) Teach about principles and statements on the natural world in Sunday school, Bible studies, and sermons.

A minority our respondents and focus group participants predicted that UMC doctrine has something to say about environmental issues, and most were interested in learning more. Pastors, too, had some basic awareness of these principles but only a few brought these to the attention of their congregation. Stronger agreement that the UMC is both capable and responsible for environmental solutions is positively correlated with higher levels of program interests and ERB. Belief in the role of the UMC to care for the environment also correlated with lower perceived barriers to starting new church programs. Informing

members of existing UMC environmental statements is an important approach for promoting church-wide stewardship.

2) Make UMC environmental principles easier to locate.

Rarely do lay members or even pastors thumb through UMC doctrine to learn about its environmental principles. The link to the “natural world” principles on the GBCS website is a good example of how the church could make other doctrines more salient.

3) Apply environmental principles to UMC ministries.

The environmental resolutions and statements articulated in UMC doctrine need more concrete support. The work of many UMC ministries could be directly tied to achieving the environmental goals of the Church. For instance, the General Board of Global Ministries could undertake environmental projects in developing countries to benefit both people and creation. The General Board of Higher Education and Ministry could expand environmental course offerings in UMC colleges and seminaries.

A UMC resolution suggests that the overarching General Council on Ministries oversee the environmental efforts of other ministries:

Initiate basic research on the changing attitudes on environmental issues among United Methodist members. Request each United Methodist agency to include an evaluation of their corporate action taken toward sustainable environmental practices as a part of their 1995-96 Quadrennial Report. (GBCS, UMC, 2004).

Adhering to this resolution would help ministries fulfill the UMC’s goal to make creation care a church-wide concern.

4) *Create an environmental stewardship office.*

The intention to bring environmental concerns throughout the ministries of the UMC should be supported by funding and staff to oversee this effort. Staff could serve as consultants to start dialogue with each ministry and determine how they should apply the UMC's environmental principles. Furthermore, the office would be responsible for evaluation and providing resources to help ministries operate more sustainably and incorporate environmental concerns into their missions.

C) Programs

1) Survey congregations to determine program interests.

While we have observed some universal program interests, each congregation should have an opportunity to voice their preferences. We have developed a short, one-page survey for this purpose. Once interests are determined, program leaders can identify appropriate ways to support these efforts with ecotheology, UMC doctrine, and education about relevant environmental issues. Program interests can also guide which ERBs individuals and congregations would be most receptive to adopting.

2) Focus on programs that have a direct environmental impact.

Both survey respondents and focus group participants rated programs that aim directly reduce environmental impact most highly. The benefits of encouraging people to be better stewards in their own lives and of making church facilities more efficient were both appreciated. Impact-based programs will motivate individuals and congregations to implement environmentally-friendly practices and technologies. Providing information for how to perform ERB and background to the environmental issues they attempt are also major components. Strategies that provide social support, behavioral feedback, and an initial commitment to the behavior are recommended. Research on ERB has shown

that intrinsic satisfactions from adopting a new behavior are more durable than extrinsic, reward-based programs (DeYoung, 1996).

3) Implement longer-duration programs.

Many churches make occasional efforts to acknowledge environmental issues, such as the annual Earth Day sermon. These programs are a step in the right direction, but lack the continuity necessary to promote a strong environmental ethic. We recommend programs that last for a few weeks or months, such as Bible studies or other educational programs, regular communications in the newsletter, mission projects, and creation care devotionals. Including hymns and prayers in services would be valuable reminders of the sacredness of creation.

4) Offer a wide selection of resources for Christian environmental programs.

Starting a new program can be a very time-intensive process, particularly if the leaders are unaware of guiding resources. There are many engaging resources for leaders to use, such as Bible study curricula, ecotheology books, films, volunteer speakers from environmental groups, and programs at local parks. Making these resources known and available would make for better experiences of both leaders and participants. As of April 2006, the project team is in the process of compiling and evaluating an extensive list of resources that can be used by the UMC.

5) Facilitate communication about environmental programs among churches.

Learning about the successful experiences of other churches can inspire and guide congregations to start their own programs. After our survey was posted on the Holston Conference website, we started to get emails from members about programs they were leading or interested in developing. There is no doubt that at least a few dozen churches in the Conference have environmental stewardship activities in place. We suggest that the UMC ask congregations about their environmental involvement and make case

studies of their experiences available on the website or upon request. Similarly, churches should be encouraged to invite members of nearby UMCs (and other denominations) to participate and see these programs in action.

6) Support congregational efforts by helping them to locate grants.

As a non-profit organization, many grants are available to help churches purchase energy efficient vehicles, invest in alternative energy projects, or buy educational curricula. In November 2005, the Holston Conference Peace w/ Justice Committee agreed that it would offer small grants, which could be applied to environmental projects and programs. The National Religious Partnership for the Environment offers Creation Care Awards in response to successful environmental efforts, and numerous foundations offer support as well. A little bit of seed money can go a long way in helping congregations to pursue an environmental ethic.

D) Overcoming Skepticism

The majority of people we talked with and surveyed supported this effort by the UMC to promote creation care. This support was not universal, however, and a number of people felt that environmental programs and even dialogue about the environment have no place in the church. When we had the opportunity to talk with this resistant group, it turned out many were amenable to certain aspects of environmentalism. While they may not have wanted environmental issues to become a priority in church, they believed strongly in each individual's responsibility to be a good steward. They considered impact-based programs to guide people to more sustainable lifestyles acceptable, and some were even interested in the idea of stewardship as a form of Christian witness (i.e. God using the ERBs of churches as evidence of His grace and glory). To our amazement, one adamant skeptic quickly reversed his perspective and went on to become the leader of a new environmental committee at his church. We suggest one-on-one or small group interactions as safe spaces to address these concerns. In sum, reframing environmental issues as Christian concerns, highlighting supportive UMC doctrine, and ensuring

opportunities for open dialogue are strategies to combat resistance to environmental programs.

E) Leadership

One goal of the project was to help churches develop and implement environmental problems. As facilitators of this process in the four intensive involvement churches, we had a chance to see the start of several programs. The enthusiasm of just a few leaders is perhaps the most important factor in determining a program's success. No matter how interested a congregation, this interest cannot be exercised without leadership. In several of our survey churches there were upwards of a dozen people willing to lead an environmental program, but the training and motivation were lacking. We recommend that the UMC encourage leadership development in both clergy and lay members.

1) Equip seminaries to support leadership and expertise in ecotheology.

Seminaries have a great opportunity and a responsibility to see that future pastors are capable of engaging environmental issues from a Christian perspective. Our data show that students have a high degree of interest in environmental issues and would enjoy more opportunities to learn about ecotheology. Seminaries can accomplish this with a number of academic tools, such as encouraging faculty to teach environmental interpretations of Scripture, acquiring an ecotheology library collection, and hosting seminars, workshops, and conferences.

2) Encourage clergy to engage environmental issues in their congregations.

Pastors have demanding schedules that often preclude thinking about how to promote creation care in their churches. Most pastors indicated some comfort with discussing ecotheology and creation care with their congregations, but additional training would increase this confidence. Something as simple as offering them a short book on the topic might be appreciated. In some cases pastors wanted more competence for discussing the

science of environmental issues. Again, a concise overview of the main environmental issues would make them feel more at ease.

Pastors do not need to become experts to cultivate an environmental ethic in their churches. Members of the community look to them not only for spiritual information, but also as role models for how to live the Christian life. Modeling ERB by driving a hybrid vehicle or installing solar panels at the church parsonage would be a very visible commitment to care for creation. The UMC could offer incentives to make these behaviors more appealing. Finally, pastors could simple inform their congregation that creation care programs are welcome and that she or he would be supportive of anyone willing to take the lead. Pastors will likely know which members with potential interest and could cheer them to use these skills for the church.

3) Disciple a few lay members of each church to be Christian environmental leaders.

Our survey shows that many lay members are willing to lead environmental programs, they just need the opportunity and the motivation to do so. The Presbyterian Church (PCUSA) has about 70 members that serve as full-time environmental outreach consultants to train leaders and conduct programs. We recommend that the UMC recruit volunteers to serve as such consultants, both in their own congregations and neighboring ones. The UMC should provide training for these members and access to program resources to facilitate their endeavors.

4) Make camps a center for environmental education and leadership training.

Several camps in the Holston Conference already have a strong commitment to environmental education programs for children they serve over the summer and school groups that visit year-round. We recommend that these facilities be developed to model environmental stewardship (e.g. run on renewable energy, compost, grow organic vegetables, etc.). As models, camps could also host retreats and training workshops for both clergy and lay members wishing to promote creation care in their congregations.

The beautiful, rustic settings of these camps would make for an ideal venue to discuss creation care and encourage putting this ethic into practice.

FINAL INSPIRATION:

“The overarching assumption is always the urgency of the need for action, an unrelenting theme among Protestant environmentalists. Implicit in this assumption, of course, is a considerable faith in what action can accomplish. Few believe that action can magically solve all ecological problems, but many insist that action is possible, is valuable, and can make all the difference. Change is not going to be easy, but most Protestant environmentalism expresses confidence that humans have the potential to act wisely to assist creation. Moreover, green Protestants have faith that God will not forget creation, that God’s grace will bless both it and those who act for it” (p. 142, Fowler, 1995).

