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Abstract

Reliance on a limited number of methodologies may be distorting scholarship in religious environmentalism. This article describes a religious environmental educational intervention, uses a qualitative ethnological approach to describe the response of local congregations to this intervention, and uses a quasi-experimental, quantitative psychological methodology to assess the impact of this intervention on the behavior of religious congregational leaders. This article reports the impact of the Living Ocean Initiative, a ten-month interfaith environmental outreach intervention that engaged forty-nine diverse religious congregations and their leaders in California 2006-2007. This study indicates the value of studying religious environmental interventions, and suggests that carefully designed interventions may be able to increase religious environmentalism. It found that religious leaders were more inclined to engage in personal pro-environmental behavior within their congregations than pro-environmental behavior in the political realm. This study reports expressions of religious environmentalism at the congregational scale. It suggests that the potential of religious environmentalism to transform environmental beliefs and politics proposed by scholars and religious leaders may be unrealistic, yet it does demonstrate impacts of an intervention on pro-environmental behavior, thus clarifying some of the ambiguity in past correlational studies, and suggesting that religious environmentalism can help foster a more sustainable society.

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greening of religions, religious environmental ethics, ethnography, conservation psychology, local congregations, religious environmental education, pro-environmental behavior, ocean conservation, marine conservation

Introduction

Religious environmentalism has been lauded by scholars as a trans-religious phenomenon with the potential to transform environmental beliefs, behavior, and politics (see Gottlieb 2006a; Gottlieb 2006b). Most environmental problems are products of human behavior; so changing human behavior will be necessary to solve them (Clayton 2003; Clayton and Brook 2005; Saunders et al. 2006). Religious environmentalism is claimed to have greater potential to affect human environmental behavior than other forms of environmentalism because it engages the religious and moral dimensions of humanity through religious teachings, ritual practice, and shared behavioral norms (Feldman and Moseley 2003; Gottlieb 2006a; McFarland Taylor 2007; Tucker 1997). The promise of religious environmentalism rests on the assumption that religious environmental ethics can influence religious identities and, thus, foster pro-environmental behavior (Tucker 2006). Yet after more than a decade of scholarship, few studies have clearly demonstrated whether or how religious environmentalism as a set of ideas and beliefs actually results in pro-environmental behavior. Ultimately, changing human behavior is necessary in order to foster a more sustainable society (Clayton and Myers 2009; Swim et al. 2010).

Reliance on a limited number of methodologies may be distorting scholarship in religious environmentalism. With few exceptions, empirical studies of religious environmentalism have used two methodological approaches: ethnological profiles of individual charismatic religious leaders and their worldviews (e.g., Gottlieb 2006a), or correlational social science surveys of relationships between self-reported religious affiliation and environmental beliefs (e.g., Proctor and Berry 2005). The former convey the vision of religious leaders—generally scholars of religion or directors of religious environmental non-governmental organizations—of how religious beliefs and organizations could realize the potential of religious environmentalism. These religious leaders rarely carry day-to-day congregational responsibilities, and they lack accountability to ordinary members. The latter offer contradictory findings, with some studies suggesting a positive correlation (Proctor and Berry 2005), but most indicating a weak negative correlation (Boyd 1999; Kanagy and Willits 1993; Schultz and Zelezny...
The assertion that religious environmentalism will foster pro-environmental behavior, proposed by these select religious leaders in the ethnological studies, is not supported by correlational survey data. Ironically, both of these methodologies exclude one of the most important resources religion can offer for supporting behavioral change: face-to-face community-oriented social relations (for an exception, see McFarland Taylor 2007).

There are grounds for skepticism that religious environmentalism is able to fulfill its transformational potential at any scale. As Taylor (2005) reminds us, a close correlation between religion, environmental ethics, and environmental behavior should not be assumed. He argues, "any practical environmental ethics will have to go further than has been the case to this point to understand the connections between values and actions. Why are these connections apparently weak usually and in general, but in some cases apparently strong and directly motivating?" (Taylor 2005). Scholarship investigating religious environmentalism in the United States has focused almost exclusively on Jews or Christians. Very few studies have addressed religious environmental educational initiatives (e.g., Shibley and Wiggins 1997; Somplatsky-Jarman et al. 2000). Despite calls to study the impact of religious environmental educational interventions—such as the mailing of religious environmental information packets to tens of thousands of congregations in the U.S. by the National Religious Partnership for the Environment as described by Shibley and Wiggins (1997)—no studies have investigated their impacts. Thus, to extend and deepen scholarly understanding of religious environmentalism, Taylor’s question can be transformed into: can a religious environmental intervention encourage pro-environmental behavior, and if so, what expressions would this take?

This article reports the impact of the Living Ocean Initiative (LOI), a ten-month interfaith environmental outreach intervention that engaged forty-nine diverse religious congregations and their leaders in California. We deployed both psychological and ethnological methodologies to address the following research question: what is the effect of a religious environmental intervention on environmental behavior? We hypothesized that a religious environmental intervention will increase environmental behavior of religious leaders and their congregations. The LOI can best be described as an intervention because it was a purposeful educational effort to increase the religious environmental beliefs, behavior and political engagement of local religious congregations.

