FROM GRASSROOTS TO TREETOPS: A SCOPE-OF-BEHAVIOR MATRIX FOR ENVIRONMENTAL MOVEMENT ORGANIZATIONS THAT CONSIDERS PLACE AND SCALE

by

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ABSTRACT

Environmental movement organizations (EMOs) vary in structure and function, with different forms of outreach, financial characteristics, and motivations. They also differ in terms of the geographic areas on behalf of which they take action. Using a mixed-method, case-study approach, this study develops a scope-of-behavior matrix for environmental movement organizations based on four fundamental characteristics: outreach, motivation, finances, and geographic scope. These characteristics are compared through statistical and content analysis to examine whether and in what ways they are associated. In addition, this study explores whether the geographic scope of an organization has any influence over the other organizational characteristics within the scope-of-behavior matrix.

This study reveals 15 statistically significant associations among the 11 variables defining the scope of behavior of EMOs; however, it fails to show that an EMO's geographic scope has influence over other EMO characteristics. Regardless of the power of geographic scope to influence an EMO, understanding the relationships that exist among organizational characteristics may benefit environmental organizations as they develop their tactics, programs, and goals.

CHAPTER 1. INTRODUCTION

This study evolved out of two interests: the first is an interest in environmental movement organizations (EMOs) as a natural outgrowth of environmental thought and the environmental movement, and the relationships among various characteristics of EMOs; and the seconds is an interest in the concepts of place and scale, specifically that place-making, or imbuing space with meaning and emotion, allows us to see our fates as tied to place, and that this can occur at different. The purpose of this study is to clarify relationships between elements of EMOs, including those related to the geographic concepts place and scale. There are two overarching research questions addressed:

- Are the major characteristics of EMOs (outreach, motivation, financial, and geographic scope) associated, and if so, in what ways?
- Does the geographic scope of an EMO have any predictive power in relation to other EMO characteristics?

Understanding relationships among organizational characteristics, including the possibility that there is predictive capacity in knowing an EMO's geographic scope, is a step closer to being able to forge a path EMOs can use in deciding how most effectively to direct their resources.

The conceptual underpinnings of this study run in two lines. The first has to do with understanding why individuals organize. In the 1960s, Olson, an economist, theorized collective action. He theorized that individuals join groups when they share a common interest advanced by the group and are sufficiently, personally motivated to advance the purpose of the collective. What happens, however, when a group is too large or too dispersed for individuals to be sufficiently motivated to participate in collective

action? To address that concern, sociological theorists introduced the concept of resource mobilization as a means of better elucidating large-scale, social movements. Resource mobilization theory distinguishes between movements and movement organizations, allowing organizations to be understood based on their own dynamics as opposed to those of the movements to which they belong (McCarthy and Zald 1977).

This study focuses on the organizations that have evolved around the environmental movement, from the local to the global level. Organizations may be structured differently, may have disparate missions and goals, and may focus on recruiting differing sectors of the public, but there are numerous points of comparison that can and have been used to evaluate EMOs. This study develops an accounting of the characteristics of EMOs and classifies them for comparison. Associations are determined among four fundamental EMO characteristics to better understand whether certain characteristics are more or less likely to occur along with others.

The second conceptual line that underpins this study has to do with place and scale. These concepts have been variously defined and used in environmental movement and organizational research. Place is understood in social and psychological terms, as in the meanings we imbue, the emotions we ascribe, and the histories we build into space. Relph illustrates the connection between place and environmental action, which are also linked in environmental movement and organization literature, when he states that attachment to place "constitutes our roots in places; and the familiarity that this involves is not just a detailed knowledge, but a sense of deep care and concern for that place" (Relph 1976, 68). Much of the literature connecting place and environmental action uses local place-making and attachment to place as a frame through which to examine

environmental behavior. This study examines place as a factor that helps shape EMOs, but it draws a connection between place and scale. Environmental behavior does not only occur through a local attachment to place. It occurs across a range of scales from local to global. Place-making and attachment to place can also exist across a range of scales. The part of this study that examines the relationship of scale as a product of organizational place-making to an organization's functional characteristics requires a geographic characteristic, so one of the four fundamental EMO characteristics developed in this study is geographic in nature. Place and scale are used to help define a variable representing the geographic scope of an EMO.