XIII. APPENDICES

Appendix A: UMC Environmental Statements

(For full text of statements, access the website following this list)

1. Use of Reclaimed Paper, 1972
2. Law of the Sea, 1980, 1996
3. Energy Policy Statement, 1980, 2000
4. Environmental Stewardship, 1984
5. Common Heritage, 1984
6. Indoor Air Pollution, 1988
7. Environmental Health and Safety in Workplace and Community, 1988, 2000
8. Black-Owned Farmland, 1988
9. Environmental Justice for a Sustainable Future, 1992
10. Environmental Racism, 1992
11. New Developments in Genetic Science, 1992, 2000
12. God's Creation and the Church, 1996
13. U.S. Agriculture and Rural Communities in Crisis, 1996
14. Affirming the Household EcoTeam Program, 1996
15. A Dioxin-Free Future, 1996
16. Steps Toward a Dioxin-Free Future, 1996, 2000
17. Nuclear Issues, 1988, 1992
18. Caring for Creation—A Study from a Native American Perspective, 2000
19. Cease Mountaintop Removal Coal Mining, 2000
20. Environmental Law — The Precautionary Principle, 2000
21. Recycling and the Use of Recycled Products, 2000
22. Family Farm Justice, 2000
23. Our Social Principles: The Natural World

From: <http://www.toad.net/~cassandra/downloads/anth/meth.pdf>

Appendix B: UMC Statement: The Natural World

All creation is the Lord's, and we are responsible for the ways in which we use and abuse it. Water, air, soil, minerals, energy resources, plants, animal life, and space are to be valued and conserved because they are God's creation and not solely because they are useful to human beings. God has granted us stewardship of creation. We should meet these stewardship duties through acts of loving care and respect.

Economic, political, social, and technological developments have increased our human numbers, and lengthened and enriched our lives. However, these developments have led to regional defoliation, dramatic extinction of species, massive human suffering, overpopulation, and misuse and overconsumption of natural and nonrenewable resources, particularly by industrialized societies. This continued course of action jeopardizes the natural heritage that God has entrusted to all generations. Therefore, let us recognize the responsibility of the church and its members to place a high priority on changes in economic, political, social, and technological lifestyles to support a more ecologically equitable and sustainable world leading to a higher quality of life for all of God's creation.

2004 BOOK OF DISCIPLINE, SOCIAL PRINCIPLES ¶160,

<http://www.umc-gbcs.org/site/pp.asp?c=fsJNK0PKJrH&b=459529>

Appendix C: Congregational Survey & Diagnostic Survey

(not distributed in color; appeared in 4-page 8 x 11" booklet)

NOTE: (R) stands for “recoded”, meaning the values were scored in reverse so that higher responses indicate a more pro-environmental ethic.

1) Congregational Survey



Discerning and Following God's Plan For the Earth: A Survey for the Holston Conference



**1) Please help us to better understand the connection
between your religious convictions and your attitudes
toward the natural world:**

God has entrusted us with the responsibility of caring for nature.	X	1	2	3	4	5	6	7
(R) God intends for people to rule over nature as they see fit.	X	1	2	3	4	5	6	7
All of nature is sacred.	X	1	2	3	4	5	6	7

Don't know	Strongly Disagree			Neutral			Strongly Agree

I value opportunities to connect with God in nature.	X	1	2	3	4	5	6	7
God's character is revealed by the natural world.	X	1	2	3	4	5	6	7
Actions that harm the natural world are sinful.	X	1	2	3	4	5	6	7
Environmental impacts that disproportionately harm the poor, minorities, and the disenfranchised are a significant concern of mine.	X	1	2	3	4	5	6	7
Human quality of life depends on the well-being of the natural world.	X	1	2	3	4	5	6	7
I am concerned about present environmental impacts affecting the quality of life of future generations.	X	1	2	3	4	5	6	7
(R) God will destroy the earth on the Day of Judgment.	X	1	2	3	4	5	6	7
(R) The natural world is under the power of God's sovereign will.	X	1	2	3	4	5	6	7
(R) God cursed the environment in response to the fall of humanity.	X	1	2	3	4	5	6	7
(R) Only concerns associated with the spiritual realm concern me.	X	1	2	3	4	5	6	7
(R) Devoting efforts to protect the environment is a form of idolatry.	X	1	2	3	4	5	6	7
(R) God would not let humans damage the earth beyond repair.	X	1	2	3	4	5	6	7
The Bible clearly tells us to care for the natural world.	X	1	2	3	4	5	6	7
(R) It is difficult to determine how the Bible instructs us to treat nature.	X	1	2	3	4	5	6	7

2) Please tell us how strongly each of the following influences your concern for the natural world:

	Don't know	Very little			Somewhat			Very much
Biblical principles.	X	1	2	3	4	5	6	7
United Methodist principles.	X	1	2	3	4	5	6	7
My personal Christian faith.	X	1	2	3	4	5	6	7
Discussions with friends and family.	X	1	2	3	4	5	6	7
The culture I grew up in.	X	1	2	3	4	5	6	7
Experiences I've had in nature.	X	1	2	3	4	5	6	7
What I've learned from books, newspapers, magazines, and television.	X	1	2	3	4	5	6	7
Local environmental issues.	X	1	2	3	4	5	6	7
Global environmental issues.	X	1	2	3	4	5	6	7

Other (please specify):	X	1	2	3	4	5	6	7
-------------------------	---	---	---	---	---	---	---	---

3) We're interested to know how you perceive the condition of the natural world. Please give us your opinions regarding the following statements:

	Don't know	Strongly disagree			Neutral			Strongly Agree
The balance of nature is very delicate and easily upset.	X	1	2	3	4	5	6	7
Humankind is severely abusing the natural world.	X	1	2	3	4	5	6	7
(R) The environmental crisis is greatly exaggerated.	X	1	2	3	4	5	6	7
(R) The condition of the natural world is very good.	X	1	2	3	4	5	6	7
(R) The condition of the natural world is where God wants it.	X	1	2	3	4	5	6	7
(R) Environmental protections threaten economic livelihoods.	X	1	2	3	4	5	6	7
(R) I am uncomfortable being associated with the environmental movement.	X	1	2	3	4	5	6	7
(R) Christianity and environmentalism are not compatible.	X	1	2	3	4	5	6	7

4) Please tell us about your attitudes regarding the United Methodist Church and the environment:

	Don't know	Strongly disagree			Neutral			Strongly Agree
(R) Environmental issues are irrelevant to the United Methodist Church.	X	1	2	3	4	5	6	7
Caring for the environment should be a significant area of concern for the United Methodist Church.	X	1	2	3	4	5	6	7
The United Methodist Church can make a significant contribution to solving environmental problems.	X	1	2	3	4	5	6	7
The current efforts of the United Methodist Church to address environmental problems are inadequate.	X	1	2	3	4	5	6	7
The United Methodist Church has a responsibility to care for the natural world.	X	1	2	3	4	5	6	7
My local church has a responsibility to care for the natural world.	X	1	2	3	4	5	6	7

I have a personal responsibility to care for the natural world.	<input checked="" type="checkbox"/>	1	2	3	4	5	6	7
I want my church to adhere to the United Methodist principles concerning the natural world.	<input checked="" type="checkbox"/>	1	2	3	4	5	6	7
My church should make caring for the natural world a priority.	<input checked="" type="checkbox"/>	1	2	3	4	5	6	7
I know about the United Methodist Church's principles concerning the natural world.	<input checked="" type="checkbox"/>	1	2	3	4	5	6	7
It is easy to find and learn about how the United Methodist Church is addressing environmental issues.	<input checked="" type="checkbox"/>	1	2	3	4	5	6	7
I am interested in learning more about how the United Methodist Church is addressing environmental issues.	<input checked="" type="checkbox"/>	1	2	3	4	5	6	7
Environmental statements and policies issued by the United Methodist Church deserve my serious consideration.	<input checked="" type="checkbox"/>	1	2	3	4	5	6	7

5) We'd like to know which of the following environmental programs you think would be best for your church.

Please indicate your level of interest for each choice:

	Don't know	Not at all interested		Neutral		Very interested
Sermons that address the environment.	<input checked="" type="checkbox"/>	1	2	3	4	5
Prayers that honor God's creation and encourage us to care for it.	<input checked="" type="checkbox"/>	1	2	3	4	5
Hymns or other music that focuses on the natural world.	<input checked="" type="checkbox"/>	1	2	3	4	5
A general forum (such as a luncheon) for members to share how their personal faith relates to their environmental beliefs.	<input checked="" type="checkbox"/>	1	2	3	4	5
Bible study or Sunday school lessons dedicated to environmental theology.	<input checked="" type="checkbox"/>	1	2	3	4	5
Organizing outside speakers to talk about Christianity and the natural world.	<input checked="" type="checkbox"/>	1	2	3	4	5
A library of Christian environmental resources, including books, movies, etc.	<input checked="" type="checkbox"/>	1	2	3	4	5
Reducing my church's environmental impact by increasing energy efficiency, reducing waste, recycling, water saving measures, etc.	<input checked="" type="checkbox"/>	1	2	3	4	5
Guiding church members to reduce their personal impact on the environment.	<input checked="" type="checkbox"/>	1	2	3	4	5
Beautifying the church through nature – gardening, indoor plants, artwork, etc.	<input checked="" type="checkbox"/>	1	2	3	4	5
Earth Day celebrations, creation festivals, or similar events.	<input checked="" type="checkbox"/>	1	2	3	4	5
Spending fellowship time in local parks and other natural areas.	<input checked="" type="checkbox"/>	1	2	3	4	5
Retreat to a natural area to encourage learning about and caring for nature.	<input checked="" type="checkbox"/>	1	2	3	4	5
Service to improve the well-being of the natural world in my community.	<input checked="" type="checkbox"/>	1	2	3	4	5

Mission trips to improve the well-being of the natural world for others.	<input checked="" type="checkbox"/>	1	2	3	4	5
Building partnerships with outside environmental organizations.	<input checked="" type="checkbox"/>	1	2	3	4	5
Political activism such as letter-writing and meeting with representatives.	<input checked="" type="checkbox"/>	1	2	3	4	5
Donating money to help protect the natural world.	<input checked="" type="checkbox"/>	1	2	3	4	5
A committee to develop church environmental programs and ministries.	<input checked="" type="checkbox"/>	1	2	3	4	5
Christian environmental leadership training.	<input checked="" type="checkbox"/>	1	2	3	4	5
Youth programs.	<input checked="" type="checkbox"/>	1	2	3	4	5
Other (please specify):	<input checked="" type="checkbox"/>	1	2	3	4	5
If sufficient resources were available to you, would you like to lead or co-lead a Christian environmental program for your church?	Yes		No		Maybe	

Please place a check next to the two programs listed above that appeal to you most.