Psychology research specializes in assessing why people think, feel, and behave as they do. Thus, it is ideally suited to evaluating the impacts
of interventions that attempt to connect environmental and religious identities to promote environmental behavior. The growing subfield of conservation psychology investigates human thoughts, feelings, and behavior related to the environment with the goal of understanding how to foster a more sustainable society (Clayton and Brook 2005; Clayton and Myers 2009; Saunders 2003). Thus, this article is focused on local congregations and their leaders as primary units of analysis but also introduces a new social science methodology to the field of religious environmentalism. To our knowledge, there are no prior studies assessing the impact of a religious environmental intervention on pro-environmental behavior. Thus, this study demonstrates how distinct but complimentary social science methods can provide a more robust assessment of an intervention to foster religious environmentalism.

This article proceeds as follows. We review prior social studies of the relationship between religious and environmental identity, behavior and ethical understandings among religious leaders. We then describe the LOI and our study of its impacts, followed by implications for future religious environmental outreach efforts and understanding of religious environmentalism more broadly.

Investigating Influences on Environmental Behavior

Identity

At a conceptual level, religious leaders and social psychologists concur that identity strongly influences environmental behavior. However, there is little agreement on how this influence is exerted. Despite Taylor’s (2005) call for more research into the relationship between environmental values and actions, little scholarship in religious environmentalism has taken up the question of how an intervention could appeal to religious identity to facilitate pro-environmental behavior.

Conservation psychology can offer two contributions to this question. First, psychologists have studied identification with groups and its effects. Theories about identity developed and tested with this prior research inform the question of when and how religious identities may guide behavior.

Types of Identities

From a psychological perspective, specifically Social Identity Theory, identity is how people define themselves, including personal characteristics
unique to the individual, and group memberships that they share with similar others (Tajfel and Turner 1986). In the present research, we focus on social environmental identity—affiliations with groups of people who share concerns about environmental issues (c.f. Opotow and Brook 2003; Zavestoski 2003)—rather than personal relationship with nature (Clayton 2003). Similarly, we focus on social religious identity—affiliations with groups of religious people—rather than personal relationship with a deity.

**Relationships between Identities and Behavior**

People are generally motivated to behave consistently with their identities (for a review, see Ellemers et al. 2002). For example, Clayton (2003) and Kempton and Holland (2003) found that environmental identification predicts engagement in pro-environmental behavior. However, the ability of identity to predict behavior is far from perfect. For example, the rates of environmental behaviors (Kitchell, Kempton, Holland, and Tesch 2000; NEETF/Roper 2001) lag far behind the rates of identification (Gallup 1999). Research has shown that stronger identities (e.g. those developed more thoughtfully, held with more importance, more self-relevant, held with more certainty, held with more confidence, and of greater interest) predict behavior more than weaker identities, and that religious identities are typically stronger than environmental identities (Brook et al. 2010). In addition, people have difficulty satisfying the expectations of all of their identities if they have multiple important ones that conflict with each other (Brook et al. 2008). Thus, a plausible hypothesis, drawing on the psychological literature, is that environmental identity may often fail to predict behavior because behavior is instead driven by other, stronger identities, such as religious identity, that may have conflicting expectations for people's behavior. If so, then it may be possible to increase pro-environmental behavior through interventions that emphasize ways in which acting to help the environment is compatible or even necessary to be a good religious group member.

**Assessing the Effects of Interventions on Behavior**

A second way in which conservation psychology may help is contributing methodology that allows rigorous assessment of the effects of religious environmental interventions on pro-environmental behavior. Prior social science studies have been correlational, investigating the relationship between self-reported religiosity and environmental views (Boyd 1999;
Correlational studies cannot show that religiosity causes increased environmental concern, because it could be that worrying about environmental problems spurs people to be more religious, or that some other factor like social progressiveness increases both religiosity and environmental concern. To assess why people behave as they do, psychologists often use experiments, in which different groups of people are randomly assigned to receive different interventions. Unlike simple correlational studies, experiments allow psychologists to understand whether interventions cause certain outcomes—for example, whether religious environmental interventions cause increases in environmental behavior. When it is not possible to choose who receives the intervention and who does not, psychologists can use the next-best design—the quasi-experiment. In a quasi-experiment, people who receive an intervention are compared to people who do not, ideally controlling for initial differences between the groups of people. A quasi-experiment provides much stronger evidence about the effects of an intervention than simple correlational studies. The present research uses a quantitative, quasi-experimental research design to assess the effects of a religious environmental intervention, combined with qualitative ethnological analyses to provide context and depth.