This chapter outlines the elements of this study, from its foundation in environmental movement and organization literature to its conceptual underpinnings in geography and the social sciences to the methodological framework, including the development of variables and the statistical tests chosen to examine those variables, to the its implications for future study of EMOs. In addition, this chapter introduces the case used to contextualize this study. To be able to examine a range of EMOs in a structured and methodical manner but also keep the dataset manageable, it is necessary to compartmentalize the population of organizations somewhat. A constant is needed, which emerged to be a particular environmental disaster to which EMOs responded. The common thread that determined the organizations chosen for this study is the Deepwater Horizon environmental disaster.

A mixed-methods case study approach was chosen for the research design to control its breadth. It is not an uncommon approach for studying the environmental movement or environmental organizing, but it is a new approach for studying EMOs in

general. The following section of this chapter introduces the case chosen for this study, the Deepwater Horizon Disaster. It occurred in a location where the natural systems of the Gulf of Mexico and the regulatory responsibilities of nearly every local, state and federal jurisdiction in the entire region meet. Although petroleum-related environmental disasters are not rare, it is unusual for an event to have such wide-spread natural, social, and economic impacts. The event, therefore, offers a dynamic laboratory in which the actions of multiple EMOs can be examined and analyzed in a somewhat controlled environment.

CREATION OF PLACE IN AN ENVIRONMENTAL DISASTER

The Deepwater Horizon environmental disaster began with an explosion (though one could argue that it began much earlier with poor planning, poor communication, or due to deep-water oil exploration in general) on April 20, 2010, and oil that was released as a result of that explosion flowed until July 15, 2010. The disaster originated just over 40 miles off the coast of Louisiana in the deep waters of the Gulf of Mexico. Almost five million gallons of oil were estimated to have been released into the gulf during the disaster, along with over 1.8 million gallons of chemical dispersant meant to break up the spill more quickly. The spill has affected the entire gulf ecosystem to an extent that will likely not be fully realized for years.

The gulf ecosystem consists of myriad habitats, each suited to particular species that depend on the health of those habitats for some part or all of their lives. Some gulf habitats begin with the freshwater that drains into it from 33 major river systems creating incredibly fertile estuarine environments where freshwater and briny sea collide. Some habitats are created out of coastal swamps, marshes, and mangroves that support life and

protect inland areas. Barrier islands, passively pressing their shoulders against the frenzied attacks of wind and water to help buffer the mainland coast, support a number of different habitats. Out in the deeper waters of the gulf, beyond a beachcomber's gaze or a swimmer's strength, are marine environments that support uncountable organisms of every imaginable earthly size. Throughout all of these spaces live over 15,000 species of marine wildlife. All depend, along with humans, upon the relative health of the gulf ecosystem. Unfortunately, the Gulf of Mexico and its many environments are vulnerable to the human-induced changes that are relentlessly working to reshape and reconfigure the area.

With the continual threat of loss in gulf environments (of water quality, habitat, and species), the Deepwater Horizon environmental disaster[1] was, in a sense, just one of many environmental challenges to be addressed. In another, very real sense, it was a gulf-wide, unlimited, uncontrolled disaster that exacerbated all other environmental problems in the gulf and beyond. Citizen activists and/or EMOs have negotiated the existing problems that have kept the gulf under duress for decades. Those issues (water quality and habitat and species protection) have become a large component of the character of environmental activism in coastal areas. A number of organizations, for example the National Resources Defense Council, included anti-oil or renewable energy campaigns on their agendas prior to the Deepwater Horizon oil spill; however, activism post-spill, at least for a time, was slanted markedly against marine exploration and drilling for petroleum.

[1] The Gulf of Mexico is not only rimmed by the US coastline, but also that of Mexico and part of Cuba. The impacts of the spill on areas beyond US waters and coastal areas are beyond the scope of this study.

The Deepwater Horizon environmental disaster was chosen for this case study because it is a recent event with immediate and long-term implications, and it is a catastrophe around which EMOs mobilized. Organizations that responded ranged from singular-focused, local organizations to those confronting multiple issues across the planet. Choosing the Deepwater Horizon disaster as the case to be studied determined, to a large extent, the types of organizations that would be selected and the geographic locations in which most of the organizations were concentrated. Had the focus been on Appalachian mountaintop-removal mining, the selection of organizations would likely have been very different. The following sections provide background details to understand the Deepwater Horizon disaster by describing the various geographies – physical, biological, cultural, economic, and environmental – of the US coastal zone of the Gulf of Mexico as they have existed and have been affected by the Deepwater Horizon environmental disaster.

