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**ENVIRONMENTALISM IN THE UNITED STATES: AN ASSESSMENT OF THE  
MOVEMENT'S NATIONAL ORGANIZATIONAL INFRASTRUCTURE, 1955-1998**

A Thesis in

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by

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## ABSTRACT

The focus of this project is explaining the mobilization of the non-profit environmental sector and the impact of this mobilization on the federal policy making process between 1955 and 1998. We test alternative explanations for the emergence of environmentalism in America using negative binomial regression techniques to analyze the date of establishment for 658 national EMOs. Results provide little support for either environmental degradation or value shift explanations for the mobilization of environmental concern, instead strongly supporting predictions made by organizational ecologists concerning founding rates in organizational populations generally. In examining the impact of mobilization across different stages within the policy making we focus on two distinct stages: agenda setting and the passage of laws. Results provide strong support for the notion that mobilization of the U.S. environmental movement increased representation of environmental issues on the Congressional legislative agenda. There is also evidence supporting the hypothesized positive relationship between mobilization and the incidence of environmental laws, though this relationship is considerably weaker and more tenuous. The effect of environmental movement mobilization remains unchanged even once we control for public opinion, which has no independent effect on either environmental agenda setting or the passage of laws.

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## **CHAPTER 1:**

### **INTRODUCTION**

The United States environmental movement is both large and, by many measures, one of the more successful social movements in modern US history. The mobilization of environmental concern that began during that 1960s and 70s is credited with, for instance, the development of an extensive public policy system (Andrews 1999; Petulla 1988; Portnoy 1990) and fundamental changes in the way business organizations (Hoffman 2001) and individuals interact with the “environment.” Though the effectiveness of the movement on slowing actual environmental degradation remains in dispute (see e.g. Fried 1998; Gould, Weinberg and Schnaiberg 1993; Rucht 1999, 205;), both the movement itself and the issues it represents appear to be firmly entrenched in the public consciousness and on national (and local) political agendas today. Not surprisingly, the U.S. environmental movement has been the subject of considerable research interest (see Mertig, Dunlap, and Morrison 2002 for a review).

Given the volume of research conducted on the environmental movement, it is shocking how little systematic quantitative evidence is available on the relative size or intensity of mobilization over time. Existing analyses of this large and important contemporary social movement have been largely limited to: information from only a handful of the largest national environmental organizations (e.g. Dunlap and Mertig 1992a; Mitchell et al. 1992; Shaiko 1999); qualitative-historical analyses, relying on media and first person accounts to document change (e.g. Gottlieb 1993; Dowie 1995); or only one aspect of the environmental movement such as forest protection (Nash 1967), environmental justice (Bullard 1990; 1993), or nuclear activism (Joppke 1993; Meyer 1990). Where analysts have sought to examine the broad contours of the

movement, data constraints have dictated cross sectional research designs (e.g. Brulle 2000; Andrews and Edwards, forthcoming) that offer only a snapshot of the dynamic process of movement development.

The current research employs a unique source of data collected specifically to address deficiencies in the dominant research designs employed within the extant empirical literature on the scope and development of the environmental movement. I have assembled the most complete information presently available on the national U.S. environmental movement, compiling time series data on 652 national Environmental Movement Organizations (EMOs) in the United States between 1955 and 2000. An environmental movement organization is a particular type of social movement organization (McCarthy and Zald 1977) for whom environmental conservation and/or protection is a primary organizational concern.<sup>1</sup> Data are drawn from the *Encyclopedia of Associations* and cover a broad range of national EMOs. Both highly institutionalized issue advocacy organizations (e.g. Nature Conservancy, Sierra Club) and more confrontational, loosely structured direct action groups (Earth First!, Clamshell Alliance) are included in the sample. Collectively, these organizations exhibit a wide range of tactics, discourse frames, organizational structures, and constituencies.

The resulting data set is the culmination of a three-year data collection effort involving: identifying relevant environmental organizations for inclusion, locating, photo-copying, and data entering information on more than 12,000 organizational entries from the *Encyclopedia*,

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<sup>1</sup> Following in the resource mobilization tradition we do not find it useful to distinguish between issue advocacy and social movement organizations (see McCarthy and Castelli 2002). A casual perusal of Encyclopedia entries indicates that many EMOs use a mixture of institutionalized and outsider tactics, making any division between issue advocacy organizations and SMOs necessarily arbitrary.

assembling the data into a time series format, and cleaning data by tracking down missing organizational records (See appendix A for a discussion of the merits and limitations of the *Encyclopedia* as a data source. Chapter 2 includes a more detailed discussion on bounding the population of relevant EMOs). These data cover the entire time period of growth, stabilization, and possible decline of the modern environmental movement. The resulting product, I believe, provides a more detailed picture of the dynamics of growth and decline of the national U.S. environmental movement over time than has been previously available. I use these data to address three fundamental questions about the dynamics of the environmental movement.

First, what has been the magnitude of growth in the movement over time and how do we account for the timing and pace of growth (decline) in the movement over the past half-century? Second, how successful has the movement been? Has the growth of the environmental movement resulted in increased attention to, and concrete policy actions regarding, issues of concern to the movement? Finally, what is the geographic distribution of the U.S. environmental movement, how has it changed over time, and do changes in the physical location of EMO headquarters affect probabilities of organizational persistence?

This dissertation is devoted to answering each of these questions in turn. In chapter 2, I attempt to account for the timing and pace of organizational mobilization within the U.S. environmental movement through an analysis of organizational founding rates. Dominant, movement-specific, explanations for the emergence of environmentalism suggest that mobilization occurred in response to increasing environmental degradation and shifting values in America. I test these explanations against an alternative population ecology framework, emphasizing forces of legitimation and competition operating at the level of organizational populations. I conduct a contextualized analysis that includes population-specific (historical)

predictors of growth while paying serious theoretical and methodological attention to the largely unmeasured construct of legitimacy. Alternative explanations for the mobilization of environmental concern are tested using negative binomial regression techniques to analyze the date of establishment for 652 national EMOs. Results provide little support for either environmental degradation or value shift explanations for the mobilization of environmental concern. Instead, results strongly support density dependence predictions concerning founding rates in organizational populations generally. Direct measures of legitimacy are strong and significant predictors of population growth. However, they do not dampen the effect of population density, suggesting multiple dimensions of legitimacy are important in explaining growth within organizational populations.

Chapter 3 is devoted to the political outcomes of mobilization within the U.S. environmental movement. I examine the affect of mobilization across different stages in the policy making process, a significant contribution to a literature that has focused empirical attention almost exclusively on the end point of this process (i.e. the passage of laws) while theoretical developments have emphasized the importance of earlier stages, particularly the setting of public agendas. Results provide strong support for the notion that the mobilization of the U.S. environmental movement increased representation of environmental issues on the Congressional legislative agenda. There is also evidence supporting the hypothesized positive relationship between mobilization and the incidence of environmental laws, though this relationship is considerably weaker and more tenuous, as predicted.

Chapter 4 focuses on the geographic distribution of the environmental movement between 1960 and 1998. The focus here is on the changing geographic location of national EMO headquarters and the implications of such change for organizational persistence. Results indicate

that any move in the headquarters of an organization is initially disruptive, exposing organizations to an elevated risk of failure (i.e. disbanding). If an organization persists past this initial period, however, changes in headquarter location infer long-term survival advantages. We find little support for the notion that where organizations move to or from significantly affects this process.

Before proceeding to the analytical chapters of the dissertation I would like to conclude this introduction with a few words about the decision to focus attention on national environmental movement organizations (EMOs). One possible alternative would have been to rely on the record of environmental protest to document the emergence and development of the movement. While this is another popular metric for documenting the ebb and flow of social movements (Olzak 1989), environmental protest has been a relatively rare occurrence (Jenkins and Halcli 1999). Only 2% of all social movement-related events reported in the NY Times between 1960 and 1986 advance claims about environmental issues, and the majority of these events are distinctly local in nature rather than oriented towards national targets or audiences (McCarthy, Personal Communication, 2005).

There is a long tradition in social movement research of focusing on social movement organizations, especially within the resource mobilization tradition (Crist and McCarthy 1996; McCarthy and Zald 1977; Zald and McCarthy 1987). Debra Minkoff (1997b) provides a particularly cogent argument for the centrality of organizational analyses to the understanding of social movements. Social movement *organizations* perform a number of important functions: facilitating the development of collective identities, shaping and promoting public discourse, spreading protest models, creating opportunities for activism and, of course, mobilizing resources.

Nevertheless, national EMOs are only one part of a very large and vibrant movement advocating the protection and conservation of “the environment” and the decision to focus on these organizations does impose certain limits on the generality of analyses conducted here. In particular, the methodologies employed allow me to say nothing about the vast and ongoing mobilization of environmental concern occurring at both sub-national (local, state, regional) and transnational levels.<sup>2</sup> Nor am I able to speak to the experiences or motivations of the many individuals who have participated in movement activities. What I do provide is the most complete data on, and analysis of, the parameters of the strength and vitality of the national environmental movement in the United States available today.

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<sup>2</sup> In earlier work I have used the data collected for this dissertation to examine the sequencing of national and transnational environmental movement mobilization (Johnson and McCarthy, 2004).

## CHAPTER 2:

### Mobilizing U.S. Environmentalism: Explaining the timing and pace of national environmental movement organization foundings, 1955-1998

National environmental movement organizations compose one of the largest and most influential sectors of citizens groups active in the United States today. The mobilization of groups advocating environmental protection is credited with, among other outcomes, the development of an extensive public policy system (Andrews 1999; Petulla 1988; Portnoy 1990) and fundamental changes in the way business organizations operate (Hoffman 2001). How do we account for the emergence and growth of the modern environmental movement in the United States? Despite the widespread theoretical attention devoted to this issue, there has been a striking lack of empirical work systematically documenting, or testing alternative explanations of, the timing and pace of the emergence and growth of this influential movement.

Intuitively, one might expect the mobilization of environmental concern to occur in response to the worsening of objective ecological conditions. This, essentially functional, explanation for the emergence and growth of the environmental movement was a fundamental assumption in early work within environmental-sociology. The other dominant explanation for the ascendance of the modern environmental movement focuses on the role of rising affluence in the post World War II period producing a postmaterialist value shift in American society that favors quality of life issues, such as environmental protection, over purely materialist concerns.

We propose an alternative explanation for the pace of mobilization that is rooted in theories of density dependence and the emergence and development of organizational populations generally. Density dependence theory was developed by population ecologists

(Carroll 1984; 1988; Hannan and Freeman 1977; 1989) to explain the consistent empirical finding of an inverse U-shaped relationship between the number of organizations in a population, or population density, and rates of new organizational foundings. That is, as the total number of active organizations in a population initially increases, so does the rate of new organizational foundings. After some tipping point is reached, increased population density suppresses rates of new organizational foundings. The observed relationship holds for many types of organizations, including many different populations of social movement organizations (Hannan and Freeman 1987; Minkoff 1997a; Olzak and West 1991; Nownes 2004).

To explain these patterns, population ecologists have relied, theoretically, on the twin processes of inter-organizational competition and legitimacy. Initial increases to a population's density are thought to increase the legitimacy of the field, and thus lead to elevated rates of foundings. Beyond some inflection point, however, successive additions to population density are thought to contribute increasingly little to the legitimacy of the field while intensifying competition over finite resource pools, thus suppressing new organizational foundings. The way in which theories of legitimacy, borrowed from new-institutionalists, have been adapted and applied within ecological research has been the subject of intense debate. In particular, critics suggest that legitimacy was invoked, and incorporated in ecological models, in a post hoc manner to explain consistent empirical observations and that subsequent tests of ecological theory have failed to adequately measure the concept while also largely ignoring historical circumstances (Baum and Powell 1995; Isaac and Griffin 1989; Singh 1993; Zucker 1989).

In this chapter, we test this alternative explanation for the emergence and pace of development of environmental movement organizations (EMOs) against theories based on environmental degradation and shifting values in America. In doing so, this work makes two



significant contributions to studies of social movements, organizational behavior, and environmental sociology. First, we conduct a contextualized analysis of the population ecology model that includes population-specific predictors of organizational growth while paying serious theoretical and methodological attention to the major critiques of density dependence theory. That is, though the concept of legitimacy plays a pivotal role in density dependence explanations of growth in organizational populations, in statistical tests of the model legitimacy has been treated as an unobserved construct represented solely by the number of active organizations, or density, within a population. We address this shortcoming by developing detailed historical evidence on the legitimacy of the modern environmental movement in the United States. In doing so, this research contributes to a growing literature integrating new-institutionalist approaches with population ecology (Baum and Oliver 1992; Carroll and Hannan 1989; Greve 2002; Hannan and Carroll 1992; Minkoff 1999; Studer-Ellis 1995).

A second major contribution of this research is the most systematic quantitative analysis to date on the development of the modern environmental movement in America. Existing analyses of this large and important contemporary social movement have been largely limited to: information from only a handful of the largest national environmental organizations (e.g. Dunlap and Mertig 1992a; Mitchell et al. 1992; Shaiko 1999); qualitative-historical analyses, relying on media and first person accounts to document change (e.g. Gottlieb 1993; Dowie 1995); or only one aspect of the environmental movement such as forest protection (Nash 1967), environmental justice (Bullard 1990; 1993), or nuclear activism (Joppke 1993; Meyer 1990).<sup>3</sup> The lack of

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<sup>3</sup> For an exception see McLaughlin and Khawaja (2000) who also analyze foundings of national environmental groups. However, while ostensibly performing an ecological analysis, they do not include the main variables used in population ecology models: population density and density squared. Their study also fails to account for shifting

systematic evidence on the mobilization of the environmental movement as a whole is surprising given the extensive amount of attention devoted to theorizing about the mobilization of environmental concern. Here, we analyze data on the foundings of more than 650 national EMOs in existence between 1955 and 1998. These data cover a broad range of environmental organizations and the observation period includes the entire time period of growth, stabilization, and possible decline for the modern environmental movement in America.

There is a long and venerable tradition in social movement research of focusing on movement organizations as evincing characteristics of the larger movement.<sup>4</sup> Social movement *organizations* perform a number of important functions within broader movements: linking together movements with “weak” infrastructures, facilitating the development of collective identities, shaping and promoting public discourse, spreading protest models and creating opportunities for activism and, of course, mobilizing resources (Minkoff 1997b). One possible alternative would have been to rely on the record of environmental protest to document the emergence and development of the movement. While this is another popular metric for documenting the ebb and flow of social movements (Olzak 1989), protest activity is relatively less informative about the development of the environmental movement, for which protest has been a relatively rare occurrence (Jenkins and Halcli 1999). In contrast to other social movements associated with the 1960s and 1970s, the environmental movement has been defined by the creation of professional movement organizations, rather than mass-based participatory action.

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values and levels of ecological disruption as possible explanations for the organizational mobilization of the United States environmental movement.

<sup>4</sup> See Crist and McCarthy (1996) for a historical review of the methodologies and units of analysis employed in social movement and collective behavior research.

## THE ENVIRONMENTAL MOVEMENT

Analysts typically locate the historical roots of U.S. environmentalism in progressive era (1890-1920) movements advocating the conservation and preservation of nature.<sup>5</sup> National EMOs formed during this early mobilization period, such as the Izaak Walton League of America (founded in 1922) and the Sierra Club (1892), provided important abeyance structures (Taylor 1989) and served as the face of the movement. However, during the 1960s cycle of protest (Tarrow 1998) the movement entered an extensive period of mobilization that marks the beginning of the modern environmental movement in America (Brulle 2000; Gottlieb 1993) and is distinguished by the rapid proliferation of a “new breed of environmental organization” (Mitchell et al. 1992: 14).<sup>6</sup> The Environmental Defense Fund and Natural Resources Defense Council typify this new breed of EMO; focused on issues such as toxic chemicals, water quality, and air pollution and dependent upon full-time paid staffs of scientists, lawyers, and lobbyists rather than an active membership.

The proliferation of new national EMOs was accompanied by the increasing institutionalization of environmental issues on the American political landscape. The year 1970 is often invoked as marking the beginning of both the U.S. environmental movement and an “environmental era” in American public policy. On January 1 of that year President Nixon signed into law, live on national television, the National Environmental Policy Act, opening numerous points of access for citizens organizations to influence federal decision making on environmental issues. During April the first “Earth Day” events were held and in December the

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<sup>5</sup> Recent scholarship has highlighted historical antecedents to modern environmentalism in public health and urban reform movements as well (Gottlieb 1993; Melosi 2001; 1980)

<sup>6</sup> Many analysts, invoking a strong new social movements perspective, assert that this mobilization period ushered in distinctly new ecology movements in the United States and Europe (e.g. Hays 1987; Dalton 1994).

national Environmental Protection Agency (EPA) began operations. In all, more than thirty major pieces of federal legislation dealing with the environment were passed during the 1970s (Miller 1991). National level mobilization around environmental issues remained high through the early 1970s, building on the momentum of Earth Day and the increasing institutionalization of environmental issues on political agendas. By the mid-70s, however, many analysts were asserting that the movement had run the course of its issue attention cycle (Downs 1972).

The Reagan presidency and its attack on a host of environmental protections produced a backlash of support for environmental issues and organizations, however, re-invigorating the movement. National EMOs, especially those focused on issues of conservation, experienced a surge in membership during the 1980s (Mitchell et al. 1992). At the same time, there was an upsurge in grassroots organizing around issues of toxic contamination and environmental justice (Bullard 1990; 1993; Szasz 1994). This grass-roots strand of the environmental movement has been extremely critical of national movement organizations, but has also developed its own national level movement infrastructures (such as the Center for Health, Environment and Justice, formerly the Citizens Clearinghouse for Hazardous Waste and, before that, the Love Canal Homeowners Association) that aim to serve these locally based strands.

By the early 1990s there had been a distinct shift in the locus of environmental mobilization from the national to the sub-national and transnational arenas. Mainstream, professional, EMOs, considered the vanguard of the early environmental movement, were regularly criticized as ineffectual captured interests of government and industry (Dowie 1996). Indeed, the national movement is generally perceived to have entered a period of retrenchment, or at least re-organization, during the 1990s. Instead, grassroots groups increasingly came to dominate the United States environmental movement. Mobilization of an increasingly diverse

grassroots environmental constituency was spurred in 1991 as a result of the first National People of Color Environmental Leadership Summit. At the same time, there was a tremendous expansion in transnational environmental mobilization both in preparation for, and in response to, the landmark 1992 Earth Summit conference which galvanized world-wide attention and drew more than 60,000 representatives of EMOs to attend proceedings that ran parallel to those of the official conference. We examine the entire sequence of growth within the modern U.S. environmental movement (1955 – 1998), from inception to stabilization and possible decline.

## **EXPLAINING THE MOVEMENTS ASCENT**

### *OBJECTIVE CONDITIONS*

Historically, most environmental sociologists, as well as environmental movement participants themselves, have assumed that the movement is a direct response to increasing levels of environmental degradation. In his presidential address to the Rural Sociological Society, for example, prominent environmental sociologist Frederick H. Buttel claims that “Social scientists have tended to take greening to be a mostly sui generis phenomenon, deriving more or less from the growing recognition of the severity of local, regional, and especially international environmental problems and the need to address them” (1992: 1). Indeed, while seldom the focus of study, most sociological analyses point to the role played by actual increases in levels of environmental disruption in accounting for the rise of modern environmentalism.

In this “objective threat” model, the striking increase in the salience of environmental issues and rise of environmental concern in the late 1960s and early 1970s United States is seen as a direct response to accelerated levels of environmental disruption. The changing nature of industrial production after World War II led to a quantitative increase in the scale of environmental disruption and a qualitative shift in the types of environmental harm. As the

ecological impacts of modern production became apparent, citizens organized to combat these negative unintended consequences. Certainly, there are dramatic instances of mobilization in direct response to suddenly imposed (environmental) grievances (Tilly 1978), as in response to the nuclear release at Three Mile Island (Walsh and Warland 1983) and many instances of local mobilization around toxic hazards (Brown and Mikkelsen 1990; Szasz 1994).