The Ambiguous Role of Applied Ethics

Some scholarship has examined the role of applied ethics in religious environmentalism at the organizational level. Shibley and Wiggins (1997) described the emergence of the National Religious Partnership for the Environment but questioned whether this “top-down” approach by Christian and Jewish denominations could affect local congregations. Feldman and Moseley (2003) studied the values framework shared by Appalachian Christian non-governmental organizations. Leaders of these groups believe that environmental problems are religious and ethical in character, as well as technical and political. Thus, in their view, proposed environmental solutions that only address governmental policy and action are necessarily incomplete. These groups prioritize education and outreach, reflection on religious and ethical values, and personal transformation as a pre-cursor for broader social transformation. The U.S. Catholic Church’s environmental efforts have built upon its thirty-year effort to promote social justice as an ethical framework (Christiansen and Grazer 1996), while simultaneously articulating this with Catholic identity and the ethical duties that flow from that (Warner 2008).
Smith and Pulver (2009) surveyed forty-two U.S. religious environmental groups (i.e., non-governmental organizations) to assess their general characteristics and the factors that shape their ethical vision. Drawing from *The Death of Environmentalism* (Shellenberger and Nordhaus 2005), Smith and Pulver (2009) evaluated the relative emphasis that these groups placed on ethics-based versus issues-based approaches to environmental work. These groups reported a very strong preference for “ethics-based environmental work,” which they define as calling for broad attitudinal and lifestyle changes at the personal and local community level. This approach seeks to provide individuals with a generalized framework within which to view their responsibility to the natural world. In contrast, “issues-based work” is defined as political advocacy for specific environmental topics, but calls for personal behavioral changes within the framework of policy reform. Thus, some have suggested that religious environmentalism assumes a “bottom-up” approach to social transformation, or, one that radiates out from individuals to communities and then into the political realm. Since few studies have been done assessing the pro-environmental actions of local congregational leaders to date, it is difficult to say what sort of contribution they have made to the religious environmental movement. Alternatively, the two dominant methodologies used in studies of religious environmentalism (ethnology of religious leaders and correlational social science surveys) may not have captured their contributions.

Few if any of the religious environmental leaders profiled in scholarly literature have to balance their moral valuation of the environment with routine responsibilities such as administering local congregations or regional religious bodies. Thus, they are somewhat removed from daily contact with ordinary members of religious congregations. A prior study of U.S. Catholic environmental education initiatives demonstrated that these usually emerge from the leadership of one or two regional institutional leaders (i.e., bishops) who actively support concern for the environment as a social responsibility, and who partner directly with networks of pro-environmental active lay Catholics. Very few priests with day-to-day congregational responsibilities have played any meaningful role in these initiatives (Warner 2008). Most people engage religious values through local congregations led by local religious leaders. Congregational leaders may be key figures in the potential expansion of religious environmentalism because they can present official religious teaching on the environment, but to do so, they have to find a way to integrate this into their ordinary responsibilities to guide their local congregations. This requires weighing environmental with other moral and leadership concerns in a dialogical fashion with their congregants.
The Intervention: Origins, Goals and Participants

The Living Ocean Initiative (LOI) was conceived by a local conservation leader and two religious leaders in partnership with the Monterey Bay Aquarium to cultivate new, religious constituencies for the environment and for marine conservation advocacy. The LOI spanned 10 months, from September 2006 to June 2007 and had a cluster of specific objectives: to provide marine conservation educational resources to diverse faith communities; to encourage these faith communities to participate in civic engagement with marine conservation issues; to foster pro-environmental behavior among these faith communities. The LOI consisted of three major components: a one-day retreat (or educational workshop with religious themes) at the aquarium for local religious leaders February 23, 2007; a packet of religious environmental educational resources focused on marine conservation provided for the LOI participants; and a wide range of follow-up activities in local congregations and their communities. Thus, the first two components enhanced the capacity of and religious environmental resources for religious leaders, and the third depended upon these leaders to engage their own faith communities.

To our knowledge, this was the first local religious environmental education project with ocean conservation themes (see Religion, Science and the Environment, 2009). The LOI was guided by a steering committee of ten persons representing conservation organizations and participating congregations, and supported by eight Santa Clara University student interns. It built upon prior environmental education with an emphasis on marine stewardship among local congregations conducted by Santa Clara University students 2005-2006 on California’s Central Coast. These congregations are located within ten miles of the Monterey Bay National Marine Sanctuary—a Federally protected marine area. This region hosts some neighborhoods that are affluent and liberal with a reputation for having strong environmental values (though some neighborhoods are poor and working class).

The sixty-five congregations invited were selected on the basis of garnering the broadest possible religious diversity in the LOI. A total of 135 leaders representing 49 congregations participated in LOI. Of these 49 congregations, 22 were Protestant, 12 were Catholic, 5 were Buddhist, 3 were Jewish, 2 were Islamic, and 5 were otherwise affiliated (3 were independent religious groups, and 1 each from the Baha’i and Native American Yoga traditions). Protestant denominations included: Episcopal, Disciples of Christ, Christian Church, United Church of Christ, Methodist, Presbyterian,
Quaker, and non-denominational churches. Two congregations of conservative Evangelical Protestants were repeatedly invited but declined to participate. Most of the participating congregations hosted regular religious services for their members, but three would be more precisely defined as a monastery or retreat house. The leader of each congregation (e.g., rabbi, pastor or equivalent) was mailed three invitations, one for him/herself, one for a religious educator, and one for a lay congregational leader (e.g., chair of the congregation or steering council). LOI steering committee members subsequently contacted congregational leaders to support local follow-up activities, some of which were led by student interns.