Gulf of Mexico

According to the National Oceanic and Atmospheric Administration (NOAA), the Gulf of Mexico began forming about 100 million years ago, during the Jurassic Period, as the North American tectonic plate separated from today's African and South American continents. The gulf is now a coastal sea that is partially enclosed by the cupped hand that extends from the Yucatan Peninsula to the southern tip of Florida. More than a third of the gulf is made up of shallow, intertidal waters of less than 700 feet in depth. Approximately 20 percent sinks beyond 10,000 feet, and the rest of the gulf is in-between, making up the continental shelf and slope (EPA 2012). Water enters the gulf

from the Yucatan Strait and loops (called the Loop Current) around to exit through the Florida Strait (McEachran and Fechhelm 2005).

Approximately 1,631 of the 3,540 miles of the North American coastline washed by the Gulf of Mexico lie in the US; however, if bays and estuaries that are fed by the Gulf of Mexico are included in that number, the US portion of the coastline increases to more than 16,000 miles (EPA 2012). The US Gulf Coast states are Texas, Louisiana, Mississippi, Alabama, and Florida. This expanse of coastline and the waters beyond host abundant plant and animal life and promise immense resources to benefit local, regional, and national economies.

Gulf Ecosystem

The Gulf of Mexico and its coastal areas maintain diverse populations of marine wildlife within many different environments. Offshore and near-shore waters, estuaries, and marine wetlands comprise different habitats for different species or for the different stages of life of species. Each gulf habitat is integral to the success and survival of some living thing, and all intermingle as an ecosystem. The richness of wildlife and habitat in the gulf area has made it one of the most environmentally and economically rich bodies of water in the US if not the world. This section highlights some of the life-supporting environments within the Gulf ecosystem to provide a foundation from which to understand the agendas of gulf-focused EMOs.

The offshore waters of the gulf make up the pelagic zone, or open sea. This zone can be thought of as a giant water column that begins at the water's surface and reaches almost to its bottom. At every depth of the column, even in the darkest places, there is life. Certain species slowly evolve under the intense pressure and darkness of the deep

gulf, which is lightless, cold, and energy deficient. The deep gulf, beyond about 3,300 feet, hosts those species equipped to survive in that environment, and most marine life in this part of the water column feed on each other and on the detritus that drifts down the water column from the more nutrient-rich areas above. The complete lack of sunlight prevents photosynthesis, therefore plant life, from occurring (Galloway, Cole, and Martin 2001).

Marine scientists and explorers (including those searching for oil) have penetrated the gulf's depths using underwater manned and unmanned vessels. On January 23, 1960, the bathyscaphe Trieste descended to the bottom of the Mariana's Trench, nearly 36,000 feet deep and the deepest point on Earth (Amos 2011). Although humans are now capable of investigating the bottoms of the world's oceans, it remains an expensive and difficult undertaking. Researchers are still in the process of discovering the bottom reaches of the Gulf of Mexico, gathering data on organisms like the Bathynomus giganteus, a marine isopod that looks like a roly-poly and can grow up to 30 inches long.[2] It will take many years to fully understand the processes and forms of marine life hidden from reach of the sun.

Rising in the water column, with some light and warmth, are many more of the marine species that live in the gulf. At these depths, from about 650 to 3,300 feet, is a twilight zone that hosts bioluminescent creatures along with squid, swordfish and eels. Though there is light, it is not enough for photosynthesis to occur. Animals subsist on each other or on detritus.

[2] In April 2010, a Bathynomus giganteus emerged from about 8500 feet below when it attached itself to an unmanned submersible in the Gulf of Mexico.(http://www.mnn.com/earth-matters/wilderness-resources/stories/giant-deep-sea-bug-surfaces-in-gulf-of-mexico)

At the top of the water column, near the surface of the gulf, live those species that thrive in all of the bright light and warmth of the 25th parallel. The sargassum seaweed that floats upon the surface and moves through the gulf's currents provides protection and nourishment for marine life such as shrimp, crabs, snails, worms, young sea turtles and fish. Seaweed also attracts predatory animals from below the surface and above that feed on those being sheltered. The food web in this cross-section of the gulf is rich and varied, with enough sunlight in the shallower depths for marine flora to thrive and enough warmth for the gulf's mammals to flourish. This space is well understood (relative to the greater depths of the gulf and to the extent it is possible for humans to understand a place in which they cannot survive without technology) in terms of the habitats, the relationships among species, and the processes and forms of marine life. For example, scientists have documented the activities of the giant leatherback sea turtle, an animal that spends a majority of its life in the open ocean. The leatherback is an endangered species that can grow to be up to 2,000 pounds (National Marine Fisheries Service and U.S. Fish and Wildlife Service 1992).