The rise of anti-realist environmental sociology, however, has called into question the presumed effect of changes in ecological conditions on environmental mobilization. Such a view emphasizes that, to the extent there is objective environmental deterioration, it must first be interpreted as problematic to have any significance (Hannigan 1995; Yearley 1991). The relationship between objective ecological disruption and the mobilization of environmental concern remains largely unexplored empirically, however. David Frank and his colleagues (Frank, Hironaka and Schofer 2000) find no significant relationship between measures of environmental degradation and nation states attention to environmental issues<sup>7</sup>. In the only previous *quantitative* analysis of the timing and pace of organizational mobilization within the environmental movement of which we are aware, McLaughlin and Khawaja (2000) do not include a measure of ecological degradation in their model.

### *SHIFTING VALUES*

The other dominant explanation for the emergence of the modern U.S. environmental movement focuses on the role of unprecedented economic growth in the decades after World War II and the concomitant impact on public attitudes and values.<sup>8</sup> The value shift hypothesis

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<sup>7</sup> Note that the authors purport to explain governmental attention to environmental issues rather than movement mobilization per se. As well, their environmental degradation measures have been strongly critiqued (Buttel 2000).

<sup>8</sup> The hypothesized relationship between economic growth and environmental concern is also a key component of the larger ecological modernization thesis (see e.g. Mol 1997; Mol and Sonnenfeld 2000). That is, economic

elaborated by Ronald Inglehart and associates (Inglehart 1990; Abramson and Inglehart 1995) has been particularly influential. The thrust of the argument is that rising affluence has made the material imperatives of survival relatively unproblematic for large portions of the population, resulting in a broad postmaterialist value shift away from issues of economic and political security and favoring quality of life issues such as environmental protection. As larger segments of the population experience a postmaterialist value shift support for the environmental movement, and new social movements generally, is expected to increase.<sup>9</sup>

While the value shift hypothesis has been used to explain the rise of environmental movements in Western countries, both by Inglehart and others (e.g. Hays 1987; Mertig, Dunlap and Morrison 2002), assessments of these claims have focused on isolating correlates of individual environmental *attitudes*. The effect of shifting values on environmental movement mobilization has been left largely unexplored. Conspicuously absent within this literature have been empirical analyses that evaluate the value shift hypothesis on environmental *movement* mobilization. Research has tended to treat the environmental movement and environmental attitudes and values as being coterminous (Buttel 2003). Decades of research on participation in social movements has consistently demonstrated, however, that attitudes are a poor predictor of individual participation in social movements. Even in cases of exceptionally high mobilization, 90-95 percent of individuals attitudinally pre-disposed to the goals of a movement do not

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progress leads to improved environmental performance because it results in the mobilization of environmental concern in EMOs which then pressure governments and business resulting in improved environmental performance.

<sup>9</sup> Though there are many variations of new social movement theory there is largely a consensus that the shift to a post-industrial economy has fostered the growth of a host of new social movements, of which the environmental movement is the largest and most influential, and that these movements are unique by their focus on post-material quality of life issues. (Pichardo 1997).

participate (Klandermans and Oegama 1987; Walsh and Warland 1983). While the burgeoning environmental movement is seen in this view as the organizational representation of amalgamated individual values, the link between individual environmental attitudes and organized mobilization remains an empirically open question.

#### *DYNAMICS OF GROWTH WITHIN ORGANIZATIONAL POPULATIONS*

An alternative theoretical approach to explaining mobilization of the environmental movement focuses on the dynamics of organizational populations generally. One fruitful approach to understanding general dynamics of organizational populations has been the development of an institutional-ecology of organizations, incorporating new-institutional theory within ecological models of population growth (Baum and Oliver 1992; Carroll and Hannan 1989; Greve 2002; Hannan and Carroll 1992; Minkoff 1999; Studer-Ellis 1995). Both population ecology and new-institutionalist theory emphasize the role of the surrounding environment in understanding the dynamics of organizational populations. In particular, population ecologists (Carroll 1984; 1988; Hannan and Freeman 1977; 1989) emphasize competition over limited material resources in shaping population growth trajectories while new-institutionalist theory (DiMaggio and Powell 1983; Meyer and Rowan 1977; Powell and DiMaggio 1991) focuses on the role of legitimacy in governing population dynamics.

The starting point for combining these perspectives has been the proposed explanation for one of the most consistent findings within studies of organizational foundings. Studies of a wide-variety of organizational populations, including populations of SMOs, have found an inverse U-shaped relationship between the number of organizations in a population, or population density, and rates of new organizational foundings.<sup>10</sup> New organizational populations

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<sup>10</sup> See Aldrich (1999) and Scott (2002) for reviews of density dependence research.



initially exhibit low rates of growth (i.e. low organizational foundings and high rates of disbanding). As the number of organizations in the population rises, rates of new organizational foundings accelerate. After some transition point is reached, further increases to population density suppress, instead of spurring, addition foundings. The result is that rates of new organizational foundings slowly decline until the population reaches a more or less stable size according to the environmental carrying capacity. To explain this growth trajectory, analysts have focused on the twin concepts of legitimacy and competition.

During the early period in the growth of an organizational population, founding rates are rather low and disbanding rates high. At this point, each additional organizational founding and subsequent increase in population density increases the perceived legitimacy of the organizational form while contributing rather little to competition over resources between organizations in the population and, thus, serves to elevate rates of new organizational foundings.<sup>11</sup> As the population density increases, each additional organization contributes relatively less to the legitimacy of the population and increasingly more to competition between population members over increasingly scarce resources. A majority of studies support the density dependence model and have shown increases in organizational density that initially raise founding rates and lower disbanding rates and, beyond a certain point, inhibit founding and raise rates of organizational disbanding (Baum 1996). This basic approach has been increasingly adopted by social movement scholars to explain growth in a number of diverse SMO

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<sup>11</sup> Rather than increasing competition within the field, additional entrants early in an organizational populations growth trajectory may serve to establish new and stable resource pools as well as indicate the existence of slack resources to potential organizational entrepreneurs. Both outcomes are likely to spur additional foundings.

populations, including women's and ethnic organizations (Minkoff 1997a), gay and lesbian organizations (Nownes 2004) and unions (Hannan and Freeman 1987).

The strongest criticism to combining population ecology and new-institutionalist approaches in density dependence models of population growth has concerned the use of competition and, particularly, legitimacy as “unmeasured constructs,” entered in models as a function of population density. Though recent work has made an effort to measure competition directly (e.g. Baum and Singh 1994) there has been less progress in developing direct measures of legitimacy. One notable exception has been work by Baum and Oliver (1992) examining the effect of relational density (the number of ties between day care centers and organizations in their institutional environment) on organizational founding and mortality rates. They find that once this direct measure of legitimacy is included, the relationship between population density and new organizational foundings is opposite that predicted by ecological theory. In the following section we lay out a methodology for assessing the timing and pace of growth in the environmental movement and for measuring each of the primary independent variables of interest. In particular, we focus on developing systematic historical evidence on the legitimacy of the environmental movement.

## **DATA AND METHODS**

Data on national environmental movement organizations were drawn from the *Encyclopedia of Associations, Volume 1, National Organizations of the U.S.* (Gale Research Inc. 1956-2003). The *Encyclopedia* has been published annually since 1974 and intermittently before that since 1956, with data on more than twenty-two thousand national associations in the most recent edition (2003). Editors aggressively search for and conduct a yearly survey of nonprofit associations active in the United States at the national level. As a result, the *Encyclopedia* has

been widely used as a census for bounding populations of voluntary organizations (Baumgartner and Jones 1993; Minkoff 1997a; 1999; Johnson and McCarthy 2004; Nownes 2004).

The *Encyclopedia of Associations* provides the most complete source available for identifying a broad range of national citizens' organizations. Recent work (Martin, McCarthy and Baumgartner N.d.) evaluating the representativeness of this data source (in 1999) finds that 76.3 percent of national labor unions are included in the *Encyclopedia* (a very high rate for organizational sampling frames). This study also indicates that those associations included in the *Encyclopedia* are likely to over-represent the largest and most well-known groups in any category. This suggests that using the *Encyclopedia* to identify EMOs should provide an adequate sample of the largest and best-known organizations in this field.

The 2003, 2000, 1995, 1990, 1985, 1980, 1975, 1970, 1962 and 1956 editions of the *Encyclopedia* were used to identify environmental movement organizations, defined as those groups which identified environmental conservation or protection as a *primary* organizational purpose or concern. This was established through a combination of keyword headings, association name, and organizational description. The procedure followed was to first include all organizations listed under certain keywords.<sup>12</sup> Each entry in the entire encyclopedia was then read to determine if other groups should be included though they were not listed under one of the headings above. Finally, those organizations whose membership was drawn primarily from industry or governmental agencies were deleted from the sample. When this process was complete, 652 distinct national EMOs were identified as having been in existence at some point during the period under study. Timing and pace of growth in the U.S. environmental movement,

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<sup>12</sup>.Conservation, wildlife conservation, environment, environmental quality, environmental protection, environmental health, toxic exposure, nuclear energy, ecology, pollution control, and hazardous waste.

the dependent variable in analyses, is operationalized as the number of new national EMO foundings per year. For those few organizations (N=24) that did not report a founding date, it was imputed using the first year in which the organization appeared in the *Encyclopedia*.<sup>13</sup>

#### *ORGANIZATIONAL DYNAMICS: COMPETITION AND LEGITIMACY*

As a measure of competition within the environmental movement, we follow the standard approach used by population ecology researchers, employing a quadratic measure of population density. This measure tests for the hypothesized inverse curvilinear relationship between organizational density and rates of organizational foundings. Competition is expected to decrease the rate of new national EMO foundings.

As a proxy for legitimation processes within the environmental organizational field we again follow the standard approach in ecological modeling by relying on population density, the total number of U.S. national EMOs active at any point in time. To compute density, a complete time-series was constructed for each organization, indicating, for each year between 1955 and 2000, whether or not the organization was active. For each organization, the founding date (or the first year of the study if the organization was formed prior to 1955) was used to indicate the first year that an organization was present. The year that an organization exited the population (either because the group merged, otherwise failed or became inactive), or 1998 if the organization persists until the end of the study period, was used as the final record.

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<sup>13</sup>. For this small subset of organizations founding dates were computed as the first year an organization appeared in the *Encyclopedia* minus 3 years, to account for the typical lag (Baumgartner and Jones 1993) between the time organizations are formed and first included in the *Encyclopedia*. Alternatively, the first year in which they appear in the *Encyclopedia* could have been imputed as the founding date, or these organizations could have been excluded from analyses (Minkoff 1997). These alternatives do not significantly alter results presented.

Recall that a major critique of population ecology research has been the failure to measure competition and, especially, legitimacy directly instead relying on density proxy measures. Therefore, considerable attention was devoted here to developing alternative, systematic, and direct measures of legitimacy that endure throughout the observed time period. As a first alternative direct measure of legitimacy, we employ the percentage of all U.S. Congressional hearings convened on environmental issues. New institutionalists generally agree that the state is a dominant institutionalizing force in society and plays an important role in legitimizing organizational domains. The percentage of Congressional hearings held on environmental issues is an indication of the importance which Congress attaches to these issues. The convening of Congressional hearings on environmental issues confers legitimacy on organizations that attend to these matters by signaling that they perform a valued function (e.g. by inviting EMO representatives to testify at hearings). As such, Congressional attention to environmental issues serves to legitimize the population of organizations that attends to them. Data on Congressional hearings comes from the Policy Agendas Project Congressional Hearings Database containing information, coded from the Congressional Information Service Abstracts, on each U.S. Congressional hearing held between 1947 and 1998.<sup>14</sup> Each hearing is coded according to 19 major topics, from which we select all hearings in the “environment” topic.

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<sup>14</sup> The data used here were originally collected by Frank R. Baumgartner and Bryan D. Jones, with the support of National Science Foundation grant number SBR 9320922, and were distributed through the Center for American Politics and Public Policy at the University of Washington and/or the Department of Political Science at Penn State University. Neither NSF nor the original collectors of the data bear any responsibility for the analysis reported here.

Following the recommendation of Baum and Powell (1995), we also measure legitimacy directly using print media.<sup>15</sup> Specifically, we employ counts on the number of articles per page listed under environmental keywords within the *Readers' Guide to Periodical Literature* between 1959 and 1998. We also use data from the Policy Agenda's Project on the number of environmental articles from the *NY Times Abstract* as a percentage of the total articles summarized in the abstract per year, from 1955-1994. These measures (correlated at .69) were combined by adding Z-scores to construct a yearly media attention index. All measures of legitimacy are expected to be positively correlated with new foundings of national EMOs.

### *OBJECTIVE THREAT*

Environmental degradation is measured according to yearly U.S. emissions of five air pollutants: particulate matter less than 10 microns, carbon monoxide, sulfur dioxide, nitrogen dioxide and volatile organic compounds (U.S. Census Bureau 2003). These emission data represent four of the six criteria air pollutants, those for which the EPA has set health based standards.<sup>16</sup> Yearly emissions for each of these pollutants were standardized and combined to create an air pollution index, with each pollutant weighted equally.

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<sup>15</sup> McLaughlin and Khawaja (2000) also measure legitimacy using media attention, but do so with counts of books published on environmental issues. I suggest that counts from newspapers and magazines are a more proximate measure of the legitimacy of the environmental movement than are books due to the immediacy of the measure. While newspapers and magazines are produced and consumed within a relatively short time period (months, weeks, or days) it typically takes years for a book to move from concept to a finished product with the potential to disseminate among broad publics.

<sup>16</sup> The criteria air pollutants include carbon monoxide, nitrogen oxides, sulfur dioxide, particulate matter, ozone and lead. No measure for ozone emissions is available as this pollutant is produced by photochemical reactions in the atmosphere rather than direct emissions. Data on air-borne lead emissions are available beginning only in 1970 and

A number of other potential measures of absolute environmental degradation were considered in preliminary models before settling on the air pollution index. These included yearly measures of carbon dioxide emissions, share of GDP contributed by resource extraction related industries, energy consumption per capita, and pounds of pesticides produced. The inclusion of these variables did not improve models appreciably nor alter substantive interpretations. Further, the air pollution index presents two significant advantages over these alternative measures. First it is a direct measure of environmental degradation. Second the air pollution index is the most comprehensive alternative, by combining information on five pollutants the index integrates data on a diversity of types and sources of emissions (Environmental Protection Agency 2000).

### *SHIFTING VALUES*

The value-shift hypothesis locates the causal roots for the emergence of the U.S. environmental movement in the shift to postmaterialist values associated with greater economic security. Unfortunately, there is no systematic time-series evidence on postmaterialist values in the U.S. over the past fifty years.<sup>17</sup> Instead, following Brechin and Kempton (1994), I treat the hypothesized value-shift as an unobserved construct resulting from changes in economic conditions. As a proxy for the postmaterialist value shift we employ a yearly measure of material security, per capita disposable personal income in constant (chained 2000) dollars (Bureau of Economic Analysis 2004). We also explored measures of median family income, the percent of people aged 25 and older who have completed one or more years of college, and share of people who are employed in service industries. These measures were excluded from analysis. Volatile organic compounds are included in analyses as they enable and facilitate the formation of other criteria air pollutants.

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<sup>17</sup> The bulk of work documenting shifting values has relied on data from four waves of the World Values Survey, first administered in 1981. The richest data, and majority of research, focuses on Western European countries.

of GDP contributed by the service economy. All measures are correlated at .96 or higher with disposable income and produce results that do not differ substantively from those reported here.

We also sought to include a more direct measure of public opinion regarding environmental issues. Unfortunately, again, no systematic trend data on public opinion towards environmental protection is available over the entire study period. The General Social Survey, for instance, began asking respondents whether they believe government is spending “too much” or “too little” on “improving and protecting the environment” only in 1973. As an alternative measure of public opinion, we employ a “policy mood” scale (Stimson 1999) which aggregates responses to several different public opinion questions, available as trend data beginning in 1952. The measure represents the percentage of all responses that support a more liberal position, where liberalism is support for more governmental action. While this measure does not measure public opinion over time towards environmental issues per se, the zero-order correlation from 1973 to 1998 between policy mood and the percent of GSS respondents indicating that too little is spent on improving and protecting the environment is .82.

#### *OTHER COVARIATES*

We also include controls for change in the structure of political opportunities (McAdam 1982; Tilly 1978). As one political opportunity measure we include a dummy variable referencing Democratic Party advantage in Congress, coded as a one for the years that Democrats control the United States Senate. Democrats have long been identified as allies of the environmental movement in the United States. The presence or absence of elite allies is a key component in most conceptualizations of the political opportunity structure (McAdam 1996) and is expected to encourage social movement organizing.



As a second measure of political opportunities we control for national election years. Most research suggests that the stability of the political system decreases during national elections and that movement activities, including the founding of new SMOs, should accelerate in response to the political conflict and uncertainty generated (McLaughlin and Khawaja 2000; Snyder and Tilly 1972). Recent work supports this expected positive relationship, but emphasizes “predictable opportunities for action offered by electoral campaigns” as the mechanism spurring organizational founding (Meyer and Minkoff 2004: 1478).

In addition, we include historical, time-specific measures that incorporate notable temporal shifts in institutional forces into our models of national EMO foundings (Hannan and Freeman 1987; Isaac and Griffin 1989; Nownes 2004; Studer-Ellis 1995). This is accomplished by the inclusion of period dummy variables. The time-series was divided into three periods: early 1955-1969, middle 1970-1990, and late 1991-1998, based upon a reading of environmental history. During the first, baseline, period few groups existed and the nascent environmental movement, as such, had yet to be recognized as a distinct movement.<sup>18</sup> By 1970 a diversity of interests had coalesced into a loose movement and environmental issues were fast becoming institutionalized in the American political system. The establishment of the EPA in 1970, which centralized federal responsibility for environmental protection and regulation in one agency, is a particularly important historical marker that represents the major institutionalizing event within the environmental field. The final period, beginning in 1991, marks shifting dynamics of environmental mobilization from the national level towards the local and transnational arenas. We have no expectations for the effect of these variables in our analyses.

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<sup>18</sup> It was during this period that the environmental moniker was first developed and a movement bearing its’ name began to replace the, more narrowly defined, movement for the conservation of nature (Brulle 2000).

## *METHODS OF ANALYSIS*

These data were initially analyzed using poisson regression techniques. All independent variables are lagged one year to assure proper interpretation of causality. Poisson regression is a special case of the generalized linear model that utilizes counts of events, in this case yearly counts of new national EMO foundings, as the dependent variable. Count data often violates three important assumptions of OLS: having non-negative, skewed distributions, where the variance increases with the mean. Implicitly, Poisson regression uses a log transformation that prevents the model from producing negative predicted values, adjusts for a skewed distribution, and models the variance in event counts as a function of the mean (Liao 1994; Long 1997).

One limitation of the Poisson model is that it does not account for the possibility that data is over-dispersed (i.e. the variance of the event count exceeds the mean), which can result in downward bias of the standard errors for estimated coefficients. To control for this possibility we also computed models employing a negative binomial distribution, a generalization of the Poisson model (Liao 1994; Long 1997). Results from negative binomial models are reported below as these models fit the data significantly better than Poisson in all instances.

## **RESULTS**

Before presenting results of multivariate analyses it is instructive to look at the evolution of the organizational population graphically. The annual number of new EMO foundings and the annual density for the population of U.S. national EMOs for the period 1955–1998 is displayed in Figure 2.1. Foundings are reported as a three-year moving average in order to suppress short-run fluctuations in the data and make long-term trends more readily apparent (actual counts are used in all multivariate analyses). The founding trend shows the inverted U-shape trajectory that population ecologists have shown typically characterizes the pattern of foundings in

organizational populations. The number of new national EMO foundings per year remains relatively stable and low (ranging between 1.3 and 6.7) from 1946 until the major period of expansion beginning in 1966. The rate of organizational foundings then explodes, peaking in 1971 with an average of 27.3 per year. The rate of new foundings remains high (with no fewer than fifteen new foundings in any year until the late 1980s) but gradually declines from the 1971 peak to an average of 13.7 new foundings per year in 1987. This decline is temporarily reversed during the 1988–1990 period, but the rate of new national EMO foundings decelerates rapidly after that point to an average of less than four foundings per year by 1994.