6) Starting environmental programs in church can face numerous obstacles. Please tell us how serious you believe each of these potential barriers are:

	Don't know	Not a barrier	Minor barrier	Major barrier		
Environmental involvement is not as important as other church programs.	<input checked="" type="checkbox"/>	1	2	3	4	5
Our church does not have time to devote to environmental issues.	<input checked="" type="checkbox"/>	1	2	3	4	5
Environmental programs would be expensive to develop and run.	<input checked="" type="checkbox"/>	1	2	3	4	5
There is a lack of good Christian environmental resources for us to use.	<input checked="" type="checkbox"/>	1	2	3	4	5
It would be difficult to find passionate leaders to start a new program.	<input checked="" type="checkbox"/>	1	2	3	4	5
We lack sufficient expertise on how to approach environmental issues from a Christian perspective.	<input checked="" type="checkbox"/>	1	2	3	4	5
Church leaders would not be supportive.	<input checked="" type="checkbox"/>	1	2	3	4	5
Starting new programs at church is an arduous process.	<input checked="" type="checkbox"/>	1	2	3	4	5
The environment is a sensitive issue that could divide the congregation.	<input checked="" type="checkbox"/>	1	2	3	4	5
Few people would want to participate.	<input checked="" type="checkbox"/>	1	2	3	4	5
Other (please specify):	<input checked="" type="checkbox"/>	1	2	3	4	5

Please place a check next to the most serious barrier to starting an environmental program at church.

7) People have different reasons for their interest in environmental programs at church. Please tell us how important each of these benefits is to you:

	Don't know	Not important		Somewhat important		Very important
7) People have different reasons for their interest in environmental programs at church. Please tell us how important each of these benefits is to you:						
Helping people understand the connection between Christianity and the natural world.	X	1	2	3	4	5
Raising awareness of environmental problems.	X	1	2	3	4	5
Challenging members to act in a more environmentally responsible manner.	X	1	2	3	4	5
Reducing the environmental impacts of the church and making it more environmentally friendly.	X	1	2	3	4	5
Providing social engagement and fostering relationships among church members.	X	1	2	3	4	5
Connecting my church with the local community.	X	1	2	3	4	5
Nurturing my spiritual connection to the natural world.	X	1	2	3	4	5
Providing leadership opportunities for interested members.	X	1	2	3	4	5
Other (please specify):	X	1	2	3	4	5

Please place a check next to the greatest benefit from starting an environmental program at your church.

We recognize that surveys have limitations and are interested to hear any additional thoughts you have for us:

8) We're interested to see how your concern for the environment translates into actions that help protect it. Please tell us how frequently you do each of the following activities:

	Don't know	Never		Sometimes		Almost always
Compost organic waste.	X	1	2	3	4	5
Reuse and recycle where possible.	X	1	2	3	4	5
Minimize your use of toxic chemicals, including those for the lawn and garden.	X	1	2	3	4	5
Turn off appliances when not in use.	X	1	2	3	4	5
Purchase energy efficient appliances.	X	1	2	3	4	5
Minimize water use.	X	1	2	3	4	5
Lower the thermostat setting in winter and raise it in summer.	X	1	2	3	4	5
Use a clothesline to dry the laundry.	X	1	2	3	4	5
Drive a fuel efficient vehicle.	X	1	2	3	4	5
Carpool or use alternative forms of transportation.	X	1	2	3	4	5
Volunteer with or donate money to an environmental organization.	X	1	2	3	4	5
Vote for a candidate with a strong platform for the environment.	X	1	2	3	4	5
Buy locally grown or locally produced food.	X	1	2	3	4	5
Eat fewer animal products.	X	1	2	3	4	5

9) Religious Background:

What church do you attend? _____ Are you attending a focus group? Yes No

Do you work or volunteer for your church? Yes No Position? _____

How often do you attend church activities? Rarely Sometimes Regularly Very often

How important is religion in your daily life? A little Somewhat Quite a bit Very important

10) Personal Background:

Gender: Male Female

Age: under 25 25–34 35–44 45–54 55–64 65 or older

Education: Some high school High school Associate's Degree

Bachelor's degree Graduate degree

Household Income: less than 20,000 \$20,000 - \$40,000 \$40,000 – \$75,000

\$75,000 - \$125,000 \$125,000 - \$200,000 Above \$200,000

Political Orientation: strongly conservative conservative moderate
 strongly liberal liberal

THANK YOU FOR YOUR PARTICIPATION!

Please return the survey to your church or via the stamped envelope provided. If you have questions, additional comments or need an additional survey or SASE, you can reach us at umcteam@umich.edu, (423) 914-3825.

2) Diagnostic Survey:



SURVEY ABOUT THE NATURAL WORLD FOR [MY] UMC



A) We're interested in hearing how you think about issues pertaining to the natural world. Please indicate your level of agreement with each statement.

1) God has entrusted us with the responsibility of caring for nature.

Strongly disagree Disagree Neutral Agree Strongly Agree

2) God intends for people to rule over nature as they see fit.

Strongly disagree Disagree Neutral Agree Strongly Agree

3) Spending time in nature helps me to know and appreciate God.

Strongly disagree Disagree Neutral Agree Strongly Agree

4) "Loving my neighbors" involves caring for the natural world.

Strongly disagree Disagree Neutral Agree Strongly Agree

5) I want my church to take an active role in caring for the natural world.

Strongly disagree Disagree Neutral Agree Strongly Agree

6) I would like to learn more about the UMC's statements about the natural world.

Strongly disagree Disagree Neutral Agree Strongly Agree

B) We are considering starting a Christian program about the natural world. Please indicate your level of interest in each program.

7) Worship programs such as prayers and hymns that honor God's creation.

No interest Some interest Moderate interest Lots of interest YES!

8) Educational programs including such as outside speakers and Bible studies.

No interest Some interest Moderate interest Lots of interest YES!

9) Nature-based programs, such as tree-planting or holding church events in a local park.

No interest Some interest Moderate interest Lots of interest YES!

10) Programs that reduce the environmental impact of the church and its members.

No interest Some interest Moderate interest Lots of interest YES!

11) Programs for youth, leadership training, and taking action to fight the causes of environmental problems.

No interest Some interest Moderate interest Lots of interest YES!

C) We recognize surveys do allow people to say everything that's on their minds.

Please take this opportunity to share your thoughts and concerns.

12) Are there any reasons why you would not like your church to start a Christian program concerning the natural world? Please explain:

13) Would you be willing to lead or co-lead a program about the natural world for your church, given adequate resources and support? Yes No Maybe

14) If you have anything else to tell us, we'd love to hear it:

THANK YOU FOR YOUR PARTICIPATION!

Follow-up information goes here.

Appendix D: Focus Group #1 Questions

(focus groups were semi-structured, so wording varied slightly)

1. What is the purpose of nature? Is any of it apart from God?
2. What is the relationship between humans and creation? Are we on the same level?
3. Are there any spiritual benefits from spending time in nature?
4. What sort of state do you think the environment is in? What do you think God thinks about that?
5. What are the greatest environmental problems we face? What are there solutions?

6. Do people have a right to a clean environment?
7. How do you feel about the way environmental impacts affect human quality of life?
8. What is the relationship between economic progress and environmental quality?
When are trade-offs acceptable? What if they lead to the extinction of a species?
9. Is there any relationship between environmental issues and justice issues? Does our Christian concept of justice shed any light on how we should treat the environment?
10. How does the Bible guide us to treat the environment? If you remember specific passages or stories, that would be great to hear.
11. Does the Bible tell us everything we need to know about how to treat the environment? What other sources do you look to guide your decisions about how to care for creation?
12. Many people blame Christianity for the environmental crisis, citing the Genesis 1:28 which says, “Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground.” How do you interpret that? Does it give us a license to treat the environment as we see fit?
13. Are there any ways that your biblical understanding of the environment has shaped the way you treat creation? Have you made any changes as a result of
14. What conservation practices do you think the Bible encourages us to adopt?

15. Are there any actions you think you should take to protect the environment, specifically because of your identity as a Christian? Are there ones that you think you should take but aren't? How come?
16. Are there any conservation behaviors that have particular spiritual meaning, or that are in response to a particular biblical or United Methodist teaching?
17. Is harming the environment ever sinful? Why?
18. Are there other ways that God responds to our treatment of the environment? Would He ever allow us to do irreparable damage to the earth?
19. Does your treatment of the environment affect your relationship with God? Can your faith be strengthened?
20. Are there other consequences that God directs?
21. How many people know what the United Methodist principles are about the natural world? Do you think it's important to know about these? Where would you find them? Do you trust UMC to provide reliable information?
22. Is the United Methodist Church as a whole responsible for environmental problems? How about Hiltons? What sorts of action should they be responsible for?
23. Is United Methodist faith compatible with environmentalism?
24. Should the church encourage its members to take personal responsibility for how they treat the natural world?
25. Should church try to have influence about how the community, businesses, or government respond to environmental issues?