The offshore waters of the Gulf of Mexico provide integral habitats for both prolific and endangered species, and the federal government, private philanthropic endeavors, and EMOs continually work to understand, document, and protect all the layers of the open ocean's water column. The offshore waters of the Gulf of Mexico also provide vast reserves of hydrocarbons, which have become integral to the habits and habitats of humans. While some believe that offshore habitats and offshore drilling can coexist without degrading one or the other, others, including some of the EMOs included in this study, believe that offshore habitats suffer greatly from offshore drilling.

The Gulf of Mexico is cradled by a coastline of beaches, estuaries, wetlands, and barrier islands, all of which sponsor biologically diverse habitats for coastal and marine plants and animals (Twilley 2007). The US Gulf Coast is a crucial stopover for migrating birds in their annual trek across the western hemisphere. It is a series of hatcheries for sea turtles, some of which do not lay their eggs anywhere else on Earth. It is the gateway passed through by the threatened gulf sturgeon on its way upriver to reproduce. This biodiversity, along with a rich history of human culture, works to make the near-shore waters of the Gulf of Mexico a place of immense resources and, at times, controversy.

Near-shore gulf waters wash against gulf wetlands, which are dynamic and protective habitats that trap and filter nutrients and sediment and provide safe spawning grounds and food to coast-dwelling creatures. Wetlands also act to buffer inland areas from storm surges. Gulf shrimp rely on the shallow, brackish, estuarine waters close to shore to complete their development. An adult female shrimp lays her eggs out in the open ocean where the spawn will spend their larval stage. Upon reaching their juvenile stage, the shrimp are carried toward the haven of an estuary. The shrimp will grow to adulthood kicking up and eating detritus, phytoplankton, and bits of worm while hiding from young fish, hungry birds, and the ever-present shrimp boat captain. If the shrimp survive to adulthood, they will look to be carried back out to sea to continue the cycle (Twilley 2007).

The quality of the Gulf of Mexico and its associated coastal areas is threatened on several fronts. Closest to shore, gulf wetlands are threatened. Estimates cited by the Gulf Restoration Network indicate that gulf wetlands have been reduced by half in the past

200 years.[3] Several factors have led to the loss of coastal wetlands, many anthropogenic in nature. Attempts to control floodwaters from the Mississippi River, which eventually sinks its spreading, silted fingers into the gulf, have worked to tame the river, but this process has eliminated wetland buffers. In addition, protecting beaches and communities from erosion, the construction of levies, and rising sea levels due to global climate change have all contributed to the loss of wetlands and continue to pose a threat. Almost half of all the continental US coastal wetlands ring the Gulf of Mexico. Of those, the Mississippi River Delta and the Florida Everglades are the most prominent (Center for Climate and Energy Solutions 2007). As many as 16 million migrating waterfowl spend their winters along the wetland areas of the Gulf Coast.

The Mississippi River also threatens the gulf's near-shore waters. Part of the reason for controlling the river's floodwaters has been to develop land for farming. The intense farming practiced today uses vast amount of pesticides, herbicides, and fertilizers. Those, along with runoff from urban and suburban living, wash into the river and then into the gulf. The nitrogen and phosphorus "act as natural fertilizers, feeding harmful algae and causing it to bloom wildly. As bacteria consume these blooms, they suck oxygen from the water, depleting the ocean's oxygen reserves" (Marder 2011). This situation is called oxygen depletion hypoxia, and the largest hypoxic zone affecting the US is in northern Gulf of Mexico.[4]

[3] Information from the Gulf Restoration Network concerning wetland loss in the Gulf of Mexico region is located at https://healthygulf.org/our-work/wetlands/wetland-loss.
[4] Information concerning the hypoxic zone in the Gulf of Mexico and hypoxia conditions is available at http://www.gulfhypoxia.net/.