Social Science Research Integrated into The Living Ocean Initiative

The present research uses ethnological and psychological methods to assess whether a religious environmental intervention can increase pro-environmental behavior. It extends previous research in several ways. First, it studies religious leaders with everyday responsibilities to congregations, rather than exceptional leaders without day-to-day accountability to congregations. Second, it uses a combination of qualitative ethnological and quantitative, quasi-experimental psychological methods rather than the simple correlational designs used in many previous studies. Third, it tests whether religious environmentalism translates into pro-environmental behavior, a crucial and unresolved question identified by many previous researchers (Smith and Pulver 2009; Taylor 2005). Fourth, it studies a greater diversity of religious organizations than many previous researchers—for example, Smith and Pulver (2009) studied only Christian and Jewish religious environmental organizations, whereas the present research studies local congregations from a wide variety of faiths. In testing whether a religious environmental intervention can increase pro-environmental behavior, the present research aims, as Shibley and Wiggins (1997) and Smith and Pulver (2009) suggest is essential, to guide future efforts and to inform potential funders of these types of interventions.

Qualitative ethnological data was gathered in two phases. Semi-structured baseline interviews were conducted with 16 participating local congregational leaders in September 2006. These leaders were based on their prior expressed interest in marine conservation issues. These leaders were asked about their views of the relationship between their religious services (sermons and rituals) and environmental ethics and their congregation’s history of engagement with environmental concerns. Participant
observation took place with congregations conducting local follow-up activities March through June 2007. These activities were reported to the LOI steering committee and sorted by the following categories: religious service; religious education; physical plant stewardship; social engagement. Social engagement is defined as any effort to communicate environmental concerns beyond the congregation itself.

Quasi-experimental conservation psychology data was gathered in two phases. Before the LOI began, forty-nine congregational leaders were provided three surveys each (a total of 147 surveys) between September 1, 2006 and February 22, 2007. Each was asked to distribute a survey to the religious educator and lay congregational leader and to fill one out him or herself. Control group participants were students in graduate ministry programs who completed surveys in their classes during the same time frame. Graduate ministry students were chosen as the control group because they were a readily available group who we expected to be similar in many ways such as their level of religious identification to the religious leaders who participated in the LOI. Surveys included identification and behavior measures described below, as well as some filler questionnaires.

The pretest response rate of participants in the LOI was 53.1% and response rate of controls was 100% due to data collection setting. Those who returned the pre-LOI survey were eligible to continue participating in the study and were sent a follow-up survey after the LOI. Among those who completed the pre-LOI survey, the response rate for the follow-up survey was 57.7% among LOI participants, and 53.0% among controls. Only participants who completed both pre- and post-LOI surveys are included in the quantitative analyses.

Participants in the Quasi-experiment

Eighty-nine religious leaders completed both pre-LOI and post-LOI surveys and, thus, are included in the analyses. Of these, forty-five participated in the LOI and forty-four did not. An additional seventy-two leaders (33 LOI participants; 39 control) completed pre-LOI surveys, but did not return post-LOI surveys, so they were not included in the analyses.

Of the LOI participants, 13 were Protestant (28.9%), 11 were Roman Catholic (24.4%), 6 were Buddhist (13.3%), 3 were Jewish (6.7%), 1 was Nondenominational Christian (2.2%), 1 selected multiple groups (2.2%; Buddhist and Agnostic), and 10 indicated they were “Other” (22.2%; “Anglican”; “United Church of Christ”; “Unity (New Thought/Inclusive Christianity)”; “New Age, New Thought, Christian”; “New Thought/
Metaphysical”; “New Thought/Omnifaith”; “Christian-nondenominational”; “Bahai Faith”). Of the control group participants, 24 were Roman Catholic (54.5%), 18 were Protestant (40.9%), and 2 indicated they were “Other” (4.5%; “Seeking transition from Protestant to Catholic”; “Interdenomination Christian/Mormon”).

LOI participants were mostly highly educated—31 (68.9%) had completed a graduate degree, 8 (17.8%) had completed some graduate work, 2 (4.4%) had completed a four year college degree, 2 (4.4%) had completed some college, 1 (2.2%) had completed junior college or vocational school, and 1 (2.2%) did not indicate how much education s/he had completed. Control group participants were not yet as highly educated as LOI participants—23 (52.3%) had completed a graduate degree, 15 (34.1%) had completed some graduate work, 3 (6.8%) had completed a four year college degree, 1 (2.3%) had completed junior college or vocational school, 1 (2.3%) had completed a high school degree, and 1 (2.3%) did not indicate how much education s/he had completed.