26. How much attention should these issues be given in church, and especially relative to other Christian concerns? How come?
27. Are you satisfied with environmental involvement here at church? What would be greatest difficulty or opposition to starting a Christian environmental program?

Appendix E: Clergy Interview Questions

(interviews were semi-structured, so wording varied slightly)

- 1) Please describe your church:
- 2) What's been the history of involvement in this church? Is there talk about it in church?
- 3) How would you respond to congregational interest?
- 4) Are you comfortable and capable of engaging these issues, both env'ally and theologically?
- 5) What are the most pressing environmental issues?
- 6) What Biblical ethics ask us to care about the environment?
- 7) Do you feel a responsibility as pastor to engage these issues?
- 8) Do you feel a particular responsibility as a UM?
- 9) Are you familiar with any UMC environmental initiatives?
- 10) Seminary or professional development background?

11) Itinerant influence?

12) Barriers?

Appendix F: Clergy Survey Questions

(*web-based survey using SurveyMonkey*©)

1. What church(es) do you pastor (e.g. "Hiltons Memorial UMC, Big Stone Gap District")?

The following questions were on a 1-7 rating scale with 1 = strongly disagree and 7 = strongly agree.

2. As a pastor, I am interested in my charge supporting a new program or ministry that promotes stewardship of the environment.
3. Members of my charge would be interested in participating in a new program or ministry that promotes stewardship of the environment.
4. Members of my charge would be interested in leading a new program or ministry that promotes stewardship of the environment.
5. I have a strong background in engaging environmental issues from a Christian perspective.
6. As a pastor, I engage environmental issues in church.
7. I am knowledgeable about environmental issues - including problems and potential solutions.

8. I am knowledgeable about Biblical theology as it relates to caring for the environment.
9. My charge has a responsibility to care for the environment.
10. The United Methodist Church has a responsibility to care for the environment.
11. As a pastor, I have a responsibility to engage environmental issues in church.
12. It is feasible for me as a pastor to engage environmental issues in church.
13. Environmental issues deserve similar attention to that given other humanitarian and mission concerns.
14. I would like for my charge to make environmental issues more of a priority.
15. Caring for the environment is an essential element of United Methodist practice.
16. Existing United Methodist Church organizations do a good job strengthening local churches' capacity to engage environmental issues.
17. The United Methodist Church needs new structures or additional capacities to do a good job strengthening local churches' capacity to engage environmental issues.
18. Please indicate how much responsibility the following persons or bodies bear for starting a new program or ministry promoting stewardship of the environment:

(Answer choices range from bearing "none" to bearing "all" of the responsibility;
1-7)

- a. Pastors
- b. Staff
- c. Members
- d. Existing ministries or committees
- e. A new ministry or committee
- f. Other

19. Please indicate how strong each of the following rationales is for starting a new program or ministry promoting stewardship of the environment.

(Answer choices range from "very weak" to "very strong" rational;
1-7)

- a. Book of Discipline
- b. Other UMC statements
- c. Scripture
- d. Current state of environment
- e. Concern for persons experiencing negative environmental impacts.
- f. Concern for non-human life and non-life experiencing negative environmental impacts.
- g. Reverence for God's creation, irrespective of human-induced change or threats
- h. Other (please specify below in question #5)

20. Gender

21. Age

22. Political orientation

23. Other thoughts

Appendix G: Seminary Survey Questions

(web-based survey using SurveyMonkey©)

1. Please indicate your seminary.
2. Please indicate your degree program.
3. Please list seminary courses you have taken or will take that address environmental issues.
4. Please list seminary courses you have taken or will take that have the potential to address environmental issues.

The following questions were on a 1-7 rating scale with 1 = strongly disagree and 7 = strongly agree.

5. In my career, it will be critical for me to be able to engage environmental issues.
6. If my seminary offered a course that addressed environmental issues, I would take it.
7. My seminary peers are interested in engaging environmental issues from a Christian perspective.
8. My seminary faculty is interested in engaging environmental issues from a Christian perspective.
9. I am knowledgeable about environmental issues - including problems and potential solutions.

10. I am knowledgeable about Biblical theology as it relates to caring for the environment.
11. Seminaries have a responsibility to educate about engaging environmental issues from a Christian perspective.
12. I plan to become a United Methodist pastor.
13. Please indicate the United Methodist conference or -if not applicable - the geographic locale where you plan to serve after seminary.
14. Gender
15. Age
16. Political orientation
17. Additional thoughts

Appendix H: Seminary Faculty Survey Questions

(web-based survey using SurveyMonkey©)

1. Please indicate your seminary.
2. Please list any seminary courses you have taught or will teach that address environmental issues.
3. Please list any seminary courses you have taught or will teach that have the potential to address environmental issues.

The following questions were on a 1-7 rating scale with 1 = strongly disagree and

7 = *strongly agree.*

4. I would like to address environmental issues in a course I already teach or a new course.
5. My seminary's students are interested in engaging environmental issues from a Christian perspective.
6. My seminary's faculty and administration are interested in engaging environmental issues from a Christian perspective.
7. My seminary's students *express* interest in engaging environmental issues from a Christian perspective.
8. I am knowledgeable and am qualified to teach about environmental issues - including problems and potential solutions.
9. I am knowledgeable and am qualified to teach about Biblical theology as it relates to caring for the environment.
10. Seminaries that train United Methodists have a responsibility to educate about engaging environmental issues from a Christian perspective.
11. Instructors should be trained, if not already prepared, to integrate environmental issues and theology into courses.
12. There are obstacles external to student interest and my professional capacity hindering curriculum change to address environmental issues as part of an existing course, or the focus of a new course.
13. Please explain your response to the above question #12 in the blank provided

14. Seminaries training United Methodists should require students to engage environmental issues from a Christian perspective...

- a. Never
- b. As part of one course
- c. As part of several courses
- d. As part of a separate course
- e. Other

15. If you believe this requirement should be filled through inclusion in an existing course/s, please list the course/s or course type/s below.

16. If you believe this requirement should be filled through a new course/s, please describe the course/s or course type/s below.

17. I am formally trained to engage environmental issues from a Christian perspective...

- a. Environmentally
- b. Theologically
- c. Both environmentally and theologically
- d. Neither environmentally nor theologically
- e. Other

18. Please briefly describe your formal training noted in question #17, if applicable.

19. Gender

20. Age

21. Political orientation

22. Other thoughts

Appendix I: Factors & Corresponding Variables

Each survey section title is highlighted in gray, with the names of the factors and variables we used for analysis listed below. Across from the section title is a description of the section prompt or how participants were asked to respond. For some complex factors, such as the ecotheology factors, we give a working definition at the bottom of that section.

Tables: Survey questions grouping within each factor theme ranked from strongest to weakest factor loading.

Factor Theme	Corresponding survey questions
ECOTHEOLOGY	(level of agreement)
Environmental Justice	1) All of nature is sacred. 2) Actions that harm the natural world are sinful. 3) Environ. Impacts that disproportionately harm the poor, minorities are a significant concern of mine. 4) Human quality of life depends on the well-being of the natural world. 5) I am concerned about present environ. Impacts affecting the quality of life of future generations.
Reject gnosticism	1) God cursed the environ. in response to the fall of humanity. 2) Only concerns associated with the spiritual realm concern me. 3) Devoting efforts to protect the environ. is a form of idolatry.
Reverence	1) I value opportunities to connect with God in nature.

	2) God's character is revealed by the natural world.
Stewardship	1) God has entrusted us with the responsibility of caring for nature.
Reject Mastery	1) God intends for people to rule over nature as they see fit.

- 1) Environmental justice – this category contains three traditional measures of environmental justice (3-5) and two other concepts, sacredness and sin. This factor then, represents broad concern and perceived responsibility for all of God's creation, including humans, other species, and the rest of nature.
- 2) Reject gnosticism – a gnostic ethic purports separation between the spiritual and earthly realms. Rejection of gnosticism suggests that humans have important responsibilities to the earth, that in fact this responsibility is in harmony with Christian faith, rather than against.
- 3) Reverence – spending time in nature has special appeal for the way in which it heightens one's awareness and appreciation of God and the wonders of His creation.

(For more on stewardship and the rejection of mastery, please refer to the Introduction).

INFLUENCES	"How strongly have each influenced your concern for the natural world?"
Christian influence	1) Biblical principles 2) My personal Christian faith
Outside influence	1) Discussions with family and friends. 2) The culture I grew up in. 3) Experiences I've had in nature. 4) What I've learned from books, newspapers, magazines, and TV.
UMC influence	1) United Methodist principles.

ENVIRONMENTAL ATTITUDE	(level of agreement)
Fragility	<p>1) The balance of nature is very delicate and easily upset.</p> <p>2) Humankind is severely abusing the natural world.</p>

1) Fragility – the earth can only sustain a limited amount of human impacts before its quality is threatened or begins to decline.