Gulf Economies

People have lived and died along the Gulf of Mexico for millennia, but the first time it appeared on a map was in 1500. Juan de la Cosa depicted the Gulf of Mexico in a map that was pieced together based on information from previous explorers (Moretzsohn, Chavez, and Tunnel 2014). Over the next 500 years, though slowly for the first 350, the gulf was explored, exploited, and studied. More than half of the major fishing ports in the US exist along the Gulf Coast. The fishing industry is a major job creator in the gulf, with 2009 industry payrolls over $814 billion, and the gross domestic product for the gulf marine economy was $2.4 trillion (National Marine Fisheries Service 2010). Those amounts include the commercial fishing industry as well as recreational fishing.

Of the thousands of species of marine wildlife in the Gulf of Mexico, species such as blue crab, crawfish, grouper, mullet, oyster, shrimp, and tuna, have become part of the commercial fishing industry in the US. In 2009, the year before the Deepwater Horizon disaster, the US Gulf of Mexico seafood industry, which includes seafood sales from Texas, Louisiana, Mississippi, Alabama, and Florida, generated over $17 billion (National Marine Fisheries Service 2010). Commercial fishing is not the only fishing revenue generated in the Gulf of Mexico. Almost three million recreational fishers cast their lines in the gulf in 2009, with almost 30 million fish caught. Recreational fishing in 2009 generated more than $9.8 billion among the five US coastal states of the Gulf of Mexico (National Marine Fisheries Service 2010).

Gulf Oil and Gas

The gulf is not only replete with commercial marine species, but it is ripe with the raw materials that drive the oil and gas industry. The US Minerals Management Service

(renamed as Bureau of Ocean Energy Management, Regulation, and Enforcement in 2010 and reorganized in 2011) estimated the undiscovered but technically retrievable oil and gas resources in the Gulf of Mexico to be almost 45 billion barrels in 2006. The first well in the Gulf of Mexico was drilled in 1938, and by 1975, technology had advanced enough to allow drilling for oil under more than 1,000 ft. of water (Harzl and Pickl 2012). As of 2010, 80 percent of the oil produced in the Gulf was drawn from wells over 1,000 ft. below the gulf's surface, and a third of the oil produced domestically in the US comes from the outer continental shelf (Harzl and Pickl 2012). The US, by far, consumes the most oil and gas on the planet and is increasing production in every way allowable, including searching for and securing oil and gas from the deep ocean[5]. This colossal thirst for oil and gas is what created the possibility of the Deepwater Horizon environmental disaster.

The Deepwater Horizon Disaster

On April 20, 2010, the blow out and subsequent explosion of the Deepwater Horizon that killed 11 men on the drilling platform produced an oil leak that would despoil an already compromised ecosystem and render uncertain the economic future of the Gulf of Mexico coast. The Deepwater Horizon environmental disaster is considered the "largest accidental marine oil spill in US history, an acute human and environmental tragedy," according to the 2011 presidential report on the matter (BP Oil Spill Commission 2011, 173). After almost four years, it is still unknown to what extent the leak and response will affect the Gulf of Mexico and its coast. The leak occurred over 5,000 feet below the surface of the gulf in a well being drilled down over 35,000 feet.

[5] Information concerning world consumption of oil by country is available from the US Energy Information Administration at http://www.eia.gov/countries/index.cfm?view=consumption.

Although it began deep below the gulf, the direct impacts of the oil spill reached up the water column and across the entire body of water. Oil also reached the coast, polluting marshes, mangroves, and beaches. Not one of the five Gulf States was unaffected by the spill; however, Florida and Texas were spared much of the physical impact (BP Oil Spill Commission 2011, 177).

Offshore oil spills have occurred in areas of exploration around the world, but as the largest accidental spill in US history, the Deepwater Horizon disaster had devastating environmental consequences. Of the known harm to or losses of marine fauna were 8,200 birds, 932 brown pelicans, 1,146 sea turtles, and 128 marine mammals (Center for Biological Diversity 2011). Those are the losses documented by humans in the weeks and months after the spill began. Actual numbers are estimated to be up to 50 times greater. It remains unknown how many creatures, great and microscopic, were lost and how many remain to be lost due to the aftereffects of the spill.

Marine oil spills variously affect marine wildlife. In the open water, fish and other marine organisms can come in direct contact with oil in the water column. They can also take oil into their bodies through filtration and ingestion. In November 2010, just four months after the well was finally closed, a newspaper article in the New York Times relayed a finding from a NOAA research team that indicated a lophelia reef community located about seven miles from the spill was dead and dying. Although the cause was not known, the NOAA researchers determined that the reef had come in contact with a toxic substance that was killing it. Upon further investigation, it was determined that the reef environment had been impacted by the Deepwater Horizon disaster (Penn State University 2010).