LOI participants were mostly leaders within their congregations—16 were lay leaders (35.6%), 12 were congregational leaders (26.7%), 7 were religious educators (15.6%), 3 were associate congregational leaders (6.7%), 3 served multiple roles in their congregations (6.7%), 1 was a senior practice leader (2.2%), 1 was a member (2.2%), and 2 did not indicate the role they served within their congregations (4.4%). Of the control group participants, 16 were lay leaders (36.4%), 11 were religious educators (25.0%), 6 were congregational leaders (13.6%), 4 were associate congregational leaders (9.1%), 2 were liturgical/ritual coordinators (4.5%), 2 served multiple roles in their congregations (4.5%), 1 was a chaplain (2.3%), 1 was a youth minister (2.3%), and 1 did not indicate the role s/he served within his/her congregation (2.3%).

Conservation psychology studies thoughts, feelings, and behaviors related to environmental conservation and, hence, is ideally suited to evaluate the effects of a religious environmental intervention on environmental behavior. Conservation psychology measures included environmental identification, relative strength of religious and environmental identities, and environmental behavior. Identification as an environmentalist was measured with a questionnaire developed by the Gallup Poll (Gallup Poll 1999): “Do you consider yourself to be an environmentalist, or not?” to which respondents could answer “Yes” or “No.” Participants completed the six-item religious and environmental identity strength scales developed by Brook and colleagues (2010). They responded using eleven-point Likert scales ranging from 0 to 10. The religious identity strength items were:
1) “How important is your religious group to you?” anchored with not at all important (0) to extremely important (10); 2) “How self-relevant is your religious group to you?” anchored with not at all self-relevant (0) to extremely self-relevant (10); 3) “When it comes to my religious group, I am ____ about how I feel.” anchored with not at all certain (0) to extremely certain (10); 4) “How much have you thought about being a member of your religious group?” anchored with not at all (0) to a great deal (10); 5) “How confident are you in your feelings about your religious group?” anchored with not at all (0) to a great deal (10); and 6) “How interested are you in your religious group?” anchored with not at all (0) to a great deal (10). Environmental identity strength was measured with the same six items, modified to refer to environmentalist identity. An example of a question from the environmental identity strength scale is, “How important is being an environmentalist to you?” on a scale of not at all important (0) to extremely important (10). The strength items were averaged to achieve an overall score, with higher scores indicating greater religious and environmental identity strength. See Table 1 for descriptive statistics of all continuous measures.

Environmental behavior was assessed using Clayton’s (2003) Environmental Behavior Scale, which measures self-reports of 21 everyday environmental behaviors such as recycling (Table 2). The question stem

| Table 1. Pre-test descriptive statistics of local religious leaders, with t-test statistics comparing participants in the religious environmental (LOI) intervention to the control group |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                 | LOI Participants | Non-Participants |                  |                  |                  |                  |                  |
|                                 | N    | Min | Max | Mean | St. Dev. | N    | Min | Max | Mean | St. Dev. | t   | p   |
| Religious Identity Strength     | 45   | 5.5 | 10  | 8.9  | 1.06     | 44   | 5.17| 10  | 8.86 | 0.96     | 0.18 | 0.854 |
| Environmental ID Strength       | 45   | 4.5 | 10  | 7.61 | 1.35     | 44   | 1.83| 10  | 6.88 | 1.86     | 2.15 | 0.034 |
| Environmental Behavior          | 45   | 2.99 | 4.52 | 3.67 | 0.48     | 44   | 2.57| 4.38| 3.6  | 0.54     | 0.6  | 0.55  |

a – t-statistic for the difference between the LOI and control group
b – p-value: the probability that the difference between the LOI and control groups is merely due to chance, rather than a real difference between the groups. A p-value < .05 is statistically significant.
Table 2. Personal/Ethical versus Political/Issues subscales from Clayton (2003) Environmental Behavior Scale

**Personal/Ethical Behaviors**
- Use recycled paper for stationery
- Use recycled products such as toilet paper, paper towels
- Use long-lasting light bulbs
- Recycle (paper, cardboard, cans, phone books, etc.)
- Use permanent plates, silverware and coffee mugs instead of disposables
- Donate unwanted furniture, clothes, etc. to others who can use them
- Buy used furniture, clothes, etc. when possible
- Set thermostat higher in summer, lower in winter
- Take shorter showers
- Use environmentally safe cleaning products
- Double-sided copying
- Reuse scrap paper as note paper
- Use e-mail to cut down on paper usage
- Turn lights off when leaving a room
- Turn computer off when it will be unused for several hours
- Buy organic produce
- Attempt to buy food and other products with minimal packaging
- Try to reduce the amount of driving I do

**Political/Issues Behaviors**
- Donate money to environmental organizations
- Participate in the activities of local environmental groups
- Vote for political figures on the basis of their environmental positions

read, “Indicate the extent to which you engage in each of the following activities by assigning the appropriate number from the scale below. Please be honest.” Participants responded on a five-point scale ranging from 1 (I never do this) to 5 (I always do this). Items in the scale were averaged to achieve an overall environmental behavior score, with higher scores indicating more environmental behavior. We used an existing scale rather than creating a new one measuring specifically ocean conservation behaviors for two reasons. First, using an existing, previously validated and published scale is generally more reliable than creating a new one. Also, using an environmental behavior scale that others have used allows readers to relate the effects of the present religious environmental intervention to other interventions studied by other researchers. Second, if an intervention focusing on ocean conservation produces changes in other, indirectly related pro-environmental behaviors, this shows that the effects of a
religious environmental intervention are much broader than if the intervention only affected the specific environmental domain or behaviors that it addressed. Thus, using a general pro-environmental behavior scale was more methodologically reliable and valid and tested whether a religious environmental intervention focusing on a specific problem could have broad effects on participants’ pro-environmental behaviors.