UMC INTERESTS & ATTITUDES	(level of agreement)
Role of UMC	<p>1) Environ. issues are irrelevant to the UMC.</p> <p>2) Caring for the environ. should be a significant area of concern for the UMC.</p> <p>3) The UMC can make a significant contribution to solving environ. problems.</p> <p>4) The UMC has a responsibility to care for the natural world.</p> <p>5) My local church has a responsibility to care for the natural world.</p> <p>6) I have a personal responsibility to care for the natural world.</p> <p>7) I want my church to adhere to the UMC's principles concerning the natural world.</p> <p>8) My church should make caring for the natural world a priority.</p> <p>9) I am interested in learning more about how the UMC is addressing environ. issues.</p> <p>10) Environ. statements and policies issued by the UMC deserve my serious consideration.</p>
UMC Awareness	<p>1) I know about the UMC's principles concerning the natural world.</p>

	2) It is easy to find and learn about how the UMC is addressing environ. issues.
--	--

- 1) Role of the UMC – this factor includes ideas of compatibility, efficacy, responsibility, interest in learning more, and making environmental issues a priority. It considers these concepts at the individual, congregational, and overall levels of the UMC.
- 2) UMC Awareness – knowledge and curiosity of UMC environmental principles.

ENVIRONMENTAL PROG. INTERESTS	“Please indicate your interest in the following programs.”
Activism	<ul style="list-style-type: none"> 1) Earth day celebrations, creation festivals, or similar events. 2) Building partnerships with outside environ. organizations. 3) Political activism such as letter-writing and meeting with representatives. 4) Donating money to help protect the natural world. 5) A committee to develop church environ. programs and ministries. 6) Christian environ. leadership training. 7) Youth programs.
Nature	<ul style="list-style-type: none"> 1) Beautifying the church through nature-gardening, indoor plants artwork, etc. 2) Spending fellowship time in local parks and other natural areas.
Worship	<ul style="list-style-type: none"> 1) Prayers that honor God’s creation and encourage us to care for it. 2) Hymns or other music that focuses on the natural world.
Env. Impact	<ul style="list-style-type: none"> 1) Reducing my church’s environ. impact by increasing energy efficiency, reducing waste, recycling, water saving measures.

	2) Guiding church members to reduce their personal impact on the environment.
Education	1) Sermons that address the environment. 2) A general forum (such as a luncheon) for members to share how their personal faith relates to their environmental beliefs.

Activism programs – aimed at making broad social change typically by raising awareness and interest in environmental issues. Activism programs may apply to churches or secular organizations and broader communities

Environmental impact programs – these have a direct impact on the environmental footprint of an individual or the congregation. Efforts to reduce consumption of raw materials, energy, and water are good examples. Impact programs might consider things such as life-cycle assessments and best environmental practices for new purchases or renovations.

LEADERSHIP	
Lead	1) If sufficient resources were available to you, would you like to lead or co-lead a Christian environmental program for your church?

BARRIERS	“How serious are the following barriers?”
Lack of support	1) Environ. involvement is not as important as other church programs. 2) Our church does not have time to devote to environ. issues. 3) Church leaders would not be supportive. 4) The environment is a sensitive issue that could divide the congregation.

Lack of expertise	<ul style="list-style-type: none"> 1) There is a lack of good Christian environ. resources for us to use. 2) It would be difficult to find passionate leaders to start a program. 3) We lack sufficient expertise on how to approach environ. Issues from a Christian perspective.
-------------------	---

1) Lack of support – this barrier represents several forms of skepticism or congregational resistance that might make starting an environmental program difficult.

BENEFITS	“How appealing are the following benefits?”
Awareness	<ul style="list-style-type: none"> 1) Helping people understand the connection between Christianity and the natural world. 2) Raising awareness of environ. problems. 3) Challenging members to act in a more environ. Responsible manner. 4) Reducing the environ. impacts of the church and making it more environ. friendly.
Community	<ul style="list-style-type: none"> 1) Providing social engagement and fostering relationships among church members. 2) Connecting my church with the local community. 3) Providing leadership opportunities for interested members.

1) Awareness – the belief that environmental programs will encourage individuals and the church as a whole to be better stewards. Similar to the impact-based programs.

ENVIRONMENTAL BEHAVIOR	“How often do you...?”
Efficient (Efficiency)	<ul style="list-style-type: none"> 1) Turn off appliances where possible. 2) Purchase energy efficient appliances.

(Env. efficient)	3) Minimize water use. 4) Lower thermostat setting in winter and raise it in summer.
Activism	1) Volunteer with or donate money to an environ. organization. 2) Vote for a candidate with a strong platform for the environ.
Recycling	1) Reuse and recycle where possible
Fuel eff. vehicle	1) Drive a fuel efficient vehicle

RELIGIOUS INVOLVEMENT	
Religious work / volunteer (Work) (Church work)	1) Do you work or volunteer for your church?
Church activities (Attendance)	1) How often do you attend church activities?
Religion in daily life	1) How important is religion in your daily life?

Appendix J: Factor Loadings & ANOVAs by Survey Section

1) Ecotheologies

Table: One-way ANOVA results for ecotheologies

	<i>EnvJustice</i>	<i>Reject gnosticism</i>	<i>Reverence</i>	<i>Stewardship</i>
<i>~versus~</i>	Significance	Significance	Significance	Significance
Env. justice	N/A	.043	.000	.000
Reject gnostic	.000	N/A	.006	.006
Reverence	.000	.047	N/A	.000
Stewardship	.000	.052	.000	N/A

* Significant values measured at $p \leq 0.01$

2) Influences

Table: Rotated factor matrix(a) for influences

Influence variables	Influence factors	
	Secular	Christian
Global env. Issues	.865	
Local env. Issues	.849	
Media	.689	
Experiences in nature	.602	
Discussions w/ others	.466	
Cultural	.416	
Biblical		.900
Personal Christianity		.769
UMC	(< .45)	(< .45)

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 3 iterations.

Table: One-way ANOVA results for influences

Influence factor	Influence factor		
	Christian	Secular	UMC
Christian	n/a	.045	.000
Secular	.029	n/a	.000
UMC	.000	.002	n/a

* Significant values measured at $p \leq 0.01$

3) Environmental Attitude

Table: Rotated factor matrix(a) for environmental attitude

Environmental attitude variables	Environmental Attitude factors	
	1	Fragility
Balance of nature		.675
Humans abuse		.650
Crisis exaggerated		
Condition of nature is good		
Condition of nature where God wants	.464	
Env. Vs. Econ.	.549	
Uncomfortable w/ enviros	.540	
Christianity and env. compatible	.504	

- 1) **NOTE: Factor 1 was not used in analysis because the reliability was too low (Cronbach's alpha value was < 0.6).**
- 2) Extraction Method: Principal Axis Factoring.
- 3) Rotation Method: Varimax with Kaiser Normalization.
- 4) a Rotation converged in 3 iterations.

4) UMC Interest & Principle

Table: Rotated Factor Matrix(a) for UMC interest & Principle

UMC interest & principle variables	UMC interest & principle factors	
	Role of UMC	UMC Awareness
Want UMC to make env. significant concern	.835	
UMC responsibility	.834	
Congregation responsibility	.831	
Deserves my consideration	.792	
UMC make a priority	.788	
UMC is capable of impact	.770	
Interested in learning UMC	.760	
Want church to adhere to UMC	.653	
Personal responsibility	.606	
Efforts are inadequate	-.526	

Env is relevant to UMC	.419	
Know where to find UMC		.925
Know about UMC		.589

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 3 iterations.

5) Environmental Program Interest

Table: One-way ANOVA results for environmental program interests

Program interest	Program interest				Significance
	Activism	Nature-based	Worship	Environmental impact	
Activism	n/a	.000	.000	.000	.000
Nature	.000	n/a	.000	.000	.000
Worship	.000	.000	n/a	.000	.000
Env. impact	.000	.000	.000	n/a	.000
Education	.000	.000	.000	.000	n/a

* Significant values measured at $p \leq 0.01$

5a) Differences in Program Interest by Political Orientation

Table: ANOVA results for program interest by political orientation

		Sum of Squares	df	Mean Square	F	Sig.
Programs1	Between Groups	33.732	2	16.866	18.244	.000
	Within Groups	229.266	248	.924		
	Total	262.998	250			
Programs2	Between Groups	2.851	2	1.425	2.169	.116
	Within Groups	162.986	248	.657		
	Total	165.837	250			
Programs3	Between Groups	21.890	2	10.945	13.556	.000
	Within Groups	196.995	244	.807		
	Total	218.885	246			
Programs4	Between Groups	13.842	2	6.921	9.547	.000
	Within Groups	179.789	248	.725		
	Total	193.631	250			
Education	Between Groups	35.975	2	17.988	19.650	.000
	Within Groups	213.287	233	.915		
	Total	249.262	235			

Table: Multiple Comparisons – Bonferroni Results for program interest by political orientation