The density trend seen in Figure 2.1 shows the cumulative actual number of national EMOs active in each annual period. The density growth curve assumes the S-shaped pattern we would expect in a population experiencing a period of growth and stabilization (Carroll 1984; Hannan and Freeman 1987). There is very slow, but steady, growth from 1945 until 1967. From 1968 to 1973, the population experiences its most rapid period of growth, as reflected in the steepness of the density curve. Population density continues to grow at a high, though slightly reduced, rate until 1980. From 1980 to 1991, the population density grows at a much reduced rate, *even though rates of new foundings remain relatively high*, indicating that rates of organizational disbanding accelerated during this period (not shown), as the density dependence model would predict. Population density peaks in 1991 with 525 national EMOs in existence, after which there is a slow but steady decline to a total of 498 active organizations in 1998.

Though Figure 2.1 provides strong support for density dependence theory, it does not speak to the other theoretical issues raised by this research. The results of negative binomial statistical analyses are presented in Table 2.1. Model 1 in Table 2.1 presents a baseline “population ecology” model that regresses rates of national EMO foundings on population

density and density squared, controlling for period effects and changes in the structure of national political opportunities. Both density coefficients are significant and in the direction predicted by density dependence theory, confirming what Figure 2.1 displayed graphically. Increased density contributes to the linear growth in national EMO findings, with every one unit increase in density spurring a 2.1 percent increase ( $e^{0.021}$ ) in findings. The negative density squared coefficient represents the acceleration of the growth curve and indicates that the curve opens downward.

Before testing the general density dependence theory of growth in organizational populations against dominant, particularistic, explanations for growth in the environmental movement we present the results of models that include alternative, direct, measures of legitimacy. Model 2 in Table 2.1 adds to the baseline ecological model the percentage of Congressional hearings held each year on environmental issues and Model 3 adds a measure indexing media attention to environmental issues. In both cases coefficients for the alternative legitimacy measures are significant in the expected direction and their inclusion significantly improves model fit. However, there is little affect upon the density coefficient which, rather than decreasing in size, remains a robust and significant predictor of national EMO findings.

Density and both alternative legitimacy measures are included together in the final model in Table 2.1. Again, population density remains a robust and significant predictor of national EMO findings, suggesting that density and the alternative direct measures of legitimacy employed are measuring distinctly different constructs. Congressional hearings continues to be a significant predictor of organizational findings, with each 1 percent increase in the share of Congressional hearings devoted to environmental issues resulting in a 21 percent increase in national EMO findings. The coefficient for media drastically decreases in size and loses

significance. This model does not predict EMO foundings significantly better than does Model 2, implying that Congressional hearings and media (moderately correlated at .58) are tapping similar dimensions of legitimacy, but that hearings are the stronger predictor. Since media attention to environmental issues is not significant once hearings are controlled for and these two variables are somewhat correlated we exclude the media measure from further analyses.

Does the population ecology approach (which purports to explain development in the vital rates of organizational populations generally) or explanations particular to the environmental movement (i.e. that it was a result of increased pollution levels and shifting public values) better account for the emergence of a population of national EMOs? The results of negative binomial regression analyses testing the relationship between EMO foundings and pollution, shifting values, and organizational density are presented in Table 2.2. The first column in Table 2.2 displays the now familiar baseline “population ecology” model.

Models 2 and 3 in Table 2.2 display results for the “objective threat” and “value shift” models of national EMO foundings (respectively), controlling for period effects and changes in the structure of political opportunities. Absolute environmental degradation proves to be a significant predictor, with a one unit increase in the pollution index spurring a 12.5 percent increase in national EMO foundings. Measures of the value shift in America, in contrast, are not significant predictors of national EMO foundings. The coefficient for material security is in the expected direction, but not significant, while the estimate for public opinion is in the opposite direction of that anticipated and also is not statistically significant.<sup>19</sup>

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<sup>19</sup> We also computed models employing a direct measure of environmental attitudes, operationalized as the percentage of respondents replying “too little” to the General Social Survey (GSS) question: Do you think we are spending too much, too little, about right or don’t know on “improving and protecting the environment.” Models were computed over a necessarily truncated period of analysis (1973-1998) as this question was not added to the

Looking across the first three models in Table 2.2, the population ecology model fits the data significantly better than the value shift model and somewhat better than the objective threat model. As a final test of density dependence theory, we include measures of all the alternative explanations for the mobilization of the environmental movement. Model 4 displays the results of this fully saturated model.<sup>20</sup> Environmental degradation is no longer a significant predictor of U.S. EMO foundings once population dynamics are controlled and shifting values remain insignificant as well. Conversely, both density measures as well as our direct legitimacy measure, Congressional hearings, remain significant predictors of national EMO foundings. This provides further support for the view that general processes of evolution in organizational populations are a better explanation for the growth of the organized environmental movement than those explanations particular to the movement itself.

In briefly examining the control variables across the models presented, there is little support for the idea that elite allies significantly affect the foundings of national EMOs. Alternative measures of this concept (i.e. number of Democrats – Republicans in both the House and Senate, presence/absence of a Democratic president) yielded substantive results that remained the same. There is some support for the notion that more national EMOs are founded in response to national elections. We consistently find that both the middle (1970-1991) and late

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GSS until 1973 (values for several years in which this question was not included on the GSS were imputed by averaging responses to the immediately surrounding years). Results (available upon request) support the notion that individual attitudes are unrelated to the founding of national EMOs as pro-environmental attitudes remain a non-significant predictor of foundings.

<sup>20</sup> Because material security fails to achieve significance in partial models and is highly correlated with population density we also computed a saturated model that did not include value shift measures. Results are not substantively different than those presented for model 4.

(1992-1998) periods are associated with fewer national EMO foundings than would be expected given the values for the other independent variables, relative to the early period (1955-1969).

## **DISCUSSION**

Dominant accounts emphasize the importance of environmental degradation and the shift to postmaterialist values in America in explaining the mobilization of environmental concern. In this chapter we propose and test an alternative approach to explaining the timing and pace of growth within the U.S. environmental movement that emphasizes general processes common to a diverse set of organizational populations. This density dependence approach, developed by population ecologists, purports to explain the inverse U-shaped relationship between density and rate of foundings in an organizational population by drawing on the twin concepts of organizational competition and legitimacy. Rather than infer legitimacy from density (which ties it directly and inversely to competition) we examine direct and independent measures of this concept. In doing so we contribute to the effort to integrate institutional theory with ecological models of population growth in what has been called an “institutional-ecology” model of organizational populations. We also devote significant attention to developing a contextualized analysis that takes seriously the substantive issues specific to environmental organizations.

The results of analyses presented here strongly support the notion that general dynamics of organizational populations highlighted by density dependence theory are more robust predictors of organizational foundings than are explanations particular to the environmental movement. In particular, we find no support for the value shift hypothesis, measures of which fail to achieve significance as predictors of new EMO foundings in all models for which they are included. Though counter to expectations, this finding is consistent with recent research challenging the existence of the hypothesized value shift in relationship to environmental

concern among individuals and mass publics (Brechin 1999; Brechin and Kempton 1994; Van Liere and Dunlap 1980). This finding is further supported by research demonstrating that favorable public opinion of women's issues is *negatively* related to the founding of new national womens SMOs (Minkoff 1997a). We do find support in partial models for the effect of absolute environmental degradation on national EMO foundings. However, once population dynamics are controlled, this is no longer a significant predictor of national EMO foundings.

Conversely, measures of general population dynamics are consistently robust and significant predictors of the founding of new EMOs in all models. Partial models including EMO population density, density squared and controls alone fit the data better than do those modeling the impact of either shifting values or environmental disruption. Indeed, adding measures of environmental degradation and shifting values to models that include both population density and direct legitimacy measures fail to improve fit to the data.

When included separately in models predicting national EMO foundings, both alternative direct measures of legitimacy developed here are significant in the expected direction. The inclusion of these alternative direct legitimacy measures does not dampen the effect of population density, however, as might be expected. One possible explanation for this finding is that media attention and Congressional hearings rather than measures of the legitimacy of the field are measures of another construct, such as the political opportunity structure. But, there are good reasons to believe these are properly conceptualized as measures of legitimacy rather than the structure of political opportunities. Models presented here include standard measures of the political opportunity structure as controls. Further, analysts that employ these measures as political opportunity indicators generally theorize that their effect on movement dynamics operates through their legitimation of the domain. In discussing the expected effect of media



attention to civil rights issues on the rate of civil rights protest and organizational formation, for instance, Meyer and Minkoff state: “Our view is that media attention... legitimates the issue of civil rights in the public domain.” (2004: 486)

An alternative, and we would suggest more credible, explanation is that the direct legitimacy measures incorporated here tap dimensions of legitimacy distinct from those captured by population density. In particular, scholars increasingly are drawing distinctions between cognitive and other types of legitimacy, particularly socio-political legitimacy (Aldrich and Fiol 1994; Barron 1998; Baum and Powell 1995; Dobrev 2001). Cognitive legitimacy refers to the way in which an organizational form is legitimated simply by the fact of its existence; the more prevalent an organizational form the more likely it will be seen as legitimate. It is this legitimacy as taken-for-grantedness that population density is theorized as representing. Socio-political legitimacy refers to the ways in which actors in the social and political environment confer, or fail to confer, legitimacy on an organizational form. If Congressional attention to environmental issues does indeed tap a distinct dimension of legitimacy this would explain why its inclusion in baseline population ecology models fails to dampen the first order effect of density.

Such an interpretation also suggests that previous empirical analyses have largely *underestimated* the role of legitimacy in regulating the dynamics of organizational populations and highlights the important role of state sanctioning in accounting for the growth of insurgent groups. The vast majority of previous studies include only measures of cognitive legitimacy (population density). The findings presented here suggest that socio-political legitimacy exerts a strong and significant effect on the dynamics of growth, at least for the environmental movement, that is independent of cognitive legitimacy. The role of the state in structuring the dynamics of movement emergence and development has been the focus of a considerable

amount of attention over the past decade within social movements scholarship. The findings of this chapter further highlight the critical role of state sanctioning in contributing to the growth of (environmental) social movements and suggest that explosive growth in a movements infrastructure, such as occurred in the U.S. environmental movement between the mid-60's and 80's, is a function of *both* the increasing prevalence of national (E)MOs and state actions that legitimate those organizations and their issues.

In sum, the results presented here challenge the notion that the mobilization of the environmental movement occurred in response to either accelerating ecological degradation or shifting values in America. The growth of the modern U.S. national environmental movement is better explained by invoking explanations generalizable to a variety of organizational populations that emphasize population level legitimacy and competition. Our findings further suggest that the role of legitimacy has largely been underestimated in previous ecological analyses, in that most work has examined the role of cognitive legitimacy only. While cognitive legitimacy plays an important role in regulating dynamics of growth within a population of (social movement) organizations, sociopolitical legitimacy exerts a significant and independent effect on the founding rates of national EMOs. Future research could profitably examine the interaction between these two types of legitimacy, their effect on the vital rates of organizational populations, and how their affect varies across types of organizational populations.

Table 2.1: Negative binomial regression coefficients showing the effects of direct legitimacy measures and other independent variables on the foundings of national environmental movement organizations: 1955-1998.

Independent Variable	Model 1	Model 2	Model 3	Model 4
<i>Legitimacy / Competition</i>				
Density	0.021*** (.004)	0.024*** (.003)	0.022*** (.003)	0.024*** (.003)
Density squared	-0.030e <sup>-3</sup> *** (.006e <sup>-3</sup> )	-0.037e <sup>-3</sup> *** (.004e <sup>-3</sup> )	-0.028e <sup>-3</sup> *** (.004e <sup>-3</sup> )	-0.035e <sup>-3</sup> *** (.005e <sup>-3</sup> )
Congressional hearings	---	0.215*** (.037)	---	0.191*** (.052)
Media	---	---	0.169*** (.043)	0.033 (.051)
<i>Controls</i>				
Democratic Congress	0.231 (.165)	-0.161 (.137)	0.053 (.147)	-0.151 (.137)
Election year	0.150 (.129)	0.221* (.095)	0.230* (.112)	0.230* (.096)
Mid: 1970 - 1991	-0.578 (.347)	-1.025*** (.258)	-1.509*** (.383)	-1.155*** (.326)
Late: 1992 - 1998	-1.910*** (.411)	-2.272*** (.323)	-3.020*** (.464)	-2.450*** (.423)
Constant	-0.013 (.446)	-0.376 (.363)	0.204 (.387)	-0.293 (.383)
Log-likelihood (d.f.)	1031.366 (37)	1043.751 (36)	1037.845 (36)	1043.9604 (35)

\* .05 \*\* .01 \*\*\*.001 (two-tailed tests)

Note: All independent variables are lagged one-year to assure proper timing for causality; Numbers in parentheses are standard errors; e<sup>-3</sup> indicates that the designated regression coefficient or standard error should be multiplied by 10<sup>-3</sup>.

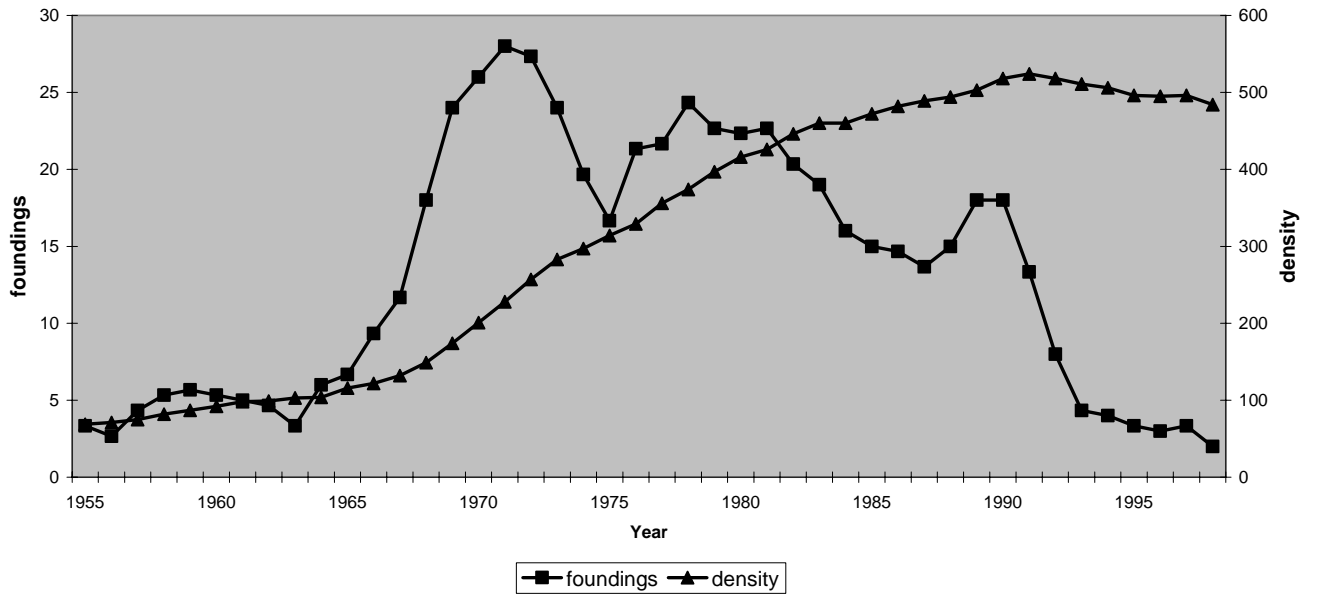
Table 2.2: Negative binomial coefficients for the regression of national environmental movement organization foundings on selected independent variables: 1955-1998.

Independent variables	Model 1	Model 2	Model 3	Model 4
<i>Environmental Degradation</i>				
Pollution index	---	0.118*** (.025)	---	0.004 (.053)
<i>Value Shift</i>				
Material Security	---	---	0.057e <sup>-3</sup> (.039e <sup>-3</sup> )	0.073e <sup>-3</sup> (.090e <sup>-3</sup> )
Public Opinion	---	---	-0.036 (.021)	-0.006 (.020)
<i>Legitimacy / Competition</i>				
Density	0.021*** (.004)	---	---	0.021** (.007)
Density squared	-0.030e <sup>-3</sup> *** (.006e <sup>-3</sup> )	---	---	-0.034e <sup>-3</sup> *** (.010e <sup>-3</sup> )
Congressional hearings	---	---	---	0.198*** (.050)
<i>Controls</i>				
Democratic Congress	0.231 (.165)	-0.057 (.170)	0.394* (.205)	-0.165 (.139)
Election year	0.150 (.129)	0.153 (.136)	0.170 (.161)	0.211* (.098)
Mid: 1970 - 1991	-0.578 (.347)	0.666*** (.144)	0.343 (.297)	-0.926*** (.387)
Late: 1992 - 1998	-1.910*** (.411)	-0.547* (.269)	-1.474** (.473)	-2.310*** (.351)
Constant	-0.013 (.446)	2.061*** (.197)	3.636** (1.252)	-0.429 (1.480)
Log-likelihood (d.f.)	1031.366 (37)	1028.532 (38)	1021.536 (37)	1044.198 (33)

\* .05 \*\* .01 \*\*\*.001 (two-tailed tests)

Note: All independent variables are lagged one-year to assure proper timing for causality; Numbers in parentheses are standard errors; e<sup>-3</sup> indicates that the designated regression coefficient or standard error should be multiplied by 10<sup>-3</sup>.

Figure 2.1: United States National EMO Foundings and Population Density



## Chapter 3:

# Assessing Outcomes of Environmental Mobilization on Political Agendas

There has been a recent proliferation of research devoted to understanding the outcomes of social movement mobilization. Reviews of the extant literature (Andrews and Edwards 2004; Burstein 1991; Burstein and Linton 2002; Giugni 1998; Smith 1995) highlight the centrality of this research to political sociology, social movement and political science scholars while also consistently identifying three significant weaknesses in this body of work. That is, there has been a paucity of *empirical* analyses examining the outcomes of social movement mobilization. Further, this line of research has had a nearly exclusive focus on the most visible outcome of political action: the passage of laws that align with the goals of a social movement.<sup>21</sup> Finally, the empirical literature has largely failed to integrate theory and data on the variety of causal factors in the policy process and, thus, speak to the relative importance of these factors. In particular, sociologists have largely failed to control for the effect of public opinion when examining the outcomes of social movement mobilization.

Here, rather than focus only on the final legislative outcomes of collective action, we conceive of policy making as a continuous process. One important stage in that process, in the U.S. and elsewhere, is placing issues of importance to a population of social movement organizations (SMOs) on governmental agendas (Baumgartner and Jones 1993; 2003; Cobb and Elder 1975; Kingdon 1984; Rochon 1998). While high agenda salience does not necessarily assure outcomes desired by the SMOs that represent a social movement, it does represent an

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<sup>21</sup> Recent research has also begun to examine outcomes of social movement mobilization directed at targets other than the state (Van Dyke, Soule and Taylor 2004).

intermediary step that may increase the potential for desirable outcomes. We suspect that mobilization of a social movement is probably more likely to generate congressional attention to its key issues than it is to achieve desirable outcomes. In what follows we focus our attention upon federal Congressional attention to the environmental issue domain.

We proceed by empirically modeling the effect of the environmental movement's mobilization on agenda setting and actual policy outcomes within the United States Congress. In doing so, we also account for changing public opinion towards environmental issues within the United States. In the past, social movement scholars have largely ignored the role of public opinion in developing models of political outcomes, though this is the main variable of interest for political scientists. At the same time, political scientists have, by and large, neglected to attend to the role of social movements in public agenda setting and policy making. By devoting serious attention to the role of social movements *and* public opinion in the policy making process, we contribute to the integration of work by political scientists and sociologists in this area (Burstein 1991; McAdam and Su 2002; Soule and Olzak 2004).

Methodologically, this research demonstrates, for one social movement, how existing and soon to be available public data can be used to systematically and empirically analyze the effect of mobilization on both agenda setting and actual policy outcomes over an extended period of time in the United States. The single largest barrier to systematic analysis of the agenda setting process has been the lack of available temporal data (Baumgartner and Jones 1993). The data sources and procedures incorporated in this paper could profitably be applied to analyses of Congressional outcomes of a range of social movements in the post WWII United States. The mobilization of the U.S. environmental movement is operationalized using yearly data, drawn from the *Encyclopedia of Associations*, on the number of active national environmental

movement organizations (EMOs). Congressional agenda setting and decision making is assessed using data on the yearly numbers of Congressional hearings held on environmental issues and the incidence of laws passed, respectively. We utilize negative binomial regression techniques to assess the probability that greater organizational mobilization within the environmental movement leads to desirable political outcomes.