**Characterizing the Leaders and Their Congregations**

Baseline interviews with these congregational leaders (conducted September 2006, prior to the LOI) revealed that most of leaders were active in social concerns before they entered ministry. Several of them reported that the civil rights movement or a personal community organizing experience had contributed to their decision to enter ministry. Others describe the influence of a prior career (e.g. journalist, oceanographer) on the sense of civic responsibility that they brought into ministry. Several leaders traced their environmental values back to experiences in nature as youth (e.g., religious camping, fishing and backpacking).

Several Christian congregational leaders, when asked if they considered themselves environmentalists, expressed unease with the meanings associated with that term. None spontaneously described him or herself as a religious environmentalist. One spoke of the tensions around the politically charged character of the term “environmentalist,” and that he does not like the term for its tendency to polarize. Several Christian leaders asked the interviewer for a definition of the term “environmentalist.” One Christian leader, who had recently led an effort to rebuild their church building to be more energy and water efficient, expressed skepticism that environmental themes should be linked to Christianity. No leaders of non-Christian congregations reported this hesitation to use the term.

Every congregational leader, when interviewed prior to the LOI, described environmentally-themed activities in their congregation such as: homilies or sermons about environmental stewardship; outdoor religious rituals (e.g. ocean baptism); drawing out the environmental dimension of religious holidays (e.g., Sukkot and Tu Bish’vat); or encouraging environmentally-themed civic engagement among members (e.g., volunteering at the aquarium). Several leaders reported efforts to green their physical plant. Most of the congregational leaders referenced a religious teaching or a denominational statement as a rationale for endorsing these activities.
Christian congregational leaders described efforts to balance the presentation of environmental themes to their communities with their professional responsibilities to all congregants. This was not identified in interviews by leaders of other religious groups. Two leaders described the need to balance environmental messages with need to provide pastoral care for those working in agriculture and fishing in this area. Another described the need to respect congregants who were ideologically opposed to environmentalism. They articulated environmental identity and responsibility to act under the umbrella of duties flowing from their understanding of religious identity. This is consistent with the professional responsibilities of clergy to nurture the moral life of their congregants. One reported showing An Inconvenient Truth, and then receiving “hate mail” from a parishioner.

Scores on the religious identity strength scale indicated that both participants in the LOI and the control group were, not surprisingly, highly religious. Their religious identity strength was near the top of the response scale; this was higher than levels reported by college students in previous studies (Table 1) (Brook et al. 2010). Not surprisingly, their religious identities were stronger than their environmental identities (Table 1; ts > 5.48, ps < .001). However, their environmental identities were also stronger than those reported by college students in previous studies (Brook et al. 2010). The vast majority of religious leaders in this study, 88.9% of LOI participants and 79.5% of the control group, considered themselves to be environmentalists, a higher percentage than found in most representative national samples (Gallup 1989-1999) or samples of college students (Brook et al. 2010). LOI participants had stronger environmental identities than did the control group. Also, as previously described, the LOI participants represented a broader array of religious groups and viewpoints than did the control group.

Results: Characterizing the Effects of the Religious Environmental Intervention

LOI steering committee members and undergraduate interns participated in follow up activities March through July 2007, and these activities are reported in Table 3. This table presents seventy-three “activities” reaching more than 5,700 persons with ocean conservation messages, organized into four categories. This data is drawn from twenty-three of the 49 participating congregations. Ocean conservation themes were most likely to find
Table 3. Congregational activities carrying forward the LOI

<table>
<thead>
<tr>
<th>Category of activity</th>
<th>Activity</th>
<th>Number of events</th>
<th>Number of local congregations</th>
<th>Estimated number of people reached</th>
<th>Notes and examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious service</td>
<td>Sermons &amp; homilies</td>
<td>15</td>
<td>15</td>
<td>2700</td>
<td>This is a very conservative estimate</td>
</tr>
<tr>
<td></td>
<td>Environmentally themed worship services</td>
<td>15</td>
<td>17</td>
<td>450</td>
<td>E.g. a special service for World Water Day; a combined worship service for 3 congregations of a denomination</td>
</tr>
<tr>
<td>Religious education</td>
<td>Continuing education for denominational clergy (workshop)</td>
<td>5</td>
<td>na</td>
<td>845</td>
<td>Presentations to local and regional clergy about ocean conservation</td>
</tr>
<tr>
<td></td>
<td>Adult religious education events</td>
<td>6</td>
<td>5</td>
<td>725</td>
<td>Public lecture or workshop on ocean conservation issues; Lenten simple meal; fair trade presentation; Confirmation retreats; Vacation bible school activities; Sunday school classes with ocean stewardship themes</td>
</tr>
<tr>
<td></td>
<td>Youth group activities</td>
<td>14</td>
<td>12</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nature appreciation activities (adults)</td>
<td>2</td>
<td>1</td>
<td>10</td>
<td>Birding walks at the ocean</td>
</tr>
<tr>
<td></td>
<td>Conservation messages in church bulletins</td>
<td>9</td>
<td>3</td>
<td>350</td>
<td>Monthly in at least 2 congregations</td>
</tr>
</tbody>
</table>
### Table 3. (Cont.)