Dependent Variable	(I) Conserv	(J) Conserv	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
Programs1	1.00	2.00	-.30339	.13761	.085	-.6351	.0283	
		3.00	-.96750(*)	.16030	.000	-1.3539	-.5811	
	2.00	1.00	.30339	.13761	.085	-.0283	.6351	
		3.00	-.66411(*)	.16388	.000	-1.0591	-.2691	
	3.00	1.00	.96750(*)	.16030	.000	.5811	1.3539	
		2.00	.66411(*)	.16388	.000	.2691	1.0591	
	Programs2	1.00	2.00	-.21147	.11655	.212	-.4924	.0695
		3.00	-.22220	.13392	.295	-.5450	.1006	
	2.00	1.00	.21147	.11655	.212	-.0695	.4924	
		3.00	-.01073	.13828	1.000	-.3440	.3226	
Programs3	1.00	2.00	.22220	.13392	.295	-.1006	.5450	
		3.00	.01073	.13828	1.000	-.3226	.3440	
	2.00	1.00	-.31180	.13033	.052	-.6260	.0024	
		3.00	-.77679(*)	.14944	.000	-1.1370	-.4165	
	2.00	1.00	.31180	.13033	.052	-.0024	.6260	
		3.00	-.46499(*)	.15326	.008	-.8344	-.0955	
	3.00	1.00	.77679(*)	.14944	.000	.4165	1.1370	
		2.00	.46499(*)	.15326	.008	.0955	.8344	
	Programs4	1.00	2.00	-.28652	.12215	.059	-.5809	.0079
		3.00	-.60909(*)	.14127	.000	-.9496	-.2686	
Education	2.00	1.00	.28652	.12215	.059	-.0079	.5809	
		3.00	-.32257	.14604	.084	-.6746	.0294	
	3.00	1.00	.60909(*)	.14127	.000	.2686	.9496	
		2.00	.32257	.14604	.084	-.0294	.6746	
	1.00	2.00	-.49275(*)	.14302	.002	-.8376	-.1479	
		3.00	-.99205(*)	.16062	.000	-1.3794	-.6047	
	2.00	1.00	.49275(*)	.14302	.002	.1479	.8376	
		3.00	-.49930(*)	.16717	.009	-.9024	-.0962	
	3.00	1.00	.99205(*)	.16062	.000	.6047	1.3794	
		2.00	.49930(*)	.16717	.009	.0962	.9024	

1. The mean difference is significant at the .05 level.

5b) Willingness to Lead

Table: ANOVAs for differences in mean between those potentially willing to lead & those unwilling to lead

		Sum of Squares	df	Mean Square	F	Sig.
Mastery	Between Groups	13.312	1	13.312	5.273	.023
	Within Groups	444.284	176	2.524		
	Total	457.596	177			
Christian influence	Between Groups	8.811	1	8.811	4.734	.031
	Within Groups	346.204	186	1.861		
	Total	355.015	187			
Role of UMC	Between Groups	383.055	190		2.372	.125
	Within Groups	3.854	1	3.854		
	Total	311.949	192	1.625		
UMC Awareness	Between Groups	315.804	193		6.016	.016
	Within Groups	14.806	1	14.806		
	Total	260.887	106	2.461		
Nature programs	Between Groups	107	1	1.438	2.328	.129
	Within Groups	116.712	189	.618		
	Total	118.149	190			
Education programs	Between Groups	198.153	1	2.895	2.579	.110
	Within Groups	2.895	174	1.122		
	Total	195.258	175			
Expertise barrier	Between Groups	168.858	1	3.714	3.374	.068
	Within Groups	165.144	150	1.101		
	Total	3.714	151			
Awareness benefit	Between Groups	181.282	1	2.803	2.969	.087
	Within Groups	178.478	189	.944		
	Total	2.803	190			
Activism behaviors	Between Groups	215.420	1	2.590	2.105	.149
	Within Groups	2.590	173	1.230		
	Total	212.830	174			
Work for church	Between Groups	20.870	1	.290	2.564	.111
	Within Groups	.290	182	.113		
	Total	20.580	183			
Age	Between Groups	325.644	1	25.166	15.829	.000
	Within Groups	300.478	189	1.590		
	Total	25.166	190			

6) Barriers

Table: Rotated factor matrix(a) for barriers

Barriers variables	Barriers factors	
	Support	Expertise
Not a priority	.714	
Clergy against	.646	
No time	.640	
Sensitive issue	.465	
No money	.415	
Few participants		
No expertise		.770
No leaders		.686
No resources		.539
Arduous process		.413

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 3 iterations.

7) Environmental Program Benefit

Table: Rotated factor matrix(a) for environmental program benefit

Environmental program benefit variables	Environmental program benefit factors	
	Awareness	Community
Challenge members	.902	
Raise awareness	.755	
Help people learn	.685	
Reduce env. impact	.597	
Connect community		.803
Social activity		.761
Leader training		.647
Nurture spirit and env.	.492	.591

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 3 iterations.

8) Environmental Behavior

Table: Rotated factor matrix(a) for environmental behavior

Environmental behavior variables	Environmental behavior factors	
	Efficiency	Activism
Buy efficient	.733	
Turn off appliances	.664	
Save water	.631	
Lower thermostat	.537	
Fuel eff. Vehicle*		
Vote green		.871
Volunteer or \$\$.621
Eat less meat*		
Use less toxics*		
Locally grown food*		
Recycle & reuse*		
Dry clothes outside*		
Carpool*		
Compost*		

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 7 iterations.

*The loadings of these items are < .45 in both factors.

Table: One-way ANOVA results for environmental behavior

Environmental behavior factors	Environmental behavior factors		
	Factor 18	Factor 19	UMC influence
Factor 18	n/a	.045	.010
Factor 19	.077	n/a	.000
Recycling	.090	.033	n/a

* Significant values measured at $p \leq 0.01$

Appendix K: Background to Christian Environmental Thought

1) Introduction

It is only in the past few decades that environmental issues have become a normative Christian concern in the United States. Evidence for this expanding focus comes from a wealth of theological writings, academic journal articles, denominational statements, political lobbying efforts, popular media coverage, and the development of environmental initiatives for local congregations (for a good review see Fowler, 1995). A number of organizations such as the Evangelical Environmental Network (EEN) and the Au Sable Institute specialize in promoting environmental stewardship in the Christian community. Recognizing its influence on a large percentage of the population, the Church in its many forms has taken strides to cultivate a comprehensive ecotheology among its members (Fowler, 1995).

The United Methodist Church (UMC) is very much a part of this movement, and authored pro-environmental statements as early as the 1970s (please see Appendix B). This chapter chronicles the history of the modern Christian environmental movement -- from its early attempts to rebut charges of responsibility for the ecological crisis to its present efforts to contribute to a sustainable society, spiritual wholeness, and social justice. Arguments for the potential of Christianity to help solve environmental problems and the effectiveness of current initiatives will be discussed. This background should leave the reader with an understanding of the motivations and religious framework that continue to shape the environmental actions of the UMC.

2) The Ecological Complaint

Nash (1991) defines the ecological complaint as “the charge that the Christian faith is the culprit in the crisis. Christianity is the primary or at least a significant cause of ecological degradation” (p. 68). Berry phrases the complaint similarly:

Christian organizations, to this day, remain largely indifferent to the rape and plunder of the world and its traditional cultures. It is hardly too much to say that most Christian organizations are as happily indifferent to the ecological, cultural, and religious implications of industrial economies as are most industrial organizations. (p. 94, 1992).

How then, did the Christian environmental movement arise out of such apathy? The new environmental consciousness that emerged in the church has largely been traced to a single article published in *Science* in 1967. Lynn White Jr.’s “The Roots of Our Ecological Crisis” set off a flurry of debate by making the bold claim: “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” (p. 1207). White argues that the anthropocentric view of western Christianity has been the most powerful force in history, one that ushered in and defended the use of technologies currently used to exploit natural resources. Interestingly, White swathe solution to the crisis as a religious one, urging that humans should follow in the footsteps of St. Francis by treating nature with respect, reverence, and humility. Although his argument was a historical and provides a glimpse of hopefulness, it was received in a negative light by most environmentalists. In their view, this was judgment against Christianity stating that unrestrained environmental destruction could be attributed to Biblical verses such as Gen 1:28: “Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground.”⁴

⁴ Quoted from the New International Version; the NIV will be the standard biblical translation used throughout this document unless otherwise noted.

3) Support for Lynn White

At first glance, White's accusation that one particular belief system could cause an epidemic of environmental problems sounds overly simplistic and easy to refute. Both academics and the church community were slow to respond, however. Hiers offers insight on the Church's prior environmental apathy that opened the door for White's essay: "[White's] accusation came as rather a jolt even to those of us who teach in departments of religion and therefore can hardly be shocked at anything. We had grown accustomed to the charge that Christianity is too little concerned with earthly matters" (p. 44, 1984). At the dawn of the environmental movement and with a set of landmark legislation on the horizon, the momentum behind the secular environmental movement was impossible for the Church to ignore.

Many academics and secular environmentalists latched onto White's interpretation, frequently dismissing evidence of positive Christian environmental ethics (Attfield, 1983). This view was observed during our study, when an issue of *Tennes-Sierran*, the newsletter of a local Sierra Club chapter, published an environmental bibliography that guided readers to Lynn White to gain an understanding of how Christian anthropocentrism has beleaguered environmental efforts. Despite scores if not hundreds of arguments that have effectively denied unilateral Christian responsibility for the environmental crisis (see Bakken et al., 1995), reasons for distrusting the sincerity of Christian environmental concern is still widespread. Oliver (1992) contends that the theological subjugation of nature was deliberate on the part of prominent theologians of the mid-twentieth century, including Barth, Brunner, and Bultmann. At best their writings were apathetic to the task, at worst they portrayed nature as a mystical pagan concern associated with competing Eastern religions. For some, neglecting to discuss appropriate action was intentional. Even as the major denominations were rapidly drafting pro-environmental statements, several authors contended these statements were disingenuous. Gardner writes,

some negative perceptions of religion are not entirely unfounded...Indeed some would argue that religions and religious people today seldom wear the radical mantle of the prophet, in the sense of being a critic of the established order. ... Where religions neglect their prophetic potential and their calling to be critics of immoral social and environmental realities, they are likely to be distrusted by those working to change those trends. (p. 25, 2002).