In marine marsh areas, oil can come into contact with plants at the waterline or below. Oil can coat a marsh area at the waterline and not kill the plant life; however, if that oil penetrates the submerged root systems of marsh plants, it will kill them. Oil that washes onto mud flats may not immediately appear to be a problem for wildlife, but it can coat the surface and suffocate burrowing species. Finally, and perhaps most visibly, a marine oil spill can be ingested by and coat the bodies of coastal birds and foraging species (BP Oil Spill Commission 2011).

The scientific community immediately began projects to study the myriad biological, chemical, economic, and social impacts of the spill. As of September 2013, British Petroleum, one of the companies involved in the disaster, had spent $42 billion as a result of the disaster, which did not include a $4.5 billion penalty owed to the US government or any future monies paid (New York Times article from September 30, 2013). The RESTORE Act was enacted, which dedicates 80 percent of penalty fees associated with the disaster to a trust fund. That fund, the Gulf Coast Restoration Trust Fund, will be used for projects intended to restore and protect the ecosystems of the Gulf of Mexico. The Gulf of Mexico is still recovering from the Deepwater Horizon oil spill, and ocean waters beyond the gulf may be measurably impacted as time progresses. The disaster has been one with immediate and long-term consequences at the local scale and beyond. It was chosen as the case study for this research for those reasons. From April 2010 out into the future, EMOs from the local level to global will be responding to the Deepwater Horizon disaster.[6] Through the lens of this disaster, this study seeks to

[6] Local, state, and national government agencies, private industry, and non-governmental organizations, including EMOs, have all responded to the Deepwater Horizon environmental disaster, but this study only examines EMOs.

examine environmental organizations and the characteristics that knit together to make them function as they do.

ELEMENTS OF AND ORGANIZATION OF THIS STUDY

Environmentalism and the Environmental Movement

This study's goal is to find associations among the major philosophical, logistical, socio-geographic, and financial characteristics of EMOs, which is one facet of the body of research concerning EMOs today. The study of EMOs is one facet of research on the environmental movement, which is one facet of environmental studies. These nested concepts are presented and discussed in Chapter 2 to provide background for this study. Research on the relationship between humans and nature within the modern American environmental movement, in part, deals with the western world's alienation from nature and the counterviews that have perpetuated a deep and lasting conversation about restoring a place for humans within nature (Guha 2000; Merchant 1980; Shabecoff 2003). That conversation led to a movement populated with its participants and rooted in its beliefs. The tenets of the movement grew and changed with the loudest voices of the time, starting from the perpetuation of ideals through writing and the modeling of appropriate behavior (e.g., Aldo Leopold), and maturing with political maneuvering and the push for regulatory controls (e.g., Rachel Carson). The groups that formed out of the modern American environmental movement are the focus of this study.

Place and Scale in Environmental Organizing

With EMOs as the focus, this study intends to understand organizing and organizations from a socio-geographic viewpoint. The concepts of organizing and the

dynamics of organizations are well covered in the social sciences and are well supported by certain theoretical underpinnings. Chapter 3 navigates some of those veins to negotiate an understanding of EMOs through the concepts of place and scale. The organizations selected for this study are made up of groups of people who came together on behalf of various environmental concerns. Those concerns are all tied in some way to place even if that perceived place is the planet. Chapter 3 builds a foundation that allows place to exist across a spectrum of scales and within the realm of research to further our understanding of environmental organizing. It connects the concepts to explore their roles in influencing environmental organizations.

Methods

To explore the influence of place and scale on EMOs, it is necessary to define a group of organizations for which we can acquire the data that relate to those concepts. With an estimated population of 30,000 registered EMOs in the United States, each with its own environmental philosophy, its own environmental focus and outreach programs, analysis would be a challenge under any circumstance. But the challenge is heightened by the difficulty of sourcing a database from which to draw or develop a random sample of organizations to study that have reasonably available data that describe their philosophies, foci, outreach tendencies, and other characteristics, including those related to place and scale. Chapter 4 lays out the structure and methods used for this study. In addition to the development of a case study and the process by which organizations are selected for inclusion in the final dataset, Chapter 4 also describes the development of measureable variables from the data available through organization websites, the Internal Revenue Service, news reports, and other media. The variables determine the statistical

tests that can be performed, and Chapter 4 outlines those tests and the qualitative analyses conducted to draw out a fuller picture of association among variables of interest.