## **NATIONAL ENVIRONMENTAL MOVEMENT ORGANIZATIONS**

One may measure mobilization of the environmental movement in America in a number of possible ways. Here, we rely on information about the density of the national environmental social movement industry (McCarthy and Zald, 1977), or the number of national environmental movement organizations (EMOs) active in the United States at any given point in time. There is a long and venerable tradition in social movement research of focusing on movement organizations as representative of the larger movement (e.g. Marx and Wood 1975; Zald and McCarthy 1987).<sup>22</sup> Social movement organizations (SMOs) provide evidence of denser submerged networks and perform a number of important functions within social movements: linking together movements with “weak” infrastructures, facilitating the development of collective identities, shaping and promoting public discourse, spreading protest models, creating opportunities for activism and, of course, mobilizing resources (Minkoff 1997b). SMOs are thought to have both a direct influence on political outcomes through efforts such as lobbying and the provision of information to lawmakers as well as more indirect effects by, for example, facilitating protest (Minkoff 1997a) and altering public opinion (McAdam and Su 2002).

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<sup>22</sup> See Crist and McCarthy (1996) for a historical review of the methodologies and units of analysis employed in social movement and collective behavior research.



One possible alternative to measuring mobilization within the environmental movement would be to rely on the record of environmental protest. While this is a popular metric for documenting the ebb and flow of social movements generally (Olzak 1989; VanDyke et al 2004), protest activity is relatively less indicative of the development of the environmental movement, for which protest has been a relatively rare occurrence (Jenkins and Halcli 1999). Instead, national-level professionalized social movement organizations dominate histories of the U.S. environmental movement, more so than for other social movements associated with the 1960s and 70s, (Brulle 2000; Dunlap and Mertig 1992; Gottlieb 1993; Mertig, Dunlap and Morrison 2002).

Indeed, what makes the modern period of mobilization within the environmental movement distinct from earlier ones, to the extent that some analysts conceive of the creation of an entirely new movement (e.g. Hays 1987; Dalton 1994), is the rapid proliferation of a “new breed” (Mitchell, Mertig and Dunlap 1992) of national EMOs during the late 60’s and early 70s. These “new” EMOs, such as the Environmental Defense Fund (EDF, founded 1967) and Natural Resources Defense Council (NRDC, founded 1970), are distinguished by their almost exclusive focus on “new” environmental issues such as toxic chemicals, water quality and air pollution, as well as their reliance on full-time paid staffs of scientists, lawyers, and lobbyists rather than an active membership.<sup>23</sup> By 1970, a movement rooted in progressive era (1890-1920) reforms for the conservation of natural resources and wildlife had been subsumed within a larger and dominant environmentalist perspective and movement (Brulle, 2000). It is widely agreed that the shifting representation of issues revitalized the environmental movement by bringing in new

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<sup>23</sup> Increasingly, analysts (e.g. Darnovsky 1992; Gottlieb 1993; Melosi 2001; 1980) have also identified sectors of the progressive era and post WWII urban reform movements, unconnected to wilderness and natural resources and focusing instead on issues of municipal waste and sewage, public health, and industrial illness as precursors of the modern environmental movement.

constituencies and providing access to large new pools of resources for many environmental organizations. There was, for example, a twenty to twenty-five year period of expansion in the environmental social movement sector that is marked by elevated rates of new organizational foundings and increasing organizational density (Baumgartner and Jones 1993; McLaughlin and Khawaja 2000), a surge in foundation funding (Jenkins and Halcli, 1999), and increased legitimacy of the environmental SMI (Frank 1999; McLaughlin and Khawaja 2000).

Just as importantly, the issues of concern to this growing, dynamic, movement took root within the American political system. More than 30 major pieces of legislation dealing with the environment were passed by the federal government in the 1970's (Miller 1991). In 1970, which marks the beginning of an "environmental era" in American public policy (Andrews 1999; Petulla 1988; Portnoy 1990), a number of landmark legislative bills were passed; including the National Environmental Policy Act, requiring the development of environmental impact statements for all major federal projects, and the Clean Air Act. Most significantly, the National Environmental Protection Agency (EPA) was established in 1970. The major institutionalizing event within the environmental field, the establishment of the EPA centralized in one agency federal responsibility for environmental protection and regulation. By the close of the decade, environmental issues were firmly institutionalized within the American political system.

The inauguration of Ronald Reagan initiated a steady erosion of federal environmental protections, producing a backlash of support for environmental issues and movement organizations during the 1980s. National EMOs, especially those focused on issues of wildlife and natural resource conservation, experienced a surge in membership during the 80s (Mitchell et al. 1992). The inability of these groups to protect previous legislative gains, combined with growth of a grassroots segment of the movement organized around issues of toxic contamination

and environmental justice and extremely critical of the national EMOs (Bullard 1993; 1990; Dowie 1995; Edwards 1995; Szasz 1994), contributed to a growing crisis of legitimacy within the movement by the close of the 1980s (Dowie 1995; Shabecoff 1993). With the exception of the years immediately surrounding the 1992 Earth Summit, a landmark event that galvanized world-wide attention to environmental issues and drew more than 60,000 representatives of EMOs to attend proceedings that ran parallel to those of the official conference, the movement is generally perceived to have entered a period of retrenchment, or at least re-organization, during the 1990's. The exact parameters of the environmental movement's decline remain largely unexplored, and while it is unclear whether or not the movement has actually contracted, it has clearly reached a plateau in terms of growth.

### **THE POLITICAL OUTCOMES OF SOCIAL MOVEMENT MOBILIZATION**

There is a long and venerable history of social movement scholars attempting to assess the relative political success (or failure) of social movements and recent years have witnessed a re-invigoration of scholarship on this topic. Yet, empirical analyses of the effect of social movements on policy enactment have produced decidedly mixed results. Examining every article on policy change (i.e. the enactment of laws) published in the three most prestigious journals in sociology and political science between 1990 and September 2000 (N=53) Burstein and Linton (2002) find that roughly half demonstrate an affect for political and social movement organizations on public policy enactment while half provide no evidence for such groups affecting political outcomes. These mixed findings concerning the influence of social movements can be explained, in part, by the focus on the passage of laws: a stage of the political process that may be particularly *unlikely* to be influenced by the social movement actors.

Research on other forms of political pressure groups, such as PACs, has demonstrated that they are much more able and likely to influence earlier stages in the political process than the passage of laws (Clawson, Neustadt and Scott 1992). Similarly, political scientists long ago began constructing compelling arguments that the nearly exclusive focus on policy adoption ignored critical earlier stages of the policy making process that are more open to interest group influences. In particular, scholars have asserted that agenda setting is a particularly important stage in the development of public policy (Cobb and Elder 1975; Kingdon 1984; Walker, 1977). The public agenda refers to the set of problems and issues being seriously considered by policy makers. Agenda setting is the process by which issues rise or fall on the agenda and represents the initial phase of the legislative process; before decisions can be made and policies enacted on any given issue it must first garner the attention of political decision makers.

It is at the agenda setting stage which social movements are thought to have the greatest potential to influence the policy making process: “Many scholars of social movements and public interest groups assume that agenda setting is the arena where advocacy organizations will have their greatest influence” (Andrews and Edwards 2004: 492). As an initial stage in the process, agenda setting responds more easily to changing information flows and demands by special interests than do later stages (Jones and Baumgartner 2004). Another reason for the heightened expectations of social movement influence at the agenda setting stage, relative to the final stage in policy adoption, is that the mobilization of concern on legislative agendas is likely to lead to the mobilization of countermovements, decreasing the probability of legislative success. Moreover, successfully placing an issue on the Congressional agenda does not require a majority of Congressional approval, as the passage of laws does. Sinclair (1986), for example,

argues persuasively that policy oriented Congressional committees, which often have difficulty passing legislation in chamber, conduct important agenda-setting activities.

Unfortunately, even more so than the body of research examining movement outcomes generally, work on agenda setting has been marked by a paucity of empirical analyses, relying instead on interviews with officials and case studies of policy initiation/non-initiation. As two of the pre-eminent contemporary researchers on public agenda setting note, the largest impediment to systematic empirical analysis of agenda setting is the lack of readily available data (Baumgartner and Jones, 1993). Here, we follow the lead of Jones and Baumgartner (2004) by employing data on the number of Congressional hearings held on environmental issues as an indication of Congressional attention and priority regarding this policy arena. Hearings provide information to the wider Congress through both the intrinsic generation of information and, importantly, from the very decision to hold a hearing (Diermeier and Feddersen 2000). The convening of hearings on an issue signals the importance of that issue to (at least some member of) Congress and, collectively, provides an indication of the priority on the Congressional agenda. Hearings also provide outlets for interest groups to express policy preferences and allow members of Congress to develop policy proposals that are then available in the event that conditions conducive to major policy change occur.

While both political scientists and sociologists have called for systematic analysis of influences on agenda setting as a crucial early stage in the policy process, there has been less convergence on what accounts for either agenda setting or actual political outcomes. Only rarely have political scientists included measures of social movement mobilization in policy making models, instead presuming the ineffectiveness of social movements in influencing public policy outcomes. Similarly, until only very recently sociologists studying social movement outcomes

had seldom included measure of public opinion, the variable of primary interest to political scientists, in their models.

A pioneer in the regard has been Paul Burstein (1998; 1991 Burstein and Freudenburg 1978; Burstein and Linton 2002) who has consistently taken social movement researchers to task for the failure to account for both public opinion and social movement mobilization in theories and models of political outcomes. Drawing heavily from democratic theory (see Jacobs and Shapiro 1994 for a review) Burstein has asserted the pre-eminence of public opinion in accounting for political outcomes and suggests that once public opinion is accounted for the effect of social movement activities on public policy outcomes should decline or disappear entirely. Again, however, in instances where scholars have included measures of both social movement mobilization and public opinion, studies have produced contradictory results. Burstein and Linton (2002), for instance, conclude from their meta-analysis of the literature that, contrary to their hypothesis, “organizations are *more* likely to have an impact when public opinion is taken into account...” (396, italics in original). It is important to note, however, that there were only a very few studies that included measures of both public opinion and organizations and so this finding cannot be considered reliable. As they note, instead it “suggests... much more research [be] carried out, before anyone can hope to make any strong statement about how public opinion and organizational activity affect policy” (396).

Burstein’s consistent call to properly account for the role of public opinion in examining the outcomes of social movement activities has not gone totally unheeded as a spurt of recent empirical research has sought to assess the roles of both public opinion and social movement activity on changing public policy. Examining the incidence of Vietnam war-related roll call votes between 1965 and 1973 McAdam and Su (2002) find that public opposition to the war is

positively related to the pace of voting but not to the direction of voting. They find mixed evidence for the role of protest, with large protests increasing the pace of voting and highly disruptive (i.e. violent) protest decreasing the pace of voting. Santoro (2002), meanwhile, finds that highly disruptive activities on the part of social movement or countermovement actors (what he terms “dramatic events”) account for early legislative gains in the civil rights movement, but that public opinion is more important in explaining continued legislative gains after the passage of the 1964 Civil Rights Act. Finally, Soule and Olzak (2004) find that the presence of social movement organizations and favorable public opinion both significantly effect the likelihood of state level ratification of the Equal Rights Amendment. As is true for the bulk of empirical analyses examining the political outcomes of social movements generally, however, all of these analyses focus on final legislative outcomes while ignoring earlier stages in the policy making process. Collectively, the literature reviewed here suggests a number of hypotheses concerning the relationship between environmental movement mobilization, public opinion, and political outcomes of interest:

H1: environmental movement mobilization will be positively related to the frequency of Congressional hearings on environmental issues.

H2: environmental movement mobilization will be positively related to the passage of environmental laws.

H3: environmental movement mobilization will have a greater effect on the incidence of Congressional hearings than the passage of laws.

H4: Public opinion supportive of environmental issues will be positively related to the frequency of Congressional hearings on environmental issues.

H5: Public opinion supportive of environmental issues will be positively related to the enactment of environmental laws.

H6: The magnitude of the effect of environmental movement mobilization on both agenda setting and the enactment of law will decrease once public opinion is controlled for.

H7: Environmental movement mobilization

## **DATA AND METHODS**

### *DEPENDENT VARIABLES*

Previous work has focused on the effect of social movement mobilization on political outcomes, while largely ignoring earlier stages in the policy making process. Here, we examine the effect of U.S. environmental movement mobilization on various aspects of the policy making process. Specifically, our dependent variables are yearly counts of Congressional hearings convened on environmental issues and environmental laws passed.

The passage of environmental laws is the measure of political success most often employed by researchers examining the outcomes of social movement mobilization. Data on the passage of environmental laws comes from the Policy Agendas Project Public Laws Database, containing information on each public law passed in the United States between 1947 and 1998.<sup>24</sup> Each law is coded according to 19 major topics, from which we select all hearings in the “Environment” topic. To assess the Congressional agenda we use yearly counts of Congressional hearings convened on environmental issues, also from the Policy Agendas Project. Using the same coding scheme as for laws, each hearing is sorted by 19 major topics, from which we selected all “Environment” hearings. We use counts of the total number of

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<sup>24</sup> The data used here were originally collected by Frank R. Baumgartner and Bryan D. Jones, with the support of National Science Foundation grant number SBR 9320922, and were distributed through the Center for American Politics and Public Policy at the University of Washington and/or the Department of Political Science at Penn State University. Neither NSF nor the original collectors of the data bear any responsibility for the analysis reported here.



Congressional hearings convened per year on environmental issues in the Senate and House as the measure of U.S. Policy Attention.<sup>25</sup> Bivariate correlations between the dependent variables and all independent variables included in analyses are displayed in appendix B.

## *INDEPENDENT VARIABLES*

### *The Environmental movement*

Data on national environmental movement organizations were drawn from the *Encyclopedia of Associations, Volume 1, National Organizations of the U.S.* (Gale Research Inc., 1956-2003). The *Encyclopedia* has been published annually since 1974 and intermittently before that since 1956, with data on more than 22,000 national associations in the most recent edition (2003). Editors aggressively search for and conduct a yearly survey of nonprofit associations active in the United States at the national level, providing the most complete source available for identifying a broad range of national citizens' organizations. As a result, the *Encyclopedia of Associations* has been widely used as a census for bounding populations of voluntary organizations (e.g. Baumgartner and Jones 1993; Minkoff 1995; 1997a; 1999; Johnson and McCarthy 2004; Nownes 2004).

We identified national EMOs using ten editions of the *Encyclopedia* (2003, 2000, 1995, 1990, 1985, 1980, 1975, 1970, 1962, 1956). Organizations were considered to be national in scope by virtue of their inclusion in the *Encyclopedia*.<sup>26</sup> EMOs are defined as those groups which identified environmental conservation/protection as a *primary* organizational purpose or concern.

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<sup>25</sup> The pattern of results presented here do not change substantively when looking at Senate or House hearings separately.

<sup>26</sup> Volume 1 of the *Encyclopedia* is focused on National organizations of the U.S. The publisher of the *Encyclopedia* does also produce, for the more recent period, volumes with information on transnational and sub-national (state and regional) organizations. Before these alternate volumes were produced, in a few instances, international organizations are incorrectly listed in volume 1. We delete from our sample those organizations that are international, defined as such by virtue of organizational entries being moved to the international volume when that began publication or, for EMOs that do not persist until this time, the location of headquarters outside the U.S.

This was established through a combination of keyword headings, association name, and organizational description. The procedure followed was to first include all organizations listed under certain keywords.<sup>27</sup> Each entry in the entire encyclopedia was then read to determine if other groups should be included though they were not listed under one of the headings above. Finally, those organizations whose membership was drawn primarily from industry and/or governmental agencies, as well as professional associations whose organizational goals were primarily advancement of a professional group, were deleted from the sample. When this process was complete, 652 distinct national EMOs were identified as having been in existence at some point during the period under study. Both highly institutionalized issue advocacy organizations (such as the Nature Conservancy and Sierra Club) and more confrontational, loosely structured direct action groups (e.g. Earth First!, The Clamshell Alliance) are included in the sample. Collectively, these organizations exhibit a wide range of tactics, discourse frames, structures, and constituencies.<sup>28</sup>

The total number of U.S. national EMOs active in each year was computed from information contained in the *Encyclopedia*. To do so, we constructed a complete time-series for each organization, indicating, for each year between 1945 and 2000, whether or not the organization was active. For each organization, the founding date (or the first year of the study if the organization was formed prior to 1945) was used to indicate the first year that an organization was present.<sup>29</sup> The year that an organization exited the population (either because

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<sup>27</sup>.Conservation, wildlife conservation, environment, environmental quality, environmental protection, environmental health, toxic exposure, nuclear energy, ecology, pollution control, and hazardous waste.

<sup>28</sup> Following in the resource mobilization tradition we do not find it useful to distinguish between issue advocacy/interest groups and social movement organizations (see McCarthy and Castelli 2002). A casual perusal of Encyclopedia entries indicates that many EMOs use a mixture of institutionalized and outsider tactics, making any division between issue advocacy organizations and SMOs necessarily arbitrary.

<sup>29</sup> For those few organizations (N=20) that did not report a founding date, it was imputed as: the first year in which the organization appeared in the *Encyclopedia* minus 3 years, to account for the typical lag (Baumgartner and Jones,

the group merged, otherwise failed or became inactive), or 1998 if the organization persists until the end of the study period, was used as the final record.

### Public Opinion

Unfortunately, no systematic trend data on public opinion towards environmental protection is available over the entire study period. The General Social Survey (GSS), the best source of time-series data on public opinion regarding the environment, began asking respondents whether they believe government is spending “too much” or “too little” on “improving and protecting the environment” only in 1973. As an alternative measure of public opinion, we employ a “policy mood” scale (Stimson, 1999; Stimson, Mackuen and Erikson 1995). This measure aggregates responses to several different public opinion questions, available as trend data beginning in 1952, to construct a liberal-conservative scale.<sup>30</sup> The measure represents the percentage of all responses that support a more liberal position, where liberalism is support for more governmental action. While this measure does not measure public opinion over time towards environmental issues per se, it does track support for environmental issues (Agnone 2004; Wlezien 2004). Indeed, the zero-order correlation from 1973 to 1998 between policy mood and the percent of GSS respondents indicating that too little is spent on improving and protecting the environment is .82.<sup>31</sup>

### Other Covariates

Though few would argue for a strict objective-response model of Congressional decision-making, it is plausible that Congressional attention to environmental issues responds to objective

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1993) between the time EMOs are formed and first included in the *Encyclopedia*. Alternative methods for computing national EMO founding dates (Johnson, n.d.) do not significantly alter the results presented here.

<sup>30</sup> Stimson generously provides downloadable data files at: <http://www.unc.edu/~jstimson/time.html>. Updated from James A. Stimson. 1999. *Public Opinion in America: Moods, Cycles, and Swings*, 2nd Ed. Boulder: Westview Press.

<sup>31</sup> Results of supplemental analyses using data on environmental attitudes available from the GSS, over the necessarily truncated period for which data is available, provide the same pattern of results as those reported here. These supplemental analyses have been made available for the reviewers only, in appendix A.

changes in environmental conditions. That is, as environmental degradation accelerates we may expect Congress to be more likely to act to mitigate, or at least be seen as taking actions designed to mitigate, this degradation. Environmental degradation is measured according to yearly U.S. emissions of five air pollutants: particulate matter less than 10 microns, carbon monoxide, sulfur dioxide, nitrogen dioxide and volatile organic compounds.<sup>32</sup> Data come from the *Statistical Abstracts of the United States* (U.S. Census Bureau 2003) and represent four of the six criteria air pollutants, those for which the EPA has set health based standards.<sup>33</sup> Yearly emissions were standardized and combined to create a yearly air pollution index, with each pollutant weighted equally.