In other words, it is not surprising that environmentalists were skeptical of inaugural efforts, and wanted to see more tangible commitments. In the 1980s, acceptance of Christianity as a root of the ecological crisis was still prevalent, and positive attitudes toward the environment were frequently ignored (Attfield, 1983). Attfield suggests that the secular lens can misinterpret Christian beliefs and has difficulty capturing its benevolent environmental tenets. A decade later, the mixed signals continued: “Resolutions in support of ecological concerns show that environmental consciousness has often been on denominational agendas, though at times other evidence has been scant” (Fowler, 1995). Church leaders, including UMC leaders, have made repeated and forceful appeals, but adherence to calls for environmental action has been limited.

4) Dominion Revisited

Responses to the ecological complaint have been two-fold. On one hand, there is reason to believe churches are capable of boosting efforts to mitigate environmental problems. On the other hand, “the adverse interpretation of Christian attitudes is at times derived by such methods as the selective use of evidence and the exaggeration of the significance of some of the evidence selected. At the same time, evidence for gentler attitudes is underplayed” (p. 369, Attfield). One frequent interpretation is the translation of the word “dominion” from the creation story in Genesis to the word “domination”. As mentioned earlier, the most cited verse to support this view is Genesis 1:28: “God blessed them and said to them, ‘Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground.’”

Biblical use of words such as “dominion” and “subdue” have frequently been interpreted as measures of conquest, ownership, and reckless use of resources. Gustafson (1998)

identifies four ways in which this relationship has been understood: 1) tyranny, 2) benevolent despotism, 3) stewardship, and 4) participation. Attfield (1983) clarifies a view of benevolent rulership:

Nor can belief in man's dominion...be construed in this sense. Mankind is certainly authorized to rule, but only in a way consistent with the Hebrew notion of kingship. Kings among the Hebrews were regarded as responsible to God for the realm. ... Whether or not rulers lived in accordance with this attitude, it is enough that the Hebrew understanding of dominion involved answerability and responsibility in matters of kingship and of poverty alike. (p. 374)

Harrison observes that the Hebrew words for dominion and subdue, *rada* and *kabash*, respectively, connote peace, compassion, humility, and just care for the environment (1999). Humans are called to improve upon nature and support conditions under which biota can flourish, drawing on the language of "to till and cultivate" found in various translations of Genesis 2:15. In spite of such clarifications, literal fundamentalists, such as former Secretary of the Interior James Watt (see Bratton, 1983), have read the creation story as the establishment of human uniqueness. To them, original sin is seen as a prophetic declaration of unavoidable environmental problems. Worse, the belief that Christ will come again and destroy the earth in the very near future are further motives to discourage environmental concern. (Dalton, 1990). If one believes the earth will burn up before the end of her lifetime, there is not much incentive to care for it.

5) Overemphasis on Dominion

To determine that the Bible's stance on the environment is one of resource exploitation for the enjoyment of humans is misguided. Even if dominion is to be interpreted as despotism, the meaning of Genesis 1:26 must be considered alongside the multitude of pro-environmental passages (The Evangelical Environmental Network (EEN) alone lists 67 biblical quotes on its website). Hiers puts this point eloquently:

Yet the great weight of biblical tradition—including the Genesis creation narrative—represents God as actively caring for all living beings, and humanity as having not only dominion over, but also responsibility for the well being of other creatures. The Bible gives no support to those

who would exploit the earth's resources at the cost of destroying any species of life. (p. 43, 1984)

6) Lynn White Seen in Focus

At best, “efforts to establish a link between Christian ethics and our worldwide environmental problems have been inconclusive” (p. 385, Attfield). Many non-Christian societies have adopted materialistic lifestyles, environmentally damaging technologies, and other unsustainable practices that have led to the present crisis (Moncrief, 1970). Hiers asserts that backing for White’s thesis “may derive partly from [the fact] that academic humanists are generally unwilling to attribute evil to nice, rational people (like themselves) and so find it convenient to blame religion” (p.44). Director of the Sierra Club Carl Pope insists that a view of Christians as anti-environmentalists is counter-productive:

“[secular environmentalists have] made no more profound error than to misunderstand the mission of religion and the churches in preserving the Creation,” Pope says. “For almost thirty years, we...acted as though we could save future generations, and...unnamed...species, without the full engagement of the institutions through which we save ourselves....We rejected the churches” (p. 26 in Gardner, 2002).

The eagerness of Pope and others environmentalists who wish to engage the Christian community is a hopeful sign. Efforts to reverse the current trend of environmental degradation may yet usher in a new era of cooperation between secular and religious environmental groups.

7) Transition to Christian Potential and History

The purpose of this discussion is to suggest that the Church, including the UMC, deserves a fresh perspective from which to evaluate current ecotheological efforts, and to mobilize ecological concern and environmentally responsible behavior (ERB). Responsibility for the state of nature does not rest on the shoulders of Christian theology alone, but we believe this theology *can* help find new solutions. In the remainder of this chapter, we:

1) explore the potential of ecotheologies to drive positive contributions of the Church. By returning to Chapter II, the reader will find a review the Christian environmental initiatives in practice.

8) Theocentrism – A Christian Understanding of Environmentalism

The modern environmental movement in the United States can be characterized by the belief that an ecocentric ethic is superior to an anthropocentric perspective. Some groups, such as deep ecologists and ecofeminists, hold an extreme version of this perspective that only when humans see themselves as a mere strand of the web of life will we choose to protect our earthly neighbors. Conversely, anthropocentric ideals are believed to lead to exploitation of the environment. From this viewpoint, environmental protection efforts need only concern those species and ecosystems that have tangible value to humans.

The ecocentric and anthropocentric lenses are poorly suited to represent Christian views on the environment. Surveys such as the General Social Survey (GSS) and the New Environmental Paradigm (NEP; Dunlap and Van Liere, 1978) pit these two views against one another, but offer no option to respond from the traditional theocentric, or God-centered, worldview. Hoffman and Sandelands offer this definition of a theocentric perspective:

We believe there is an alternative environmentalism that reaches beyond the political and religious debates between anthropocentrism and ecocentrism and, by so doing, offers clear and constructive ideas about our relationship to nature. This is an environmentalism centered on God—an environmentalism that is theocentric rather than anthropocentric or ecocentric (149).

Thus humans and nature can be considered side by side, with God the sovereign creator of both. In this way, the theocentric view can draw on practical elements from both the anthropocentric and ecocentric discourses. Chesterton believed that admiration of and responsibility for nature emerge the traditional theocentric view:

“The main point of Christianity was this: that Nature is not our mother: Nature is our sister. We can be proud of her beauty, since we have the same father; but she has no authority over us; we have to admire, but not to imitate. This gives to the typically Christian pleasure in this earth a strange touch of lightness that is almost frivolity. Nature was a solemn mother to the worshippers of Isis and Cybele. Nature was a solemn mother to Wordsworth and Emerson. But nature is not solemn to Francis of Assisi or to George Herbert. To St. Francis, Nature is a sister, and even a younger sister; a little, dancing sister to be laughed at as well as loved.” (p. 115-116, 1908; quoted on p. 151, Hoffman and Sandelands, 2005).

9) Potential Contribution of a Christian Environmental Ethic

Acceptance of theocentrism has several consequences. First, it deemphasizes the dualism that pits the interests of man against nature. Hale (1677) wrote that humans are “to preserve the face of the Earth in beauty, usefulness and fruitfulness”, showing that humans are both to appreciate nature but also to be managers (p. 380). In a study of Christian environmental initiatives in Appalachia, Feldman and Moseley (2003) found that neither the anthropocentric or the ecocentric view was acceptable to Christians: “They identify, and reject as fundamentally problematic, a traditional worldview characterized by an exalted view of humanity coupled with a dualistic separation of humans from the rest of creation” (p. 228). This has major consequences for any who are interested in communicating about environmental issues or developing curricula to promote environmental concern. The inability of secular environmental groups to successfully partner with the Church could be ameliorated by encouraging churches to reframe both the problem and its solutions in theocentric terms.

a) Stewardship

Recognizing this third perspective held by many Christians is critical to understanding how they envision their role in creation care. For many Christians, putting a theocentric ethic into practice is a matter of stewardship. “Stewards have an obligation to use their intellect and seek the wisdom to understand the complex environmental web that God has created” (p. 154, Hoffman and Sandelands). Wunderlich believes that the notion of

biblical stewardship may have been born in the late 19th century in country churches whose members had close ties to the land (2004). We found this concept of stewardship is embraced by United Methodist members of the Holston Conference in Appalachia, and was mentioned specifically in focus groups with all four participating congregations (for more discussion on this, please see the qualitative results section).

b) Holistic Healing

Before Christians can embrace the fullness of the call to stewardship, historical patterns of environmental abuse must be confronted. Christians, along with the rest of society, have a long history of environmental abuse and neglect. Many see environmental abuses as a symptom of spiritual pathology, a pathology which must be rectified in order to attend to environmental concerns (Dalton, 1990). The Christian belief in the forgiveness of sins and humble reliance on God may serve to inspire action. Hoffman and Sandelands see humility as the “cardinal value of theocentrism” from which follows respect, selflessness, moderation, mindfulness, and responsibility. Recognizing human flaws may help to reverse faith in technological solutions to environmental problems, and instead foster belief in limits to human growth and development (Feldman and Moseley, 2003). Locating nature within the Christian worldview, rather than in isolation, may be integral to both spiritual and environmental healing. Healing creation will occur when Christians embrace their role as caretakers and seek forgiveness from God. To Dalton, this means that “Those parts of our tradition that uphold the sacredness of the created world, that celebrate our connectedness to the earth, and that hold us morally responsible for its well-being must be *remembered*” (p. 17).