Analysis and Discussion

Chapters 5 and 6 step through the stages of analysis and examine the results, respectively. Each phase of analysis is presented, beginning with the development of variables with appropriate measurability that can be formed from the information available. Much of this process involves transforming disconnected pieces of related information into nominal categories through content and proportions analyses. Upon identification and compilation of the variables and data, tests suited to nominal data are described and carried out. Chapter 5 presents the results of chi square and several associative tests. Chapter 6 discusses the results of the analyses presented in Chapter 5 by describing the test statistics and further discusses the analyses of the associations of variable pairs against other variables and in light of the original raw data.

Exploring associations is only one of the two goals of this study. The other important goal is the examination of the influence of place and scale in EMOs. To achieve this, a geographic variable was developed to reflect an EMO's construction of place and the scale for organizing. That geographic variable is tested to determine whether it has any predictive power over other characteristics of the EMOs studied. These results are also included in Chapter 5 and discussed in Chapter 6.

Implications and Future Research

Through analysis, certain characteristics of EMOs were found to be linked. Chapter 7 reconnects this research to its theoretical foundations and projects it back out to

the study of environmental movements and EMOs. The existence of associations between and among the characteristics that make up an environmental movement organization's scope of behavior, when realized and understood, could be useful to organizations as they decide how they will form and grow.

CHAPTER 2. ENVIRONMENTAL PHILOSOPHY, ENVIRONMENTAL MOVEMENTS, AND ENVIRONMENTAL MOVEMENT ORGANIZATIONS

To better understand the development, characteristics, and successes of EMOs, it is important to understand the establishment of organizations from environmental movements and from a persistent attitude of environmental concern. Though it may seem counterintuitive, the elements that have provided a foundation for environmental protection can be linked to a point of dissociation between humans and nature. This chapter discusses the roots of environmental organizing from the perspective of environmental concern, tracing its development from a perceived divorce of humans from the rest of nature through periods of philosophy-making, crusading, and organizing, to the environmental movement landscape of today.

ALIENATION FROM NATURE

The roots of environmental activism and social movements against human misuse of nature are embedded in an initial alienation of humans from nature. Environmental alienation may be traced to the Industrial Revolution (Guha 2000; Simmons 1989), to the period in Western Civilization marked by the Scientific Revolution and the Age of Enlightenment (Jamison 2001; Merchant 1980), or back to the Bible's *Genesis* (White 1967). The actual point in history during which that estrangement occurred may differ depending on the environmental historian, but there is little argument over the actuality of the separation. Regardless of the impetus, and regardless of the fact that each of the above episodes contains evidence that environmental alienation was not universal, the divorce of humans from nature has made possible much of the environmental degradation that persists today (Tellegen and Wolsink 1998).

Judeo-Christianity

If it is possible to assign blame for today's environmental crises to Judeo-Christianity, then White's (1967) treatise deserves credit for being one of the most acclaimed and thought-provoking. He argues that while it was the locomotive momentum of the Industrial Revolution that most effectively and permanently altered the story of nature, it was Medieval Christianity, and more specifically a Judeo-Christian dogma of man's separation from and dominion over nature, that set the stage for ever-amplified exploitation of the environment. The argument linking Judeo-Christianity to environmental dilemmas reasons that Judeo-Christian time is linear as opposed to cyclic in nature, i.e., without beginning or end. With a Judeo-Christian foundation for time, there is a creator and, according to interpretations of Christian religious texts, the creator is wholly separate from nature. That which may be defined as nature, therefore, is inferior to the creator.

Not only is the Judeo-Christian creator absent from nature, but humans, made in the likeness of that creator, were granted power over all elements in nature: "Then God said: 'Let us make man in our image . . . [l]et them have dominion over the fish of the sea, the birds of the air, and the cattle, and over all the wild animals and all the creatures that crawl on the ground'" (Holy Bible, Genesis 1:26). In the millennia since those words were presented, they have translated to a linear progression of increasingly palpable environmental devastation (Tellegen and Wolsink 1998; White 1967). According to White's argument, nature viewed through the lens of Judeo-Christian doctrine is something to be subdued and controlled; however, there is not wholesale agreement with his reasoning. There are those who espouse an alternate interpretation of

the Bible in which humans are appointed stewards of nature. White himself offers the example of St. Francis of Assisi as a pro-nature Christian alternative, a monk who interpreted the creator's word with humility. "Francis tried to depose man from his monarchy over creation and set up a democracy of all God's creatures. With him the ant is no longer simply a homily for the lazy, flames a sign of the thrust of the soul toward union with God; now they are Brother Ant and Sister Fire, praising the Creator in their own ways as Brother Man does in his" (White 1967, 1207).