Because the media presumably plays an important role in agenda setting processes we also employ a measure of media attention to environmental issues. Specifically, we utilize the number of environmental articles published in the NY Times Abstract between 1956 and 1994, as a percentage of the total articles summarized in the abstract per year. These data come from The Policy Agendas Project. We also use counts of the number of articles per page listed under environmental keywords within the *Readers Guide to Periodical Literature* between 1959 and 1998. These measures (correlated at .694) were combined by adding Z-scores to construct a summary media attention index for the period 1955-1998.

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<sup>32</sup> A number of other potential measures of absolute environmental conditions were considered, including: yearly measures of the share of GDP contributed by resource extraction related industries, yearly energy consumption per capita, yearly CO<sub>2</sub> emissions, and the number of pounds of pesticides produced each year. The air pollution index employed presents two significant advantages over these alternative measures. First, the index represents a direct measure of environmental degradation, rather than a proxy measure such as energy consumption per capita. Second, it is the most comprehensive measure of environmental degradation over time. By scaling information on five pollutants the air pollution index integrates data on a diversity of types and sources of emissions (Environmental Protection Agency 2000).

<sup>33</sup> The criteria air pollutants include carbon monoxide, nitrogen oxides, sulfur dioxide, particulate matter, ozone and lead. No measure for ozone emissions is included as this pollutant is produced by photochemical reactions in the atmosphere rather than direct emissions. Data on air-borne lead emissions were only available from 1970 and thus were excluded from analysis. Volatile organic compounds are included in analyses as they enable and facilitate the formation of other criteria air pollutants.

We also include controls for change in the structure of political opportunities (McAdam 1982; Tilly 1978) that might be expected to facilitate (or impede) Congressional action on environmental issues. As one measure of political opportunity we include a variable referencing Democratic Party advantage in Congress (Meyer and Minkoff 2004; Minkoff 1997a; Nownes 2004). Democrats have long been identified as allies of the environmental movement in the United States (Dunlap and Allen 1976; Guber 2001) and the presence or absence of elite allies is a key component in most conceptualizations of the political opportunity structure (McAdam 1996) that should encourage Congressional outcomes favorable to the goals of a social movement. This variable is computed as the number of Democrats in the House of Representatives minus the number of Republicans in the House<sup>34</sup> and is expected to be positively correlated with both agenda setting activities and favorable political outcomes.

As a second measure of political opportunities we control for national elections (Meyer and Minkoff 2004; Soule et al. 1999). This is a dichotomous variable coded as 1 during Congressional election years. Most research suggests that the stability of the political system decreases during national elections (Snyder and Tilly 1972). It is expected that instability will result in both heightened agenda setting activities and an increase in the incidence of the passage of federal environmental laws.

As a third, and final, measure of political opportunities we control for the presence/absence of a Democratic president (Meyer and Minkoff 2004). This is a dummy variable, coded as 1 during years of a Democratic presidential administration. Again, Democrats are presumably more open to the claims making activities of environmentalists and the presence

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<sup>34</sup> Information on the number of Democrats and Republicans in the House of Representatives comes from the Clerk of the House at [http://clerk.house.gov/histHigh/Congressional\\_History/partyDiv.html](http://clerk.house.gov/histHigh/Congressional_History/partyDiv.html). Democratic control of the house is fairly highly correlated (.65) with control of the Senate.

of a Democratic president is expected to facilitate environmental issue agenda setting as well as actual political outcomes.

Finally, we include a dichotomous period measure to control for the formation of the EPA, an important historical event in the development of U.S. environmental policy. This variable is set at zero for all years except 1970, the year in which the EPA was founded, and the three years immediately preceding and following. As a major institutionalizing event in the field, the establishment of the EPA is expected to have a positive and significant effect on both environmental agenda setting and actual policy outcomes.

## **METHODS OF ANALYSIS**

Assembled data were initially analyzed using poisson regression techniques. Poisson regression is a special case of the generalized linear model that utilizes counts of events, in this case yearly counts of new national EMO foundings, as the dependent variable. Count data often violate three important assumptions of OLS; typically displaying non-negative, skewed distributions, where the variance increases with the mean. Implicitly, Poisson uses a log transformation that prevents the model from producing negative predicted values, adjusts for a skewed distribution, and models the variance in event counts as a function of the mean (Barron 1992; King 1988; Liao 1994; Long 1997).

One limitation of the poisson model is that it does not account for the possibility that data are over-dispersed, where the variance of the event count exceeds the mean, which can result in downward bias of the standard errors for estimated coefficients. To account for this possibility, we also computed models employing a negative binomial distribution, a generalization of the poisson model (Barron 1992; Liao 1994; Long 1997). Results from negative binomial models are reported below as these models fit the data significantly better than poisson in all instances.

## RESULTS

We turn now to the results of our various analyses examining the political effect of environmental movement mobilization over the entire 1955-1998 time-period.

### *CONGRESSIONAL AGENDA SETTING*

We begin by assessing the impact of environmental mobilization on Congressional agenda setting processes before examining the actual passage of environmental laws. Table 3.1 reports the results of negative binomial regression analyses modeling the yearly number of Congressional hearings convened on environmental issues. Model 1 presents a baseline model that includes only the various controls used in the analyses: absolute environmental degradation, media attention to environmental issues, changes in the structure of national political opportunities, and the period of major institutionalization within the environmental field. In this model, the only statistically significant predictors of the frequency of Congressional hearings on environmental issues are media attention to these issues and whether or not it is an election year.

To test for the effect of environmental movement mobilization on Congressional agenda setting we add to this baseline model the total number of national EMOs active in the United States (Model 2). Mobilization is a significant predictor, at the .001 level, of the frequency of Congressional hearings and adding our measure of organizational mobilization to the baseline model significantly improves the model's fit to the data. An increase of one in the number of active national EMOs spurs a .4% increase ( $e^{.004}$ ) in the number of Congressional hearings held on environmental issues. Between 1955 and 1998 the population of national EMOs grew by an average of 9.8 new organizations per year (ranging from -10 to 30), suggesting an average rise in Congressional hearings of 4.9%. These results strongly support Hypothesis 1, suggesting that

organizational mobilization within the United States environmental movement does, indeed, influence agenda setting within the U.S. Congress.

Concerning the control variables, pollution again fails to have a significant effect on Congressional hearings, suggesting that objective conditions do not play an important role in setting the Congressional agenda. Our findings for media coverage are interesting in that media attention to environmental issues is a robust and significant predictor of Congressional hearings in the baseline model. However, once the number active national EMOs is controlled for media coverage no longer predicts counts of hearings. It is worth noting that media coverage and EMO density are not highly correlated (.31).

Model 2 also suggests that, net controls, the political composition of government exerts an independent influence on environmental issue agenda setting. That is, Democratic control of the house is positively associated with the convening of hearings on environmental issues. Counter to expectations, election years and Democratic control of the presidency are associated with fewer hearings. Finally, there is some support for the notion that the 1970 formation of the EPA did, as expected, significantly increase congressional attention to environmental issues.

We now turn our attention to analyses that control for the independent effect of public opinion. As we noted earlier, a number of scholars have argued that failing to control for public opinion in analyses of social movement outcomes is a major weakness of much previous work in this area. Model 3 presents the results of analyses assessing the effect of both public opinion and environmental mobilization on agenda setting within the United States Congress.

Organizational mobilization within the U.S. environmental movement continues to be a significant predictor of total Congressional hearings, even when controlling for public opinion. Public opinion itself, however, contrary to hypothesis 4, is a poor predictor of Congressional



attention to environmental issues. The measure fails to achieve significance<sup>35</sup> and its inclusion does not appreciably improve the models fit to the data. Counter to expectations (hypothesis 4) there is no evidence that law makers consider public opinion on environmental issues when setting the Congressional agenda. These results are supported from supplemental analyses (see Appendix C), over a necessarily truncated time-period, employing an alternate measure of public opinion taken from the GSS. As with the results for Model 2, measures of absolute environmental degradation and media attention remain insignificant predictors of Congressional hearings on environmental issues. Measures of the political opportunity structure and our period variable all remain significant predictors of environmental hearings in Congress.

### *POLICY OUTCOMES*

We now turn attention to assessing the effect of environmental movement mobilization on the incidence of passage of actual environmental laws and compare the results of these analyses to models of Congressional agenda setting. Table 3.2 presents the results of multivariate analyses examining the effect of environmental movement mobilization on the most commonly invoked metric of political outcomes, laws passed. Is the mobilization of national EMOs positively related to the number of environmental laws passed, as hypothesized? The first model in Table 3.2 is a baseline model including controls only. Here, the only significant predictors are political opportunity measures. Specifically, a Democratic President is associated with almost 40% fewer environmental laws being passed. In contrast to the baseline model predicting Congressional hearings, election years are positively related to the passage of environmental laws. While Congress may be less inclined to direct the requisite time and energy to convene hearings during election cycles, environmental laws are three times as likely to pass.

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<sup>35</sup> Public opinion remains an insignificant predictor in models omitting national environmental mobilization.

Model 2 in Table 3.2 adds our measure of environmental movement mobilization to the baseline model. Election years and democratic presidents remain significant predictors. The support for hypothesis 2, however, is mixed. The number of national EMOs is a significant predictor of environmental laws, but only at the .10 level. Mobilization has a much smaller effect on the passage of environmental laws than it does Congressional agenda setting. Every addition to the population of national EMOs is associated with only a .1 percent increase ( $e^{.0009}$ ) in the number of environmental laws passed (compared to .4 percent for hearings). These results, also lend support to hypothesis 3, that the mobilization of the environmental movement will have a greater affect on Congressional agenda setting than actual political outcomes.

Model 3 of Table 3.2 presents the results of analyses modeling the passage of environmental laws on public opinion towards environmental issues, the mobilization of the environmental movement and all the control variables used in prior analyses. There is no evidence to suggest that, once public opinion is controlled, environmental movement mobilization significantly affects the passage of environmental laws.

Counter to expectations (hypothesis 5), pro-environmental public opinion itself is a poor predictor of the passage of environmental laws. Measures of the political opportunity structure continue to be significant predictors of the passage of environmental laws. Control of the Senate and House by Democrats is significantly and positively associated with the passage of more environmental laws and election years with the passage of fewer laws.

## **DISCUSSION**

Collectively, studies examining the outcomes of social movement mobilization have been plagued by a number of weaknesses. Chief among these has been the relative paucity of empirical analyses, and the nearly exclusive focus of such work on the passage of laws favorable

to a social movement. What is more, this work has produced decidedly mixed results pertaining to the effect of social movements on political outcomes. We suggest that these inconsistent results can, in part, be explained by the focus on the end point of the policy making process, the actual passage of laws, rather than antecedent stages in the legislative process. The passage of laws is an incredibly contingent process that requires, among other things, overcoming counter-mobilization to secure the majority support of Congress. Agenda setting activities, in contrast, are relatively straightforward and can be undertaken by stark minorities or even individual “activist” legislators or Congressional committees (Walker 1977).

We argue that empirical analyses need to “catch up” to theory, focusing greater attention on public agenda setting. There is general agreement that social movements should exert a stronger effect on this earlier stage in the legislative process than the passage of favorable laws. Yet, systematic empirical research in this area has been virtually non-existent, largely because of the lack of available temporal data. In this paper we demonstrate, for one social movement, how existing data can be used to empirically analyze the effect of mobilization over an extended period of time at two important stages in the policy process.

The results presented strongly suggest that mobilization of the national environmental movement in the United States is positively related to increased attention to environmental issues by Congress. The relationship between mobilization and the passage of environmental laws is, however, more tenuous. Environmental mobilization also has a much larger effect size on the incidence of Congressional hearings than it does on the passage of environmental laws, supporting the notion that social movements and interest groups exert greater influence earlier in the policy making process than later.

In looking at the role of public opinion we find that, contrary to expectations, public opinion itself has no direct affect on either agenda setting or the passage of laws. Further, even when controlling for the independent effect of public opinion, environmental movement mobilization continues to exert a significant effect on agenda setting within the United States Congress. The relationship between environmental mobilization and the passage of laws, however, becomes statistically insignificant once public opinion is controlled for.

We find support for the null finding concerning the effect of public opinion on environmental laws in the only other empirical analysis on this topic of which we are aware (Agnone n.d.). In his analysis, Agnone finds that favorable public opinion is either not statistically associated with the passage of environmental laws, or is negatively so. These findings stand in stark contrast to the wider body of research documenting the important role of public opinion in shaping political outcomes. Clearly, the interaction between social movement mobilization, public opinion and political outcomes is a subject deserving of continued attention (see McAdam and Su 2002; Soule and Olzak 2004).

At the same time, we suspect that the wider pattern of results which we document here is not specific to the environmental movement only, but is more general. That is, we suspect it is generally easier to influence governmental issue agendas than the passage of actual laws. Although focused on the inter-play between public opinion and the policy process, rather than the role of social movements, Jones and Baumgartner (2004) find that the correspondence between public priorities and lawmaking is attenuated considerably in comparison to agendas. In the only other empirical analysis of the frequency of Congressional hearings of which we are aware, Soule et al (1999) similarly find that the number of national women's SMOs is positively and significantly related the number of hearings. They do not examine the passage of laws,

though they find roughly the same size of effect when looking at roll-call votes. Interestingly, the focus of their analysis is on the role of movement protest and institutional actions in producing desirable political outcomes. While they find that institutional actions are positively related to the incidence of House roll call votes, they find no effect for either of these variables on either Senate roll call votes or the incidence of Congressional hearings. Future research could profitably examine the interaction between social movement actions, organization building and their (in)ability to effect desirable political outcomes.

Finally, the results of the political opportunity variables included in the analyses are deserving of mention. As expected, we found that the presence of elite allies in the legislature increased the incidence of environmental agenda setting activities as well as the passage of environmental laws. In contrast to prior research (e.g. Meyer and Minkoff 2004), however, we find that the presence of a Democratic president is associated with the reduced incidence of both environmental agenda setting activities and the passage of environmental laws. Finally, we found differential effects for the effect of election years. While national elections are positively associated with the incidence of environmental law they are negatively related to the incidence of Congressional agenda setting activities. It may be that legislators feel a greater impetus to act during election years, when voters are particularly attentive to what their representatives are doing in Washington. At the same time that an environmental voting record and legislative accomplishments on politically popular issues (such as environmental ones) may help to get law makers re-elected, the time constraints of re-election campaigns dampen the amount of attention which Congress devotes to legislative hearings.

In sum, we find little evidence that public opinion significantly affects the policy making process, at least for environmental issues. This holds when looking at either public agenda

setting or the passage of actual environmental laws. We do find that the mobilization of the environmental movement has a significant and positive effect on the frequency of agenda setting activities within the United States Congress and, to a lesser extent, the passage of environmental laws. The more tentative results for models predicting the passage of environmental laws, as opposed to Congressional agenda setting, should be interpreted within the context of mixed results for analyses of the political effect of social movement activities generally. They suggest that the passage of laws is a highly contingent process in comparison to agenda setting and that social movement mobilization does, indeed, have a greater potential and likelihood of impacting agenda setting than the passage of laws. This further suggests that analysts have ignored much of the potential effect of social movements on the policy making process. Future research could profitably examine not only how generalizable these findings may, or may not, be across different social movement issue arenas but how different types of social movement activities (i.e. protest, organizational building, institutional actions) differentially affect different stages in the policy making process.

Table 3.1: United States Congressional hearings convened on environmental issues, 1955-1998.

Variable (code)	Model 1	Model 2	Model 3
Environmental movement <sub>(t-1)</sub>		.004*** (.000)	.004*** (.000)
Public opinion <sub>(t-1)</sub>			.001 (.012)
Pollution <sub>(t-1)</sub>	-.056 (.048)	.026 (.020)	.027 (.028)
Media attention <sub>(t-1)</sub>	.210*** (.064)	.005 (.027)	.005 (.027)
Dem control house	.001 (.003)	.003*** (.001)	.003** (.001)
Election year	-.365* (.173)	-.293*** (.074)	-.293*** (.074)
Democratic President	-.2894 (.178)	-.176* (.078)	-.177* (.078)
EPA	-.250 (.356)	.464** (.158)	.458* (.184)
Intercept	4.387*** (.249)	2.489*** (.169)	2.446*** (.737)
Log-likelihood (DF)	9649.311 (36)	9687.396 (35)	9687.398 (34)

\* p < .05, \*\* p < .01, \*\*\* p < .001 (two-tailed test)

Table 3.2: laws passed on environmental issues in the United States, 1955-1998.

Variable	Model 1	Model 2	Model 3
Environmental movement <sub>(t-1)</sub>		.0009† (.0005)	.0007 (.0005)
Public opinion <sub>(t-1)</sub>			-.030 (.017)
Pollution <sub>(t-1)</sub>	.025 (.033)	.043 (.033)	-.001 (.040)
Media attention <sub>(t-1)</sub>	.034 (.042)	-.014 (.048)	-.012 (.046)
Democratic House	.003 (.002)	.003 (.002)	.003* (.002)
Election year	1.107*** (.032)	1.108*** (.127)	1.109*** (.123)
Democratic President	-.304* (.034)	-.312** (.126)	-.287* (.122)
EPA	-.141 (.245)	-.018 (.236)	.207 (.261)
Intercept	1.507*** (.193)	1.193 (.248)	3.005 (1.040)
Log-likelihood (DF)	641.047 (36)	642.780 (35)	644.335 (34)

\* p < .05, \*\* p < .01, \*\*\* p < .001 (two-tailed test); † p < .10 (two-tailed test)



## Chapter 4:

### Greener Pastures? The Changing Geographic Distribution of National EMOs and Consequences for Organizational Persistence.

Though scholars have long noted a strong spatial component to the dynamics of collective action, social movement theory and research remains largely aspatial (Miller 2000; Tilly 2000). We know little about the geographic distribution of social movement activities and even less about how movement geographies influence the likelihood of success. A spate of recent scholarship (Marston 2003; Martin and Miller 2003; Miller 2000; Sewell 2001; Tilly 2000; 2003), however, has called attention to these “gaps” in the literature, forcefully arguing that the geographic structuring of social movements is both significant and pervasive. This body of work contends that place-based contextual effects shape access to resources and political opportunity structures influencing the mobilization, trajectory, and success of social movements.

In this paper, we focus on the physical location of national headquarters for the population of national environmental movement organizations (EMOs) active in the United States between 1955 and 1998 and ask how decisions by individual EMOs to change the location of national headquarters influence the probability of organizational success. We define success here using the minimal criteria of organizational persistence. Relocation may be expected to confer long-term survival advantages on individual SMOs by embedding them in more resource rich environments or reducing transaction costs. At least, we presume that organizational actors make decisions to change the location of headquarter with the intent of enhancing organizational capacity, effectiveness and odds of survival. In the short term, however, relocation can be expected to disrupt existing organizational routines and relationships, potentially exposing

organizations to elevated rates of disbanding. In other words, we suggest that changes in the physical location of EMO headquarters may confer long-term survival advantages to EMOs but that these same changes will initially expose EMOs to elevated rates of organizational mortality.

We begin the next section by reviewing recent theoretical developments emphasizing the role of place in explaining the dynamics and success of social movements, as well as the dominate approaches to incorporating geographic information in existing social movement research. We then introduce a broad analytical framework for analyzing organizational failure that draws heavily from ecological theory in organizational analyses before finally focussing attention on the hypothesized link between changes in the location of organizational headquarters and the probability of disbanding. We conclude the review of the literature with a summary of what we know already about the geographic distribution of the United States environmental movement. We test the hypotheses generated from the review of the literature using data on 652 national EMOs, and the geographic location of the headquarters, over the 1955-1998 time period. Event-history methods are used to estimate the effect of changing headquarters location on the incidence of organizational failure.

## **REVIEW OF THE LITERATURE:**

### *WHY PLACE MATTERS*

In the past few years there has been a proliferation of scholarship bemoaning the lack of attention to, and arguing for a more explicit focus on, geographic context within social movements. Byron Miller (2000), in particular, has persuasively argued that geographical context matters to the development and success of social movements. He asserts that place-based contextual effects shape many aspects of social movements, such as access to resources and political opportunities, that are traditionally the focus of research within the movement

literature. He demonstrates for the case of Boston antinuclear activism how geography impinges on social movement dynamics, alternately constraining and enabling the mobilization process, and even serves as the very basis of conflict itself (as when activists and authorities contest the geographic scale at which problems should be addressed).