<table>
<thead>
<tr>
<th>Category of activity</th>
<th>Activity</th>
<th>Number of events</th>
<th>Number of local congregations</th>
<th>Estimated number of people reached</th>
<th>Notes and examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical plant stewardship</td>
<td>Environmental resource audit</td>
<td>na</td>
<td>1</td>
<td>no data</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improving energy and water efficiency</td>
<td>na</td>
<td>12</td>
<td>no data</td>
<td>At least 12 congregations reported this Local responses to climate change program cosponsored by 5 congregations; ecumenical Earth Day prayer event on the beach Information table at the Ocean Day Fest and at a local community food festival Information table at the Ocean Day Fest and at a local community food festival</td>
</tr>
<tr>
<td>Social engagement</td>
<td>Community education events</td>
<td>3</td>
<td>10</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ocean conservation outreach at local festivals</td>
<td>2</td>
<td>2</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Donation to ocean conservation advocacy organization</td>
<td>1</td>
<td>3</td>
<td>no data</td>
<td>3 congregations took a collection for this organization Radio presentation on religious environmentalism and ocean conservation</td>
</tr>
<tr>
<td></td>
<td>Media outreach</td>
<td>1</td>
<td>na</td>
<td>no data</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>73</td>
<td></td>
<td>5720</td>
<td></td>
</tr>
</tbody>
</table>
expression in religious services: sermons and ritual. The second most important category of activity was the religious education of adults and youth. Almost half of the twenty-three reporting congregations described some effort to improve resource efficiency in their physical plant. The social engagement category includes activities that generally included a small number of congregation members working in partnership with local community-based conservation organizations. These community conservation education activities reached congregation members and other local residents.

The data in Table 3 is not comprehensive, but it reports from the congregations that reported hosting the most follow-up activities. The congregations with a history of social engagement were most active in the LOI. The congregations that reported follow-up activities generally reported across all four categories of activities. The twenty-six congregations for which there is no follow-up activity data are presumed to have done little at the congregational level.

The LOI religious environmental intervention does not appear to have prompted congregations without a history of environmental concern to host environmentally themed activities. However, it does appear to have stimulated those congregations that have dabbled in environmental themes to have increased the number and diversity of religious environmental activities. Note that no activities with an explicit political, policy, or advocacy dimension outside of the congregations themselves were reported. LOI activities at the congregational level were, for the most part, consistent with prior congregational interests. This suggests that congregational leaders and their congregations only expressed their religious environmentalism in ways that were consistent with their previous congregational interests. This supports the notion that religious environmental interventions such as the LOI can most effectively facilitate pro-environmental behavior by emphasizing the compatibility of pro-environmental action with strongly held religious identities and practices.

**Quasi-Experimental Analysis of Pro-Environmental Behavior of Religious Leaders**

A two-way mixed Analysis of Variance (ANOVA) allowed us to test whether the overall pro-environmental behavior of LOI participants, measured with Clayton’s Environmental Behavior Scale (2003), changed from before to after the LOI, compared to the pro-environmental behavior of the control group. This test revealed that pro-environmental behavior of LOI participants, significantly increased ($F (1,80) = 10.38, p = 0.002$) from before to after the LOI, compared to pro-environmental behavior of the control
group. The large $F$-statistic and small $p$-value ($p < 0.05$) indicated that it was unlikely that the behavioral differences between the LOI and control groups were due to random chance. Considering the changes in pro-environmental behavior from before to after the LOI for the LOI participants and control groups separately, pro-environmental behavior of the LOI participants significantly increased ($F(1,40) = 5.52, p = 0.024$), but pro-environmental behavior of the control group significantly decreased ($F(1,40) = 4.90, p = 0.033$).

Recall that the qualitative analyses also suggested, consistently with the suggestions of some prior research (Smith and Pulver 2009) that religious organizations might be more likely to pursue personal/ethical pro-environmental behaviors than political/issues ones. As another means of investigating this possibility, we divided the Clayton Environmental Behavior Scale (2003) into two subscales. One contained items representing personal behaviors and the other items representing political behaviors (Table 2). We then ran the same two-way mixed ANOVA predicting each of these subscales separately. Personal pro-environmental behavior of LOI participants significantly increased ($F(1,80) = 10.18, p = 0.002$) from before to after the LOI, compared to personal pro-environmental behavior of the control group. Considering the changes in personal pro-environmental behavior from before to after the LOI for the LOI participants and control groups separately, personal pro-environmental behavior of the LOI participants significantly increased ($F(1,40) = 9.25, p = 0.004$), whereas pro-environmental behavior of the non-participant control group did not change (Figure 1; $F(1,40) = 2.37, p = 0.132$). In contrast, political pro-environmental behavior of LOI participants did not significantly change (Figure 1; $F(1,80) = 1.36, p = 0.247$) from before to after the LOI, compared to the control group. This analysis supports the assertion that religion may be more likely to motivate personal/ethical than political/issues pro-environmental behaviors.