Befriending an estranged home is a complicated affair. It entails a radical letting go of the self-centeredness involved in the estrangement. It is humbling. One does not return with all the answers, but rather with a repentant heart. Such is the case in restoring our relationship with the earth. (p. 23, Dalton, 1990)

If Christianity has been capable of doing such immense damage, then surely the restoration of nature must also lie, at least in part, with Christianity. (p. 125, McFague, 2001).

XIV. WORKS CITED

- Attfield, R., 1983. Christian attitudes to nature. *Journal of the History of Ideas*, 44(3): 369-86.
- Bakken, P.W., Engel, J.G., & Engel, J.R., 1995. *Ecology, Justice, and Christian Faith: A Critical Guide to the Literature*. Bibliographies and Indexes in Religious Studies, No. 36. Gorman, G.E. (advisory Ed.). Westport, CT: Greenwood Press.
- Berry, W., 1992. *Sex, Economy, Freedom, and Community*. New York: Pantheon.
- Bhagat, S. P., 1990. *Creation in Crisis: Responding to God's Covenant*. Elgin, IL: Brethren Press.
- Biel, A. & Nilsson, A., 2005. Religious values and environmental concern: Harmony and detachment. *Social Science Quarterly*, 86(1): 178-191.
- ¶ 5) Survey design
- Bratton, S. P., 1983. The ecotheology of James Watt. *Environmental Ethics*, 5(3): 225-236.
- Bratton, S. P., 1990. Teaching environmental ethics from a theological perspective. *Religious Education*, 85(1) 25-33.
- Boyd, H. H., 1999. Christianity and the Environment in the American Public. *Journal for the Scientific Study of Religion* 38(1): 36-44.
- Chesterton, G. K., 1908. *Orthodoxy*. New York: Dodd, Mead.
- Dalton, A.M., 1990. Befriending an estranged home. *Religious Education*, 85(1): 15-24.

DeWitt, C. B., 1996. A Word on Animals and Endangered Species, Green Cross, Winter 1996, at 14; see also Calvin B. DeWitt, "Christian Environmental Stewardship: Preparing the Way for Action", (visited February 8, 2006) <<http://www.sal.cs.uiuc.edu/%7Ebeckman/ivcf.paper.html>>

DeYoung, R., 1996. Some psychological aspects of reduced consumption behavior: The role of intrinsic satisfaction and competence motivation. *Environment and Behavior*, 28(3): 358-409.

Dietz, T, Stern, P, & Guagnano, G., 1998. Social structural and social psychological bases of environmental concern. *Environment and Behavior*, 30(4): 450-471.

Dunn, S., 1990. Ecology, ethics, and the religious educator. *Religious Education*, 85(1): 34-41.

Dunlap, R., & Van Liere, K. (1978). The 'New Environmental Paradigm'. *Journal of Environmental Education*, 9, 10-19.

Evangelical Climate Initiative. <http://www.christiansandclimate.org/> (Visited April 16, 2006).

Feldman, D.L. & Moseley, L., 2003. Faith-based environmental initiatives in Appalachia: Connecting faith, environmental concern and reform. *Worldviews*: 7(3) 227-52.

Fowler, R. B., 1995. *The Greening of Protestant Thought*. The University of North Carolina Press: Chapel Hill.

General Board of Church and Society of the UMC, 2004. Environmental justice for a sustainable future. Resolution 7 of the Social Principles, ¶ 160. *United Methodist Book of Discipline*.

http://www.umc-gbcs.org/site/apps/nl/content3.asp?c=fsJNK0PKJrH&b=848309&content_id={C87E9F20-1CD2-4A00-B2C2-7BE54695EB49}¬oc=1
(Visited March 25, 2006).

Glacken, C.J., 1967. *Traces on the Rhodian Shore, Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century*. Berkeley: University of California Press.

Gustafson, J.M., 2005. A Sense of the Divine: The Natural Environment from a Theocentric Perspective. Cleveland, OH: Pilgrim Press.

Guth , J.L., Kellstedt, L.A., Smidt, C.E., & Green, J.C., 1993. Theological perspectives and environmentalism among religious activists. *Journal for the Scientific Study of Religion*, 32(4): 373-382.

Guth , J.L., Kellstedt, L.A., Smidt, C.E., & Green, J.C., 1995. Faith and the environment: Religious beliefs and attitudes on environmental policy. *American Journal of Political Science*, 39(2): 364-82.

Hale, M., 1677. *The Primitive Origination of Mankind*. London.

Hand, C. M. & Liere, K. D. V., 1984. Religion, mastery-over-nature, and environmental concern. *Social Forces*, 63: 555-570.

Hiers, R. H., 1984. Ecology, biblical theology, and methodology: Biblical perspectives on the environment. *Zygon*, 19(1): 43-59.

Kanagy, C, & Nelsen, H.M., 1995. Religion and environmental concern: Challenging the dominant assumptions. *Review of Religious Research*: 37(1): 33-45.

Kanagy, C. L., & Willits, F. K., 1993. A ‘greening’ of religion? Some evidence from a Pennsylvania sample. *Social Science Quarterly*, 74(3): 674-683.

Kloehn, S., 1997. "Evangelicals see beasts as blessed by their creator; More churches take up the environmental cause." Chicago Tribune, February 10th.

Lewis, C. S. 1947. Miracles; a Preliminary Study. New York. Macmillan Co.

McCauley, Deborah Vansau. 1995. *Appalachian Mountain Religion: A History*. Urbana: University of Illinois Press.

McFague, S., 2001. New house rules: Christianity, economics, and planetary living. *Daedalus*, 130(4): 125-140.

Moncrief, L.W., 1970. The cultural basis for our environmental crisis. *Science*, 170: 508-12.

Nagle, J. C., 1998. Playing Noah. *Minnesota Law Review*, 82, 1171-1260.

Nash, J., 1991. *Loving Nature: Ecological Integrity and Christian Responsibility*. Nashville: Abingdon.

National Council of Churches (NCC) Eco-Justice Programs, 2005. *Capsules: Eco-Justice News and Views (October 2005)*.

<http://www.toad.net/~cassandra/downloads/anth/meth.pdf>

Nooney, J. G., Woodrum, E., Hoban, T. J., & Clifford, W.B., 2004. Environmental worldview and behavior: Consequences of dimensionality in a survey of North Carolinians. *Environment and Behavior*, 35(6): 763-783.

Regeneration Project from <www.theregenerationproject.org>,

Passmore, J., 1974. *Man's Responsibility for Nature: Ecological Problems and Western Traditions*. London: Duckworth.

Hatcher Graduate GF 47 .P29

Photiadis, John D. 1975a. "A Theoretical Supplement," *Religion in Appalachia - Theological, Social, and Psychological Dimensions and Correlates*. Morgantown, WV: Center for Extension and Continuing Education, Division of Social and Economic Development, Office of R&D, West Virginia University.

Carl Pope, "Remarks of Carl Pope, Sierra Club Executive Director, Symposium on Religion, Science and the Environment under the Auspices of His All Holiness Bartholomew I, Ecumenical Patriarch, Santa Barbara, California, November 6–8, 1997," Ecozoic, <www.Ecozoic.com/eco/CarlPope.asp>, viewed 9 October 2002; St. Francis from White, op. cit. note 24, pp. 192–93. [In Gardner, 2002; p. 24-25]

Schwartz, S. H., 1974. Awareness of interpersonal consequences, responsibility denial, and volunteering. *Journal of Personality and Social Psychology*, 30: 57-63.

Shaiko, R.G., 1987. Religion, politics, and environmental concern: A powerful mix of passions. *Social Science Quarterly*, 68(2), 244-262.

SustainLane, 2005. Green churches save green.

<http://www.sustainlane.com/article/634//Green+Churches+Save+Green.html>

Visited February 27, 2006.

Tarakeshwar, N., Swank, A.B., Pargament, K.I., & Mahoney, A., 2001. The sanctification of nature and theological conservatism: A study of opposing religious correlates of environmentalism. *Review of Religious Research*, 42(4): 387-404.

Tucker, G. M., 1997. Rain on a land where no one lives: The Hebrew Bible on the environment. *Journal of Biblical Literature*, 116(1): 3-17.

United Methodist Council of Bishops, 1986. In defense of creation: The nuclear crisis and a just peace by the United Methodist Council of Bishops. Graded Press: Nashville. Retrieved February 27, 2006 from <http://www.zero-nukes.org/defenseofcreation.pdf>.

U.S. Census Bureau, 2000. *State and County Quick Facts*. Retrieved April 5, 2006 from <http://quickfacts.census.gov/qfd/states/>.

U.S. Environmental Protection Agency (EPA), “Energy Star for Congregations,” <www.epa.gov/smallbiz/congregations.html>, viewed 23 July 2002; 5 percent from DOE, op. cit. note 17, “Energy Consumption Survey: Commercial Buildings Characteristics,” <www.eia.doe.gov/emeu/cbecs/char99/intro.html>, viewed 24 October 2002; EPA calculation based on a survey of commercial buildings carried out by the DOE.

Weigel, R. H., 1977. Ideological and demographic correlates of proecology behavior. *Journal of Social Psychology*, 103: 39-47.

Wolkomir, M, Futreal, M, Woodrum, E., & Hoban, T, 1997a. Substantive religious belief and environmentalism. *Social Science Quarterly*, 78(1): 96-108.

Wolkomir, M, Futreal, M, Woodrum, E, and T Hoban. 1997b. Denominational subcultures of environmentalism. *Review of Religious Research*, 38(4):325-343.

Wunderlich, G., 2004. Evolution of the stewardship idea in American country life. *Journal of Agricultural and Environmental Ethics* 17: 77–93.