This work shows how a geographically informed analysis can enrich social movement research and, in conjunction with other recent theoretical pieces (Marston 2003; Martin and Miller 2003; Sewell 2001; Tilly 2003; 2000), argues persuasively that geographical context needs to be better accounted for in social movement research. Unfortunately, while the task of integrating theories of geography and social movements has begun, empirical analyses incorporating spatial data have been rare and largely restricted to attempts to explain variation in the geographic distribution of social movement activity. To our knowledge, there have been no empirical analyses which attempt to assess the effect of geographic space, or mobility, on the success of social movements or individual social movement organizations.

Existing research incorporating geographic data in the study of social movements has been of two main types. The dominant approach to explaining the incidence of social movement activity across geographical units draws from the literature on the diffusion of innovations generally (e.g. Hagerstrand 1967) for theoretical inspiration. In the diffusion literature spatial proximity is thought to provide evidence of social networks and to encourage the diffusion of social movement activities by facilitating interaction and thus awareness of innovative tactics or forms of action. Work from the diffusion perspective in social movements has produced fairly consistent findings that spatially proximate actors exert significant influence upon one another (Strang 1998: 275; though see e.g. Soule 1997). Geographic distance has been identified as a significant predictor of the propensity of racial rioting in American cities (Myers 1997) the

foundings of Swedish trade unions (Hedstrom 1994) and support for Chilean radicalism (Petras and Zeitlin 1967). Similarly, emphasizing the role of interpersonal and organizational networks in accounting for the patterns of early civil rights sit-ins, Aldon Morris (1981) shows that most sit-ins occurred within geographically bounded clusters (less than 100 miles between the furthest sit-ins in each cluster).

A number of researchers adopting a social movements perspective have also incorporated information on characteristics of place in attempting to model the incidence of movement activity (typically operationalized as either the presence of active SMOs or incidence of protest activity) across geographical space. Typically, researchers have relied on contextual characteristics of place, particularly measures of resource availability and political opportunities, to explain variation in social movement activity across geographical units. Andrews and Edwards (2003), for example, examine the distribution of environmental movement organizations across counties in North Carolina and find that the presence of political institutions and other social movement groups attracts environmental organizations.

Similarly, in examining the incidence of student protest across college campuses Van Dyke (1998), while focusing on the role of activist sub-cultures, controls for characteristics of the location of protest (i.e. schools). As with most such research, however, the majority of “place” characteristics included in analysis are unrelated to geographic space per se (e.g. school faculty student ratio, % of undergrads in dorms, public v. private institution, affiliated with a religious group or not). While Van Dyke also controls for geographically relevant information (population of city school is located in and region of the country) this information is introduced with little theoretical justification and virtually ignored in the interpretation of results. This research typifies the way in which geographical data is incorporated into social movements.

That is, geography itself is not the subject of inquiry and where geographic information is included, it is typically not of theoretical interest and is incorporated only as a control for unobserved variation in other processes of interest. The inclusion of a control measure for geographical region, largely ignored in the interpretation of results, is perhaps the most common way in which geographic information is included in social movement research and highlights the lack of attention to the role of geography in shaping social movement dynamics. Again, we are aware of no instances where researchers attempt to assess the influence of geographic context on the success of a social movement.

#### *ORGANIZATIONAL SUCCESS: INFLUENCES ON ORGANIZATIONAL DISBANDING*

Here, we ask how changes in the physical location of the headquarters of environmental movement organizations affect the probability of success, defining success using minimal criteria of organizational persistence. In examining the effect of changing headquarters location we draw heavily from the dominant theoretical and methodological approach used in analyzing organizational disbanding generally, organizational ecology. The ecological approach has proven useful in analyzing the dynamics of vital rates (i.e. births and deaths) within a broad range of organizational populations, including social movements (see chapter 2).

Organizational ecologists focus attention on the role of competition and legitimacy in regulating population vital rates (see Carroll, 1984; Aldrich, 1999 for reviews). During the early period in an organizational populations growth trajectory, founding rates are typically rather low and disbanding rates high. Initial increases in the number of organizations in a population (population density) are thought to increase the legitimacy of the field, and thus depress rates of disbanding. That is, as the population density increases so does the legitimacy of the field, resulting in depressed organizational disbandings rates (while the rate of new organizational

foundings accelerates). Beyond some inflection point, however, successive additions to population density are thought to contribute increasingly little to the legitimacy of the field while intensifying competition over finite resource pools, thus elevating disbanding rates (and depressing founding rates). A majority of studies support this density dependence model and have shown increases in organizational density that initially raise founding rates and lower disbanding rates, beyond a certain point, inhibit foundings and raise rates of organizational disbanding (Singh and Lumsden, 1990; Baum, 1996).

Within this broad ecological framework, we test for evidence that changes in the physical location of organizational headquarters effect probabilities of individual EMO disbanding. Choices about where to locate headquarters affect transaction costs, serve an important symbolic function, embed organizations in relational networks, and structure access to resources and political opportunities, all of which influence survival chances. We assume that an organization's choice to move the location of headquarters do so in an attempt to enhance organizational capacity, effectiveness and, ultimately, persistence; by selecting new locations for headquarters that offer reduced transaction costs, greater access to resource rich networks and open political opportunity structures and/or important symbolic advantages. However, the relocation of organizational headquarters are expected to disrupt existing relationships, requiring organizations to establish new routines and relationships with the environment and, thus, to, at least initially, expose organizations to liabilities of newness.

The liability of newness (Freeman, Carroll and Hannan 1983; Hannan and Freeman 1984) states simply that new organizations have a greater risk of failure than do older organizations. The survival disadvantage of younger organizations is largely accounted for, theoretically, by their need to establish stable routines and relationships with their environment.

Stable routines and relationships take time to develop, but once established enhance the likelihood of survival. Changes in core features of an organization disrupt these routines and practices and may re-expose organizations to liabilities of newness until new routines and relationships can be established. A majority of research supports the notion that core changes in organizational tactics and goals is associated with an elevated risk of organizational mortality (Barnett and Carroll 1995). This has also been shown to be the case among women's and racial-ethnic social movement organizations (Minkoff 1999).

If geographic location does indeed structure access to social networks, resources, and opportunities as this review suggests then moving the headquarters of an EMO can be expected to remove that organization from existing relationships, or at least make the costs of maintaining them more difficult, thus increasing the odds of organizational failure, at least initially. In the long run, however, changes in headquarters location may enhance the odds of survival by embedding organizations in more network, resource and/or opportunity rich environments.

*Hypothesis #1:* the decision to move headquarters will initially expose organizations to elevated risks of mortality.

*Hypothesis #2:* In the long run, decisions to move the headquarters of EMOs will enhance the odds of organizational survival.

Up until now, we have treated all moves as equal. But, should this be the case, are all moves equivalent or does where you move to (or from) matter? Histories of the environmental movement in America, reviewed in the following section, make clear that national EMOs and the issues they represent have become increasingly institutionalized within the federal political system. Because of the importance of the federal government to this issue arena we focus particular theoretical attention on the decision to move organizational headquarters either to or away from the Washington D.C. metropolitan area. Moving headquarters to the D.C. metro area

is expected to infer a number of survival advantages upon national EMOs, while moving away from D.C. is expected to increase the risk of organizational disbanding. First, organizations can be expected to incur significantly reduced transaction costs as a result of locating headquarters in the D.C. metro area, as opposed to other locations within the United States. Most obviously, this results from D.C. being the center of federal government activity. Equally important, but perhaps less obvious, may be the proximity to a host of other important actors within the environmental arena including other EMOs, foundations which fund environmental activities, and national media outlets. Second, the geographic location of organizational headquarters can be expected to embed national EMOs in variable relational networks. Because of the proximity to other important actors within the field (other EMOs, government agencies and officials, mass media, foundations, etc.) we expect that locating headquarters in D.C. would provide access to a greater diversity of resource rich networks. Third, EMOs headquartered in D.C. may have more ready access to available opportunities in the political structure. Finally, the location of national EMO headquarters may serve an important symbolic function. Locating headquarters in the D.C. metro area clearly indicates that an organization is oriented towards the national government and may be taken as a sign that an organization is truly national in scope as well as, potentially, influential in national politics. We would expect that such symbolic functions would confer advantages on those organizations located in the D.C. metro area.

*Hypothesis #3:* EMOs moving to the D.C. metro area will experience a decreased risk of organizational mortality.

*Hypothesis #4:* EMOs moving out of the D.C. metro area will be subject to an elevated risk of organizational mortality.



## *BRIEF HISTORY OF THE ENVIRONMENTAL MOVEMENT*

During the late 1960s and early 1970s cycle of protest (Tarrow 1998) the environmental movement entered an extensive period of mobilization that marks the beginning of the modern environmental movement in America (Brulle 2000; Dunlap and Mertig 1992b; Gottlieb 1993; Lacy 1989; Sale 1993; Schlosberg 1999). This mobilization was spurred by a massive expansion of federal governmental activity within the environmental arena, beginning with the first Clean Air Act in 1963 and accelerating rapidly after 1970 (Andrews 1999; Petulla 1988; Portnoy 1990). In that year, the first “Earth Day” events were held to promote environmental issues on the national political agenda and the National Environmental Policy Act (NEPA) was passed, establishing the national Environmental Protection Agency (EPA). The major institutionalizing event within the environmental field, the establishment of the EPA centralized in one agency federal responsibility for environmental protection and regulation.

Increased federal governmental attention served to legitimize the national environmental movement and spurred the creation of a plethora of new national EMOs (see chapter 2). At least partly in response to the enhanced legitimacy and political opportunities afforded these groups within the federal government, the national environmental movement became increasingly identified as a powerful special interest in Washington. Over the course of the 1970s the national environmental movement, and its attendant organizations, became increasingly associated with the classic model of professional SMOs (McCarthy and Zald, 1977). That is, environmental organizations became heavily reliant on conscience constituents and a professional staff, focused on insider (e.g. litigation and lobbying) tactics, and centered in Washington D.C.

The dominance of Washington insider political tactics appeared well-founded as the federal government time and again acted to enhance environmental protection. The inauguration of Ronald Reagan as President, however, initiated attacks on a host of federal environmental protections. This initially produced a backlash of support for environmental issues that re-invigorated the movement. National EMOs, especially those focused on issues of conservation, experienced a surge in membership during the 1980s (Mitchell et al. 1992). However, the continued roll back of previous legislative accomplishments and erosion of federal environmental protection policies in the long run called into question the effectiveness of mainstream national EMOs (Dowie 1996; Shabecoff 1993). At the same time, during the 1980s there was an upsurge in grassroots organizing around environmental issues, particular toxic contamination and environmental justice (Bullard 1990; 1993; Dowie 1995; Edwards 1995; Szasz 1994). This grass-roots strand of the environmental movement has been extremely critical of mainstream national EMOs, of the kind which we have focused discussion on so far.

By the close of the 1980s, the movement had entered a period of significant re-organization. Insider strategies which had produced handsome returns in earlier periods failed to stop the rollback of environmental protections during the 1980s and mainstream professional national EMOs that had been considered the vanguard of the early environmental movement were regularly criticized as ineffectual captured interests of government and industry (Dowie 1996; Shabecoff 1993). At the same time, a broader process of federal devolution of responsibilities to the states continued to make the federal government less relevant to environmental decision making. The result was a distinct shift in the logic and locus of environmental mobilization during the 1990s away from the national level and towards the local and transnational arenas.

This review suggests two countervailing trends in the distribution of the location of headquarters of national EMOs. First, the institutionalization of a federal environmental regime that began in the 1960s and continued throughout the 1970s suggests an increasing concentration of national EMO headquarters in the Washington D.C. area. This expectation is supported by histories of the movement which highlight how the movement came to be dominated by D.C. based professional EMOs. Second, the devolution of federal responsibilities generally, and environmental protection in particular, that began during the 1980s served to limit the role of the federal government in environmental protection while enhancing the role for states, reducing the incentive to locate headquarters in D.C. The development of vibrant grass-roots based strands of the environmental movement during the 1980s and 90s, which resulted in the establishment of a number of new national organizational infrastructures, supports the expectation that the distribution of headquarters of national EMOs moved away from the D.C. area.

Table 4.1 displays the percent of national EMOs from our sample that are headquartered in each of five geographic regions in the United States (four census regions plus D.C.) between 1952 and 1998. These data do not support the expected changes over time in geographical patterning of headquartering that are suggested by our review of the literature. At the beginning of the observation period nearly half of national EMOs listed in the Encyclopedia are located in Washington D.C. The share of national EMOs headquartered in the D.C. metro area continually declines until 1980, however, after which time the proportion of national EMOs headquartered in D.C. remains fairly stable at between one-quarter and one-third. There is steady growth in the percentage of national EMOs headquartered in the Western United States over the observation period, from less than 10% in 1962 to nearly a third of national EMOs in 1998. There is also some growth in the percentage of national EMOs headquartered in the South although it is much

more modest, doubling from 5% in 1962 to 10 percent in 1998. The proportion of national EMOs headquartered in the Midwest and Northeastern regions remains fairly stable over the observation period.

The discrepancy between the actual geographic patterning of headquarters location which we document here and the patterns we expected based on our review of the literature can be explained by the over-reliance on data from only the largest national EMOs in most previous analyses of that environmental movement (see chapter 2). That is, the largest national EMOs do become increasingly concentrated in the D.C. region over the course of the 1970s. Early in the period under observation (1970 and earlier) the largest mean staff levels are observed among EMOs in the northeastern region and there is relatively little difference by region in average membership levels. By the close of the 70s, however, national EMOs headquartered in the D.C. region had become, on average, much larger than those located in other regions of the country. From this point through the end of the time period under observation mean numbers of staff for D.C. based EMOs are roughly double the average for the sample as a whole; the only region whose mean staff size is consistently greater than the sample average. This size dominance is even more pronounced when measured by membership levels, where D.C. based EMOs have mean membership sizes roughly three times the sample average from 1980 on.

While the largest national EMOs do increasingly concentrate in D.C. over time, the wider pattern in the location of national EMOs is one of increasing dispersal. That is, the proportion of national EMOs located in the D.C. metro area declines over the early period of development in the environmental movement, even after the establishment of a federal environmental regime during the 1970s. However, D.C. based EMOs do experience dramatic growth in mean size over the course of the 1970s. This growth is large in both absolute and relative terms and the size

dominance of D.C. based national EMOs persists into the recent period. The failure of previous analyses to attend to the diversity of the environmental movement and instead focus on only the largest national EMOs has skewed our understanding of how the movement developed, including our understanding of the geographic distribution of the movement.

#### **DATA AND METHODS:**

Data on national environmental movement organizations were drawn from the *Encyclopedia of Associations, Volume 1, National Organizations of the U.S.* (Gale Research Inc. 1956-2003). Widely employed as a census for bounding populations of voluntary organizations (e.g. Baumgartner and Jones 1993; Minkoff 1995; 1997a; 1999; Johnson and McCarthy 2004; Nownes 2004) the *Encyclopedia* has been published annually since 1974 and intermittently before that since 1956. Editors aggressively search for and conduct a yearly survey of nonprofit associations active in the United States at the national level. As a result, the *Encyclopedia* provides the most complete source available for identifying a broad range of national citizens' organizations. Recent work (Martin, McCarthy and Baumgartner N.d.) evaluating the representativeness of the *Encyclopedia* (relying on the 1999 edition, rather than the complete time series, unfortunately) finds that 76.3% of national labor unions are included in the *Encyclopedia* (a very high rate for organizational sampling frames). This study also indicates that those associations included in the *Encyclopedia* are likely to over-represent the largest and most well-known groups in any category, and this should also be the case for EMOs.

Ten editions (2003, 2000, 1995, 1990, 1985, 1980, 1975, 1970, 1962, 1956) of the *Encyclopedia* were used to identify national EMOs, defined as those groups which identified environmental conservation/protection as a *primary* organizational purpose or concern. This was established through a combination of keyword headings, association name, and organizational

description. The procedure followed was to first include all organizations listed under certain keywords.<sup>36</sup> Each entry in the entire encyclopedia was then read to determine if other groups should be included though they were not listed under one of the headings above. Finally, those organizations whose membership was drawn primarily from industry and/or governmental agencies, as well as professional associations whose organizational goals were primarily advancement of the profession, were deleted from the sample. When this process was complete, 652 distinct national EMOs were identified as having been in existence at some point during the period under study.

#### *METHODS OF ANALYSIS*

The best form of data to explore the causal processes of events (e.g. organizational disbanding) is an event history. Event history methods allow for estimating the risk of organizational disbanding as a function of both time and a set of covariates which may also vary across time (Allison 1982; 1984; Peterson 1986; Yamaguchi 1991). An event history data file consists of a record of *when* events occurred to a sample of organizations and data on relevant explanatory variables. Applying standard statistical techniques to an event history may lead to substantial bias and/or loss of information since such techniques have difficulty dealing with time-varying explanatory variables and case censoring.

The method most familiar for analyzing event history data assumes that time is measured as a continuous variable (Blossfeld and Rohwer, 1995; Tuma, 1976; Peterson, 1986; Tuma and Hannan, 1978). However, data on national EMOs is available only at one-year intervals and it would be inappropriate to treat such data as if it were continuous. One alternative is to assume an underlying continuous-time model and estimate the model's parameters; the other alternative

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<sup>36</sup>.Conservation, wildlife conservation, environment, environmental quality, environmental protection, environmental health, toxic exposure, nuclear energy, ecology, pollution control, and hazardous waste.

is to assume that events may only occur at the discrete points for which we have measures. In practice, these alternative *discrete-time* approaches lead to very similar estimation procedures (Allison, 1982; 1984; Yamaguchi 1991). In a discrete time model each organizations history is treated as a set of independent observations, one observation is created for each year of the organization's existence in the sample up until the time when an event (organizational disbanding) occurs or the study period ends (1998). All models were estimated using the SAS system.

### *DEPENDENT VARIABLE*

For each organization, yearly observations were recorded and assembled in an event history file. An organization may have as few as one or as many as 32 observations (one for each year covered by the *Encyclopedia*) in the sample.<sup>37</sup> The dependent variable in multivariate analyses is whether or not an organization ceases activity in the prior year. Because an organization must first enter the sampling frame before it can possibly go defunct, the first observation for each organization was not subject to analysis. In total the data set created contains 7883 observations (organization years).

An organization was coded as disbanding if it was listed in the *Encyclopedia* as going defunct, as being subsumed within a larger organization as the result of a merger<sup>38</sup>, as “address unknown” (meaning that the organization was listed in previous editions but repeated requests by the editors of the *Encyclopedia* for updated information were unanswered), or lost (listed in previous editions but does not appear subsequently). The date of dissolution is the year reported in the *Encyclopedia*, the first year in which an organization that was subsequently listed no

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<sup>37</sup> Prior to 1975 the *Encyclopedia* was updated at irregular intervals. To control for the uneven time intervals we multiply our dependent variable by the length of exposure (number of years) between publications of the *Encyclopedia*. After 1975, the time of exposure is always equal to 1.

<sup>38</sup> In the case of mergers between two organization in our dataset the EMO whom the *Encyclopedia* indicates “absorbed” another organization is coded as continuing to exist and the other EMO is coded as going defunct.

longer appears in the directory, or the first year in which an organization is listed as “address unknown.” A total of 168 EMOs cease activity during the period under observation (the incidence of organizational disbanding is shown graphically in figure 4.1, discussed further in the results section).

Because EMOs are not included in our data set until they appear in the *Encyclopedia*, which does not begin publication until 1955, there is some left censoring of the data. This may be problematic if there are systematic differences in the survival rates of groups formed before and after the beginning of the study due to some unobserved characteristics of the early set of organizations. Following other studies (Minkoff 1999; Baum and Singh 1996) we account for the potential sample selection bias by controlling for whether an organization was formed prior to 1955, the start of the observation period. Because this variable is never significant, however, we do not include it in final multivariate models estimating rates of organizational disbanding.