**Discussion and Conclusion**

This study provided evidence that a religious environmental intervention can increase pro-environmental behavior. Supporting the validity of these findings, results of qualitative and quantitative methodologies were consistent with each other. Replicating and extending Smith and Pulver (2009), this study found that religious leaders were more inclined to engage in personal/ethical behaviors within their congregations than political/issues pro-environmental behavior in the political realm. They found a preference for ethical over issues-based environmentalism among leaders of Christian
Figure 1. Effect of LOI on Personal/Ethical versus Political/Issues Pro-Environmental Behaviors (as measured with Clayton, 2003 Environmental Behavior subscales). Responses were on a five-point scale ranging from 1 (I never do this) to 5 (I always do this).
and Jewish religious environmental organizations. The present research extended these findings by showing that this preference extends to leaders of a diverse variety of local religious congregations and translates into personal rather than political pro-environmental behaviors.

The primary expression of religious environmentalism facilitated by the LOI in the life of congregations was to incorporate environmental and marine conservation themes into routine congregational activities. The LOI strengthened the thematic focus on ocean conservation as an expression of local religious environmentalism at the community and regional level. Religious services and education and physical plant stewardship were the primary responses by congregations to the LOI. The intervention prompted scant environmental advocacy, despite the prominence of this in religious environmental scholarly literature. For example, Gottlieb (2006a) described Jewish and Christian environmental leaders in the prophetic tradition and their advocacy for environmental protection in the political realm. This study raises questions about the direction that religious environmentalism is likely to develop and its ability to engage specific issues or shape political processes. Conservation leaders who helped sponsor the LOI were looking to cultivate friends, allies and advocates who would support additional conservation efforts. This study suggests that the forging of religious environmental identities is likely to proceed but not necessarily to express itself directly in the political realm or in advocacy. Thus, future research should investigate the conditions under which local religious environmentalism engages the political process and fosters political pro-environmental behavior.

This study reports expressions of religious environmentalism among congregational leaders and in local faith communities. It suggests that the promise of religious environmentalism proposed by individual charismatic religious leaders may be unrealistic, but it does present clear impacts of an intervention, thus clarifying some of the ambiguity in correlational studies. The integration of environmental themes into the ordinary religious activities of congregations has received scant attention in the literature. Much scholarly literature on religious environmentalism has highlighted the value of religious-based civic engagement, or participation in advocacy for public policy. This study suggests there is value in further inquiry into religious environmentalism expressed within the ordinary life of religious congregations. Further research should investigate the influence of regional cultural values, for example, investigating: what shape would a religious environmental intervention take in a conservative region and what impact would it have?
The congregational leaders in this study explained their participation as in continuity within their religious tradition. This reflects Warner’s (2008) and Smith and Pulver’s (2009) findings that religious environmental groups favor continuity within the tradition. In this view, religious environmentalism is not novel, but rather, merely a new expression of something traditional. Congregational leaders understand their ethical responsibilities to include ministerial service to those who are not environmentalists, and, thus, they avoid polarizing their congregations. That a congregation member, in this liberal region with so many people holding environmental values, would send “hate mail” due to the showing of An Inconvenient Truth illustrates the challenges facing any congregational leader engaging specific environmental issues. This maps onto previous research on intergroup conflict over environmental issues (Opotow and Brook 2003). This reaction illustrates why leaders would shy away from issue-based environmental work and toward ethics-based environmentalism, or toward lifestyle behaviors. On the other hand, the congregations that did participate actively in the LOI did so without any reports of congregant resistance. These findings strongly support Smith and Pulver’s (2009) framework of religious organizations’ preference for ethics-based environmentalism, not issue-based environmentalism. This study confirms theirs that this ethics-based environmentalism is a preferred framework for understanding these cases.

This study indicates the value of studying religious environmental interventions and suggests that carefully designed interventions may be able to increase religious environmentalism. Before the LOI, most of the religious leaders in this study had begun presenting environmental themes in the ordinary life of their congregation, through ritual, worship, and community activities. Concern for the environment was not generally new to them, but their expression of religious environmentalism did increase their personal pro-environmental behavior and generally brought greater emphasis to ocean conservation in the life of their congregations.

This study investigated an interfaith effort and suggests that there are important differences across religious traditions and within them. Many congregational leaders referenced national denominational statements about the environment, and this might reflect prior efforts of the National Religious Partnership for the Environment (Shibley and Wiggins 1997). Further research should provide more clarity about the influence of one’s religious tradition (versus other social variables) and investigate the influence of a denomination on particular expressions of religious environmentalism.
References