#### *INDEPENDENT VARIABLES*

*Organizational Characteristics:* The primary focus of this research is the relationship between changes in the location of headquarters of national EMOs and the survival of those organizations. The locations of headquarters for national EMOs were identified using mailing addresses provided in the *Encyclopedia*. National EMOs were coded as moving headquarters if the mailing address provided in the *Encyclopedia* changed states during the prior year (n=299).<sup>39</sup> The incidence of EMO changes in headquarters location is displayed in figure 4.2.

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<sup>39</sup> In those cases where an EMO’s address is temporarily unknown but the organization persists (i.e. later editions of the *Encyclopedia* contain a valid mailing address) values are imputed based on previous and new location. If two years are missing, the first year is assigned the original location and the second year is allocated the new location. If only one year is missing the more recent location is imputed based on the assumption that the organization was in the process of moving and missed the mailing.



We include two measures to account for organizational change history (Amburgey et al. 1993; Delacroix and Swaminathan 1991; McCammon 2001; Minkoff 1999). The first variable, total state changes, records the cumulative number of headquarter moves for an EMO. The second variable is a state change “duration clock” that measures the amount of time elapsed since the last headquarters move. This variable is initially set at zero until a change in headquarters occurs, at which point the time elapsed since that change is recorded in years. If the organization moves the location of its’ headquarters again this variable is reset to record the time elapsed from the more recent change. We expect that the effect of moving the location of national headquarters on survival will vary over time; with re-locations initially being disruptive but, over the long term, inferring survival advantages on EMOs. Because we specify a curvilinear effect on the amount of time elapsed since the last move we also include a quadratic specification of the duration clock. We expect that the first-order duration clock will be positively related to organizational disbanding (i.e. moving will initially increase the odds of disbanding) and that the quadratic specification will be negatively related to the incidence of organizational failure.

There are also theoretical reasons to believe that moving headquarters away from Washington D.C. may confer particular liabilities of survival, and that moving to D.C. may enhance the odds of survival. To test for this possibility, for those organizations which have moved headquarters location, we include two dummy variables indicating whether or not the most recent move was out of the D.C. area (n=32) or into D.C. (n =41). We define an organizational headquarters as being in the DC metropolitan area if they are located in the District of Columbia, Virginia or Maryland.

We also control for age, size and structural complexity within national EMOs.

Organizational age is calculated based on the year of organizational founding reported in the *Encyclopedia*. Organizational age is computed using the founding dates provided in the *Encyclopedia*. For those few organizations (N=24) that did not report a founding date, it was computed using the first year in which the organization appeared in the *Encyclopedia*.<sup>40</sup>

Following Minkoff (1993; 1999) we include both first order and quadratic specifications of age in order to allow for a possible curvilinear relationship between organizational age and disbanding.

Size is measured as the yearly number of staff that an organization indicates it employs. This is the most appropriate measure of organizational size available as, unfortunately, data on organizational budgets is not available prior to 1986. While individual membership data is available from the beginning of the observed period, many of the organizations included in this sample are either non-membership organizations or consist primarily of organizational members. Where information on the number of staff employed by an EMO is missing we assign a value of one, reasoning that smaller organizations are less likely to fully report information to the editors of the *Encyclopedia*. This decision may somewhat underestimate the liability of smallness in our data.

Structural complexity refers to the degree of internal differentiation and specialization within an organization. It is operationalized as the number of functional divisions (committees, sections, departments, task forces, divisions, etc.) which an EMO indicates it has. We also

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<sup>40</sup> For this small subset of organizations founding dates were computed as the first year an organization appeared in the *Encyclopedia* minus 3 years, to account for the typical lag (Baumgartner and Jones 1993) between the time organizations are formed and first included in the *Encyclopedia*.

explored a control measure indicating whether or not national EMOs have state or local chapters, reasoning that this chapter structure may inhibit disbanding. This, second, measure of structural complexity was not significant in analyses and is omitted.

*Environmental Conditions:* We follow the standard approach in ecological modeling by including population density, the total number of U.S. national EMOs active at any point in time, as a proxy for legitimation processes within the environmental organizational field. To compute density a complete time-series was constructed for each organization, indicating, for each year between 1955 and 2000, whether or not the organization was active. For each organization, the founding date (or the first year of the study if the organization was formed prior to 1955) was used to indicate the first year that an organization was present. The year that an organization exited the population (i.e. goes defunct), or 1998 if the organization persists until the end of the study period, was used as the final record.

As a measure of competition within the environmental movement we follow the standard approach used by organizational ecology researchers, employing a quadratic measure of population density. This measure tests for the hypothesized inverse curvilinear relationship between organizational density and rates of organizational disbandings. Competition is expected to increase the rate of national EMO disbandings.

Because national EMOs rely on the mass public for much of their support we also control for public opinion that is favorable (or not) to organizing around environmental issues. The proportion of the public that supports the goals of a social movement delineates the pool of movement adherents and potential constituents (McCarthy and Zald 1977) that may provide resources to SMOs either directly (e.g. through membership dues) or indirectly through diffuse support for the goals of a movement. We sought to include a direct measure of public opinion

regarding environmental issues. Unfortunately, no systematic trend data on public opinion towards environmental protection is available over the entire study period. The General Social Survey, for instance, began asking respondents whether they believe government is spending “too much” or “too little” on “improving and protecting the environment” only in 1973. As an alternative measure of public opinion, we employ a “policy mood” scale (Stimson 1999) which aggregates responses to several different public opinion questions, available as trend data beginning in 1952. The measure represents the percentage of all responses that support a more liberal position, where liberalism is support for more governmental action. While this index does not measure public opinion over time towards environmental issues per se, the zero-order correlation from 1973 to 1998 between policy mood and the percent of GSS respondents indicating that too little is spent on improving and protecting the environment is .82. It is expected that favorable public opinion will be negatively related to the incidence of national EMO disbanding.

We also include controls for change in the structure of political opportunities (McAdam 1982; Tilly 1978). As one measure of political opportunity we include a variable referencing Democratic Party advantage in Congress, computed as the number of Democrats in the House of Representatives minus the number of Republicans (Meyer and Minkoff 2004; Minkoff 1997a; Nownes 2004).<sup>41</sup> Democrats have long been identified as allies of the environmental movement in the United States. The presence or absence of elite allies is a key component in most conceptualizations of the political opportunity structure (McAdam 1996) and is expected to

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<sup>41</sup> Information on the number of Democrats and Republicans in the House of Representatives comes from the Clerk of the House at [http://clerk.house.gov/histHigh/Congressional\\_History/partyDiv.html](http://clerk.house.gov/histHigh/Congressional_History/partyDiv.html).

encourage social movement organizing, thus decreasing the incidence of national EMO disbandings.

As a second measure of political opportunities we control for the presence/absence of a democratic president (Meyer and Minkoff 2004). This is a dummy variable, coded as 1 during years of a Democratic presidential administration. Again, Democrats are presumably more open to the claims making activities of environmentalists and the presence of a Democratic president is expected to depress rates of disbanding.

## **RESULTS**

Before presenting results of multivariate analyses it is instructive to look at the evolution of the organizational population graphically. The annual density for the population of U.S. national EMOs for the 1955–1998 period is displayed in Figure 4.1, along with the average annual number of national EMO disbandings.<sup>42</sup>

The density trend seen in Figure 4.1 shows the cumulative actual number of national EMOs active in each annual period. The density growth curve assumes the S-shaped pattern we would expect in a population experiencing a period of growth and stabilization (Carroll 1984; Hannan and Freeman 1987). There is very slow, but steady, growth from 1945 until 1967. From 1968 to 1973, the population experiences its most rapid period of growth, as reflected in the steepness of the density curve. Population density continues to grow at a high, though slightly reduced, rate until 1980. Population density peaks in 1991 with 525 national EMOs in existence, after which there is a slow but steady decline to a total of 498 active organizations in 1998.

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<sup>42</sup> Disbandings are reported as a three-year moving average in order to suppress short-run fluctuations in the data and make long-term trends more readily apparent (actual counts are used in all multivariate analyses).

The pattern of organizational disbandings is dominated by one remarkable trend. Before 1980 disbandings of national environmental organizations is decidedly infrequent, less than one per year on average. From 1980 through 1998 the average rate of organizational disbandings is never less than 5 per year, peaking at 11.3 in 1994. These elevated rates of organizational failure, as noted in the first empirical chapter, account for the slow rates of growth in overall population density over the 1980 to 1991 period, *despite persistently high rates of new EMO foundings* (not shown). They also account for the decline in the absolute size of the national environmental social movement sector during the 1990s.

Though Figure 4.1 provides some support for density dependence theory, it does not speak to the other theoretical issues raised by this research. The results of event history statistical analyses are presented in Table 4.2. Model 1 in Table 4.2 is a baseline model that includes various controls used in analyses only: population density and density squared, public opinion, the structure of political opportunities and organizational characteristics (size, structural complexity, age and age quadratic). Surprisingly, the coefficients for national EMO population density and density squared are in the opposite direction predicted by ecological theory. Early additions to the number of active national EMOs (population density) observed are found to increase the probability of organizational disbanding while later additions (quadratic term) demonstrate a moderating effect on the odds of disbanding.

Again, ecological theory predicts that rates of organizational disbanding will initially be elevated in a new organizational population and that initial additions to the population density will lower these rates as they enhance the legitimacy of the organizational form. Figure 4.1 showed graphically that the time period under observation here does not display the initially high rates of organizational disbanding that ecological theory would predict. Though we follow

others (especially e.g. Dalton 1994; Hays 1987) in assuming that the environmental movement after 1960 or 1970 is distinct from the earlier conservation movement, this finding suggests a great deal of interdependence between the two (McLaughlin and Khawaja 2000). These findings indicate that new environmental organizations founded during the early period of modern mobilization examined here were not subject to the liabilities of newness which we would expect in a truly “new” form; suggesting that legitimacy derived from the Conservation branch of the environmental movement facilitated the early period of modern mobilization by shielding these groups from liabilities of newness. That the modern “environmental” and earlier “conservation” movements are interdependent and related certainly comes as no surprise, but these findings do contribute to the growing body of research questioning the uniqueness and distinctness of modern environmental mobilization (Brulle 2000; Gottlieb 1993; Johnson n.d.).

The remainder of the results presented in Table 4.2 conform to expectations. Public opinion in support of environmental protection is associated with significantly fewer national EMO disbandings; indicating that public support is an important resource contributing to the persistence of national EMOs. Neither political opportunity measure, democratic control of the House of Representatives and the Presidency, significantly affects organizational disbandings. As expected, we find that larger and older national EMOs are less likely to disband than younger, smaller organizations. Finally, increased structural complexity is associated with a reduced risk of failure as was expected.

Model 2 in Table 4.2 adds to the baseline model measures of change in the location of national EMO headquarters. Do changes in the location of headquarters prove disruptive for national EMOs or do such changes enhance the likelihood of organizational success? The estimates produced for control variables in model 2 do not change substantively from those

reported in model 1. As for our change measures, the cumulative number of previous changes in the location of organizational headquarters proves to be a poor predictor of organizational failure. However, the state change clock measure, indicating the number of years since the most recent change in headquarters location, is significantly and positively related to rates of national EMOS disbanding, as we hypothesized. Further, the quadratic specification for state change clock is significant and negative, as hypothesized. Changing the headquarters location initially exposes national EMOs to increased risks of organizational failure. In the long run, however, if organizations persist past the years immediately after a change in location, the odds of success are enhanced.

In the final two models in Table 4.2 we add measures indicating, for EMOs which change the location of the national offices, whether the most recent change was away from the Washington D.C. area (model 3) or to the D.C. area (model 4). There is some evidence, even controlling for changing headquarters location generally, that if the most recent change was away from the D.C. metro area EMOs are at elevated risks of organizational disbanding.<sup>43</sup> In other words, it appears that leaving the resource, network, and opportunity rich environment of the D.C. metro area presents particular challenges to national EMO survival beyond those associated with moving headquarters generally. There is no evidence to suggest that EMOs which move to the D.C. metro area are able to capitalize on the hypothesized advantages of location in that geographic space.

## **DISCUSSION AND CONCLUSION**

In this paper we examined the effect of changes in the location headquarters on the success of national environmental movement organizations. While the physical location of an

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<sup>43</sup> Though significant at only a more modest .10 level, note that even though we predict a direction of effect we report results from a two-tailed significance test.



organization is not typically considered a “core” organizational characteristic we suggest that changes in the location of headquarters has potentially important implications for organizational persistence. The location of the headquarters of an organization structures access to resources, opportunities, and networks. While changes in the location of the headquarters of a national EMO are presumably made with the intention of enhancing capabilities and probabilities of success (by, for example, providing access to more resource rich environments or lowering transaction costs) they are hypothesized to also cause, at least initially, significant disruptions in existing routines and relationships with the environment that sustain an organization.

Indeed, change in the location of national EMO headquarters is initially associated with elevated incidence of failure. In the long run however, if national EMOs persist through the initial period of disruption caused by a move the odds of survival are enhanced. Importantly, larger and more complex organizations are also more likely to survive change, and thus to reap the positive long term advantages of change than are smaller less complex organizations. There is no evidence to support the hypothesis that moving organizational headquarters to the D.C. area will enhance survival prospects. There is, however, some indication that the negative outcomes of moving headquarters are accentuated among those EMOs which move away from the Washington D.C. metro area. We offer no explanation for these disparate results.

The most unexpected finding from this research was the significant effects for population density and density squared, in the direction *opposite* that predicted by ecological theory. There are at least two potential explanations for this finding. First, while the majority of studies testing the density dependence relationship have supported predictions concerning rates of new organizational foundings, only half of studies examining organizational disbanding supported these predictions (Baum and Powell 1995). To explain these instances of null findings in tests of

the density dependence model, the main proponents of the theory have pointed to the failure of studies to capture complete time series information on the populations under observation (Carroll and Hannan 1989).

Here, our data covers the entire modern period of mobilization in the environmental movement and it is clear from histories of the environmental movement that this represents a distinct wave of mobilization. Many analysts have made the even more forceful claim that the modern cycle of mobilization beginning in the 1960s and 1970s represents the beginning of a distinctly new movement (e.g. Dalton 1994; Hays 1987). It is also clear, however, that the American conservation movement (and to a lesser extent the turn of the century urban reform movement in American cities) was a progenitor of the modern movement (Brulle 2000; Gottlieb 1993; Melosi 2001). Rather than claim the modern environmental movement as a distinctly new social movement, we think it makes the most theoretical sense to conceive of conservation and “new” environmental organizations as distinct, though closely related, species of organizations

In light of this, we interpret the significant density effects in the direction opposite that predicted as evincing the strong link between the modern environmental movement and its progenitor, the traditional conservation movement. At the minimum, it appears that “new” environmental organizations founded during the 1960s and 70s benefited from the existence of conservation organizations formed primarily during the progressive era. These pre-existing organizations, what Taylor (1989) refers to as movement abeyance structures, may have provided legitimacy that shielded newly formed organizations from the typically high levels of organizational disbanding associated with any new organizational form. These results suggest further examination of the interaction between natural resource and wildlife conservation

organizations and “new” environmental organizations, a subject to which we return in the conclusion of the dissertation.

An additional area of future research suggested by our findings is an application of ecological principles to different geographical units of analysis. It may be that there are distinct “spatial ecologies” which drive rates of organizational founding and disbanding across geographical units. In this view, the failure of EMOs to become increasingly concentrated in Washington during the early period of observation may be due to density dependence effects operating within that geographical niche (that is, an already dense organizational infrastructure in D.C. may have exacerbated competition for EMOs headquartered there, thus limiting new entrants). Greve (2002) has shown how ecological theory can fruitfully be applied to analyze the evolution of organizational populations by different geographic regions, allowing for comparisons both within and across those regions.

Finally, these findings also suggest the continued integration of ecological theory with other theories of organizational populations, particularly new institutionalist theory, by beginning to shed light on the relative effect of differential foundings of national EMOs over time and decisions to change the headquarters location of individual organizations in accounting for the changing distributions we observe here. Ecological theory clearly suggests that the bulk of change should derive from population wide dynamics driven by births and deaths. Supporting this view, organizations which change the location of their headquarters are more likely to disband than organizations that make no change. A competing explanation, however, is that organizations are adaptive and flexible as regards change. We also find some support for this in that, in the long run, changes in the location of headquarters enhance the survival capabilities of individual SMOs and there is no cumulative affect of previous changes (total state changes).

Future research could profitably examine the relative effect of organizational change and differential rates of foundings and disbandings in accounting for the spatial distribution of organizational populations.

Table 4.1: Percentage of Headquarters of National EMOs Located in different Geographical Regions by Year.

Region	1962	1970	1980	1990	1998
D.C Region 1	51	34	26	30	26
West 2	08	18	25	26	29
Midwest 4	14	11	12	12	13
Northeast 6	22	32	28	22	21
South 8	05	03	07	08	10

Table 4.2: Event history regression coefficients showing the effect of moving headquarters on national environmental movement organization disbanding, 1955-1998.

Variable (code)	Model 1	Model 2	Model 3	Model 4
Density (natD)	.006*** (.001)	.006*** (.001)	.006*** (.001)	.006*** (.001)
Density Squared (natD22) (e-5)	-.405* (.191)	-.386* (.192)	-.390* (.192)	-.386* (.192)
Public opinion (mood)	-.012* (.005)	-.012* (.005)	-.012* (.005)	-.012* (.005)
Dem control House (elite3)	.031 (.028)	.035 (.028)	.035 (.028)	.035 (.028)
Democratic President (elite5)	.040 (.026)	.036 (.026)	.036 (.026)	.036 (.026)
Size (staff)	-.014*** (.003)	-.014*** (.003)	-.014*** (.003)	-.014*** (.003)
Structural complexity (division)	-.013* (.005)	-.014** (.005)	-.014** (.005)	-.014** (.005)
orgage	-.001^ (.001)	-.001^ (.001)	-.001^ (.001)	-.001^ (.001)
Orgage2 (e-5)	.071* (.030)	.080* (.033)	.079* (.033)	.079* (.033)
Totalstatechange		-.012 (.010)	-.013 (.010)	-.012 (.010)
Statechangeclck		.022** (.008)	.020** (.008)	.023** (.008)
Statechangeclck squared (e-3)		-.127* (.058)	-.115* (.057)	-.130* (.058)
Move out of D.C. (outofdce)			.065^ (.039)	
Move into D.C. (intodce)				-.023 (.042)
Intercept	-1.556** (.485)	-1.511** (.485)	-1.515** (.485)	-1.515** (.485)
Log-likelihood	-432.483	-427.663	-426.377	-427.484

^ < .10, \* p < .05, \*\* p < .01, \*\*\* p < .001 (two-tailed test)

Note: All independent variables are lagged one-year to assure proper timing for causality; Numbers in parentheses are standard errors; e<sup>-3</sup> indicates that the designated regression coefficient or standard error should be multiplied by 10<sup>-3</sup>.

Figure 4.1: United States National EMO Population Density and Disbandings

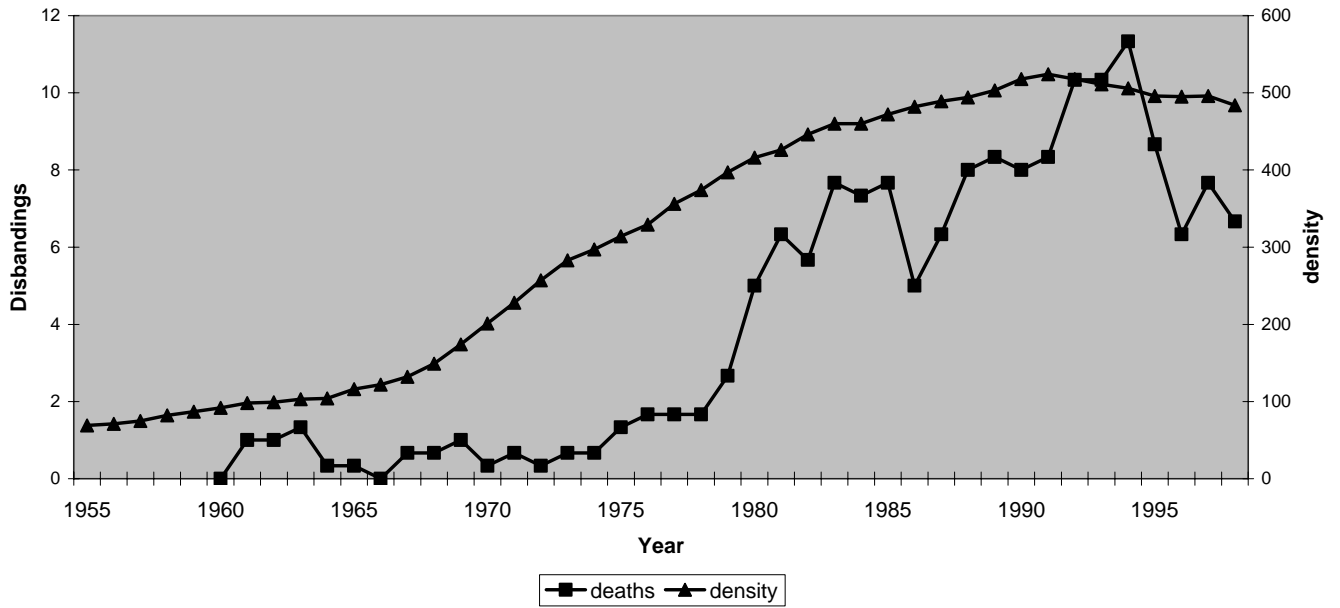
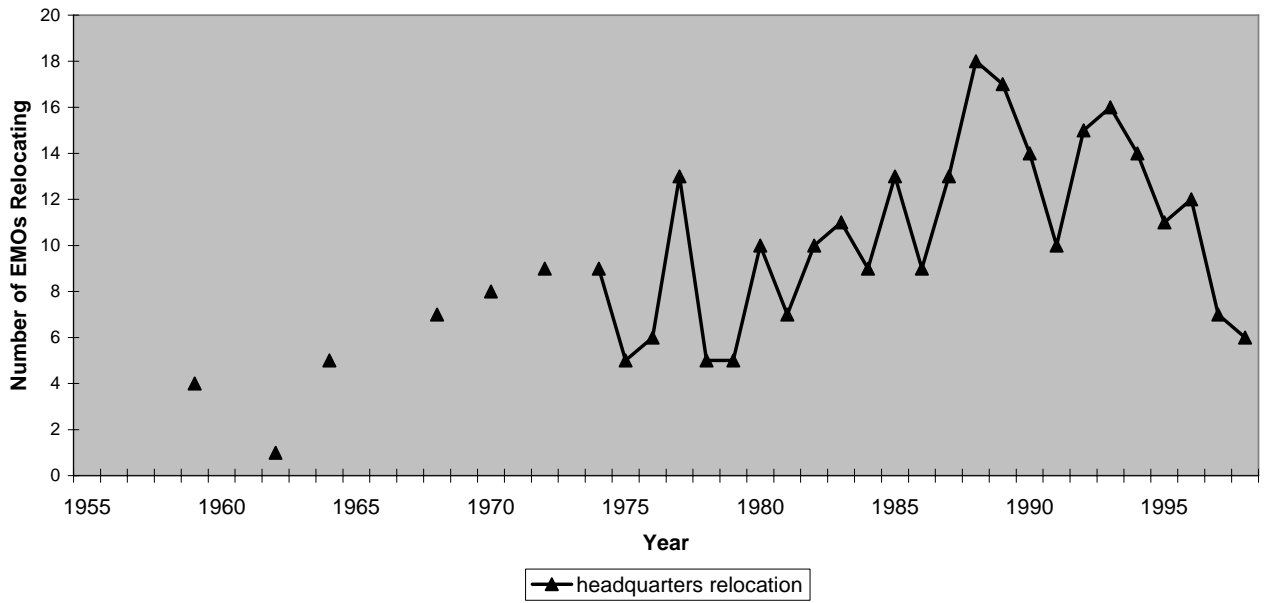


Figure 4.2: Incidence of Change in the Headquarters Location of U.S. National EMOs





## Chapter 5: Summary and Discussion

The environmental movement is one of the largest and most successful social movements in the United States today. Yet, despite the prominence of the movement and its national organizations in civil society and the political sphere, there is little scholarship examining the full spectrum of national environmental movement organizations. One major contribution of this research than has been purely methodological. We have assembled the most complete information presently available on the national organizations that compose the modern United States national environmental movement. These data allow, for the first time, systematic estimates of the trajectory of the strength and vitality of the U.S. environmental movement across the entire modern period of mobilization.

In this research, we used these data to ask three inter-related questions. How do we account for the timing and pace of organizational mobilization within the national U.S. environmental movement? Have these groups been successful in garnering increased political attention to, and action on, issues of concern? And, do changes in the physical location of EMO headquarters affect probabilities of organizational persistence?

The results presented in chapter 2 challenge the conventional wisdom that mobilization of the environmental movement occurred in response to either accelerating ecological degradation or shifting values among citizens in America. In particular, we find no support for the value shift hypothesis, measures of which fail to achieve significance as predictors of new EMO foundings in all models for which they are included. Instead, the foundings of U.S. national environmental movement organizations is better explained by invoking explanations developed by organizational ecologists to explain general patterns in the dynamics of organizational

populations that emphasize forces of legitimacy and competition. In particular, our results suggest that the role of legitimacy has been underestimated, as well as under-theorized, in previous ecological analyses. Previous work has looked only at the important role of cognitive legitimacy in regulating dynamics of growth within a population of (social movement) organizations. Our results suggest that sociopolitical legitimacy may exert a significant and independent effect on the founding rates of national EMOs.

In assessing the political outcomes of the national environmental movements mobilization (Chapter 3) we suggest that the inconsistent results of previous studies examining the outcomes of social movement activities can be explained, at least in part, by the focus on the passage of actual laws, rather than the earlier stages of the legislative process. In particular, we argue that empirical analyses need to “catch up” to theory by focusing greater attention on public agenda setting. There is general agreement that social movements should exert a stronger effect on Congressional agenda setting activities than the passage of favorable laws, an incredibly contingent process that requires securing absolute majorities of support in Congress, as well as overcoming instances of counter-mobilization and/or presidential opposition. Agenda setting activities, by comparison, are relatively less contingent and can be undertaken by stark minorities or even individual “activist” legislators or Congressional committees (Walker 1977). Systematic empirical research on agenda setting activities, however, has been severely limited by the lack of available temporal data on agendas (Baumgartner and Jones 1993). Results provide strong support for the notion that U.S. environmental mobilization resulted in increased representation of environmental issues on the Congressional legislative agenda. There is also evidence supporting the hypothesized positive relationship between mobilization and the incidence of environmental laws, though this relationship is considerably weaker and more tenuous. We

suspect that the pattern of results which we document here are not specific to the environmental movement, that it is generally easier to influence governmental issue agendas than the passage of actual laws.

Finally, chapter 4 examines the effect of changes in headquarters location on the success of national environmental movement organizations. While not typically considered a “core” organizational characteristic, we suggest that changes in the location of headquarters has potentially important implications for organizational persistence by structuring access to resources, opportunities, and networks. While changes in the location of the headquarters of a national EMO are presumably made with the intention of enhancing capabilities and probabilities of success (by, for example, providing access to more resource rich environments or lowering transaction costs) they are hypothesized to also cause, at least initially, significant disruptions in existing routines and relationships with the environment that sustain an organization.

Indeed, change in the location of national EMO headquarters is initially associated with elevated incidence of failure. In the long run however, if national EMOs persist through the initial period of disruption caused by a move the odds of survival are enhanced. Importantly, larger and more complex organizations are also more likely to survive change, and thus to reap the positive long term advantages of change than are smaller less complex organizations.

Though this dissertation has significantly advanced understanding of the dynamics of mobilization within the national environmental movement, it also serves to highlight gaps in our collective knowledge on the movement itself as well as organizational behavior more generally. What is treated as a monolithic movement in this dissertation is, in fact, an extremely heterogeneous conglomeration of related groups divided into more or less distinct issue networks, or niches. One major division within the environmental movement is between those

groups focusing predominately on issues of resource and wildlife conservation and those focusing on the “new” environmental issues of pollution and human health (Brulle 2000; Dalton 1994; Gottlieb 1993; Hays 1987). In the analyses carried out here, I have ignored such potential divisions within the environmental movement.

I intend to, however, conduct future research that incorporates such potential divisions. That research will examine the population dynamics of resource conservation and new environmental movement organizations, treating them as separate organizational populations, as well as looking at interactions between these two branches of modern environmentalism. The set of questions that could be addressed by such a research strategy include the following: Are there density dependence effects operating within and between these separate populations? Did growing numbers of “new” EMOs spur growth in the conservation branch of the movement as well, or is their relationship purely competitive? Do conservation organizations really shield “new” EMOs from the elevated risk of disbanding typically associated with new, and therefore illegitimate, organizational forms? It is likely that the development of these two more or less distinct organizational populations has been highly interdependent, but the nature of these interactions is largely unknown.

Of course, such analyses assume that conservation and new environmental organizations compose distinct categories of EMOs, as well as a certain degree of stability in the issue foci of individual EMOs. A future project will focus on data collection and analysis of detailed time series information on [changes in] issue representation as well as tactical profiles and organizational structures for the broad sample of national EMOs, for which a reliable coding instrument has been developed. Inspection of preliminary data coded at ten year intervals for the sample of national EMOs clearly indicate that a significant proportion of organizations focus

attention on *both* new and traditional environmental issues and that many EMOs change their issue foci over time. At the minimum, this suggests that analyses such as that proposed above would need to account not only for the division between conservation and new environmental organizations but also for the growing proportion of national EMOs which have come to straddle these issue domains.

These data on national EMO issue representation also suggest analyses focusing on predictors (and consequences) of changing issue foci among national EMOs. Understanding how and why issue change occurs among the population of EMOs is an important step in explaining environmental issue change on broader public agendas. The theoretical model of public agenda setting put forth by Rochon (1998) is typical: SMOs operate as issue generating organizations which identify and problematize new issues and push for the inclusion of those issues on the limited space of the public agenda. Understanding how and why issue change occurs within a population of SMOs is thus an important step in explaining broader processes of public agenda setting (Chapter 3). The process by which issues become salient for individual SMOs, however, is far from clear. Few systematic analyses have taken seriously the question of how SMOs themselves come to identify and decide on which issues they will address.

In practice, decisions about what issues to address are often quite problematic and contentious for SMOs. Organizations which alter their issue agendas may be expected to incur attendant costs associated with any significant organizational transformation. At the same time, however, changing the issue focus of an organization may provide access to new pools of resources. In the later half of the 1990s, for instance, EMOs working on environmental justice issues confronted a rather open foundation funding environment as “a number of foundations turned their attention toward funding environmental justice issues” (McCarthy 2004, 250). I

would suggest that future work could profitably examine EMOs as issue-obtaining organizations that are relatively more or less susceptible to attempts at issue problematization by other organizational populations. Such an approach could ask how sensitive the issue foci of national EMOs are to changes in their environment (e.g. the issue focus of foundations, government, media) as well as what effect issue change has on future organizational success.

The interactions between different geographical levels in the development of the environmental movement provides another potential area of future research. For example, recent work by David Frank and his colleagues (Frank et al 2000) has made the provocative, but untested, claim that the environmental movement began at the transnational level and only later organized at the national level. Conventional logic, meanwhile, would suggest that movements are built from the ground up; that national movement organizational populations expand as an outgrowth of the spread of local groups and, as well, that transnational movements are established as the outgrowth of national movements. Empirically, however, the sequencing of aggregate sub-national, national and transnational movement organizational mobilization remains very much an open question. While I have begun a collaborative project that looks at the sequencing of the national and transnational environmental movements (Johnson and McCarthy 2004) there is much work still to be done in this regard.

This dissertation has gone a long way towards documenting and explaining the growth of the environmental movement and its success in getting issues of interest on national political agendas. In the near future I hope to conduct more fine-grained analyses that assess these developments in greater detail, focusing especially on the interaction between conservation and “new” environmental organizations. This approach will, I hope, continue to inform our

understanding not only of the environmental movement itself, but of social movements and their organizational dynamics more generally.

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## Appendix A:

### Assessing the *Encyclopedia of Associations* as a Source of Data on National Environmental Organizations.

In assessing the completeness of the *Encyclopedia* as a source of data on national EMOs it is constructive to compare the *Encyclopedia* with the other major source of data on national environmental organizations, the *Conservation Directory*. This is the data source employed in the only existing published study that approximates what has been done here (McLaughlin and Khawaja 2000). Utilizing this source McLaughlin and Khawaja develop a sample of 1,303 national environmental organizations (nearly twice as many as are captured here) and perform a founding analysis.<sup>44</sup> At first blush, the *Conservation Directory* appears to be a superior source of data. A careful examination and comparison of these sources, however, demonstrates that the *Encyclopedia* is in fact a vastly superior data source for answering the questions asked here.

I proceed by comparing the extent of coverage on national EMOs in the 2001 editions of these two sources of data. The 2001 edition of The *Conservation Directory* lists 976 entries for environmental organizations, compared to only 454 EMOs that are included in the 2001 edition of the *Encyclopedia of Associations*. Again, it would seem that the *Conservation Directory* would be a better source-book on national environmental organizations than *the Encyclopedia of*

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<sup>44</sup> The focus here is on the comparability of these data sources. It is also worth noting, however, that while ostensibly performing an ecological analysis McLaughlin and Khawaja do not include the main variables used in population ecology models: population density and density squared. Their study also fails to account for shifting values and levels of ecological disruption as possible explanations for the organizational mobilization of the United States environmental movement.

*Associations*, with more than twice as many organizations. A more careful examination, however, reveals that this initial impression is (dangerously) misleading. First, there are many duplicate entries. Of the 976 total entries in the 2001 edition of the Conservation Directory 281 are duplicate entries (i.e. a single organization is entered in to the directory more than once. For example, the national office and all regional or state offices may be listed, each as a separate entry). Second, this directory lists organizations that act on the international, national, regional, state and local levels. Of the 695 remaining entries (976-281) 362 of the organizations are state, local, or regional organizations. Of the remaining 333 organizations: 42 are professional organizations, 85 are international organizations, and 34 should not qualify as environmental organizations, whatever definition we invoke (e.g. Garden Club of America, NRA, The National Grange and the Smithsonian Institution). So, of the 976 entries in the Conservation Directory, only 172 are national EMOs (or about 1/2 the total contained in the Encyclopedia).

976 total entries  
-281 duplicate entries  
-362 state, local, or regional organizations  
-42 professional orgs  
-34 non-environmental orgs  
-85 international orgs  
172 national ESMOS

Equally problematic, the *Conservation Directory* also does not contain data on membership, budget or staff, as does the *Encyclopedia*, and the organizational descriptions are more limited. Finally, it is a directory of Conservation organizations, not environmental organizations in general and, as such, over-samples on nature conservation organizations and is extremely under-representative of organizations organized around issues of environmental quality (i.e. even some of the Big Ten environmental organizations, such as Greenpeace and the Natural Resources Defense Council, are not included in the 2001 edition). Overall, the



Encyclopedia is the most complete source-book of environmental organizations over time available.

## Appendix B

Table B.1: Pearson Correlation Coefficients

	1	2	3	4	5	6	7	8	9	10
1. Environmental Hearings Convened	1.000									
2. Environmental Laws Passed	.084	1.000								
3. Environmental Movement Mobilization	.798	.154	1.000							
4. Public Opinion	-.127	-.254	-.219	1.000						
5. Pollution	-.138	.111	-.345	-.394	1.000					
6. Media Attention	.341	.142	.305	-.330	.404	1.000				
7. Democratic Control of the House	.054	.164	-.217	-.091	.373	.021	1.000			
8. Election Year	-.253	.719	-.025	.018	-.016	-.041	.019	1.000		
9. Democratic Control of the Presidency	-.230	-.238	-.036	.166	-.137	-.295	-.075	-.046	1.000	
10. EPA	-.157	-.044	-.341	.054	.620	.282	-.141	-.062	-.128	1.000
<b>Mean</b>	66.465	10.116	313.750	61.231	.711	.196	76.068	.500	.432	.159
<b>(SD)</b>	(43.264)	(7.031)	(171.948)	(4.476)	(3.038)	(1.797)	(49.242)	(.506)	(.501)	(.370)

## Appendix C:

### Supplemental Analyses using the GSS

In these analyses favorable public opinion towards environmental issues is measured as the percentage of respondents answering “too little” to the GSS question asking respondents whether they believe government is spending “too much” or “too little” on “improving and protecting the environment.” For several years (1979, 1981, 1992, 1995, 1997) in which this question was not included on the GSS responses were interpolated. This question was first asked only in 1973, so analyses are over a necessarily truncated time period. Results similar to those reported in paper except that natD does not predict laws (only hearings).

Table C.1: Results of models predicting congressional hearings convened on environmental issues with national EMO density and public opinion measured using the GSS (rather than policy mood).

Variable	Total hearings	_7total_1	_7total_1
Environmental movement <sub>(t-1)</sub>		.009*** (.001)	.009*** (.001)
Public opinion <sub>(t-1)</sub>			.010 (.007)
Pollution <sub>(t-1)</sub>	-.092*** (.025)	.138*** (.039)	.142*** (.037)
Media attention <sub>(t-1)</sub>	-.037 (.058)	.082* (.040)	.055 (.041)
Democratic House	.005*** (.001)	.004*** (.001)	.004*** (.001)
Election year	-.385*** (.110)	-.359*** (.067)	-.345*** (.064)
Democratic President	-.161 (.113)	-.050 (.072)	.005 (.077)
EPA			
Intercept	4.417*** (.138)	.201 (.653)	-.151 (.665)
Log-likelihood (DF)	8205.660 (19)	8218.223 (18)	8219.289 (17)

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  (two-tailed test); †  $p < .10$  (two-tailed test)

Table C.2: Results of models predicting environmental laws passed with national EMO density and public opinion measured using the GSS (rather than policy mood).

Variable	Total laws	_7total_1	_7total_1
Environmental movement <sub>(t-1)</sub>		.003 (.003)	.000 (.003)
Public opinion <sub>(t-1)</sub>			.032* (.014)
Pollution <sub>(t-1)</sub>	.030 (.032)	.090 (.073)	.082 (.067)
Media attention <sub>(t-1)</sub>	-.140 (.075)	-.100 (.086)	-.221* (.093)
Democratic House	.005** (.002)	.005** (.002)	.005*** (.002)
Election year	1.302*** (.159)	1.299*** (.157)	1.373*** (.153)
Democratic President	-.132 (.140)	-.119 (.140)	.082*** (.158)
EPA			
Intercept	1.255*** (.207)	.135 (1.249)	-.880 (1.225)
Log-likelihood (DF)	451.285 (19)	451.702 (18)	454.198 (17)

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  (two-tailed test); †  $p < .10$  (two-tailed test)

## Erik Johnson

### Education

- 2005 Ph.D. Sociology, The Pennsylvania State University  
Dissertation Title: *Dynamics of Population Growth Among Environmental Social Movement Organizations, 1955-2000*
- 2000 M.A. Sociology, The Pennsylvania State University  
Thesis Title: *Policy Issue Diffusion Among Major Environmental Social Movement Organizations*
- 1997 B.A. Environmental-Sociology, St. Lawrence University.

### Grants Received in Support of the Dissertation

- |      |  |          |
|------|--|----------|
| 2003 | ASPEN Institute Nonprofit Sector Research Fund   | \$15,000 |
| 2003 | Pennsylvania State Research and Graduate Studies Office<br>Graduate Student Dissertation Support Grant | \$1,500  |
| 2002 | National Science Foundation Dissertation Improvement Grant   | \$7,500  |
| 2001 | Pennsylvania State Research and Graduate Studies Office<br>Graduate Student Dissertation Support Grant | \$1,200  |

### Publications

- Johnson, Erik and John D. McCarthy. 2004. "The Sequencing of Transnational and National Social Movement Mobilization: The Organizational Mobilization of the Global and U.S. Environmental Movements." Pp. 71-94 in *Transnational Protest and Global Activism*, Edited by Donatella della Porta and Sidney Tarrow. New York: Rowman and Littlefield.