Scientific Revolution – Age of Enlightenment

If there is disagreement about the role Judeo-Christianity has played in alienating humans from nature and catalyzing environmental ills, then perhaps the split between one philosophy and the other occurred in the transformation of Western culture during the three centuries between the 1500s and 1800s (Merchant 1980; Jamison 2001). The philosophy of science and the praxis of technology had been ancient co-habitants in the human experience, but the elevation of the latter, through publication and popularity, severed the two (Berman 1981; Jamison 2001; Trachtman and Perrucci 2000). Societal tendencies that had exclusively been enveloped by religion and rote belief were set free only to be corralled by an Apollonian doctrine of observation, empiricism, order, and scientific experimentation. A new "scientific identity" emerged out of the coalescing of the two previously disparate worlds of knowledge – the theorist and the craftsman or mechanist. René Descartes (1596-1650) is considered an instigator of that identity shift in his push to apply mathematics to describe the natural world instead of applying it simply in the area of mechanics (Tellegen and Wolsink 1998). Francis Bacon (1561-1626), considered the father of modern science, also advocated a blending of worlds.

Merchant (1980, 164) describes that Bacon "transformed tendencies already extant in his own society into a total program advocating the control of nature for human benefit . . . [he] fashioned a new ethic sanctioning the exploitation of nature."

The Scientific Revolution and early Enlightenment era that comprised the period between 1500 and 1800 opened to Europeans a world in which deep questions could be answered without the aid of philosophy or clergy. For Carolyn Merchant, this period marks the beginning of the *Death of Nature* (Merchant 1980; Tellegen and Wolsink 1998; Sutton 2007). The new scientific identity that permitted a mechanization of nature and natural phenomena was one culprit that facilitated Merchant's theorized demise, but it was just one of a host of variables she cites as factors leading to the death of nature. Along with mechanization came conflicts between peasant and landlord regarding control of resources, large fluctuations in population resulting from a series of plagues, the spread of capitalist practices, and a changing attitude toward the environmental landscape – one of dominance and power over nature. "Mechanism substituted a picture of the natural world, which seemed to make it more rational, predictable, and thereby manipulable" (Merchant 1980, 227). Whether that manipulation was a symptom of Christianity or simply a characteristic of the marriage of science and mechanics remains a question, but there is little, if any, doubt that mechanism changed society's perception of nature.

Not all of Enlightenment society accepted the new relationship between humans and nature. Just as there is evidence that Judeo-Christian doctrine has not been wholly interpreted as a mandate for humans to separate from and control nature, there is evidence from the Scientific Revolution-Enlightenment period to suggest that the

mechanization of nature was not universally accepted in the West. The philosopher Rousseau railed against the effects of living unnaturally. "Everything is good as it leaves the hand of the Author of things; everything degenerates in the hands of man . . . [h]e turns everything upside down, he disfigures everything . . . [h]e wants nothing as nature made it" (Rousseau 1979, 37). If Rousseau's contemporaries were living in the realm of the head and the hand, then Rousseau was living in the phenomenal world of lived experience. He criticized civilized society for leaving that world behind.

Industrial Revolution

Alienation from nature may be linked to early modern Europe or as far back as the spread of Christianity, but the urbanization, population pressure, and separation humans feel today may be most directly linked to the Industrial Revolution of the 18th and 19th centuries. The tethers of that link are strong not only because of the relatively short distance in time between the steam engine and the space-traveling rocket engine, but also because of the profuse literary works that critique the characteristics of the period. Industrialization in Western Europe and North America meant a transition from goods handmade by craftsmen, slowly, to goods manufactured in factories by machines, rapidly. People, then, transitioned from rural to urban, the means and speed of transportation advanced, and the use of natural resources increased spectacularly. Guha characterizes this period as reflecting "the most far-reaching process of social change in human history" (2000, 4). Technology began moving in giant leaps forward, innovations spread rapidly, and advances in medicine helped populations grow more quickly than at any other time in history. Mixed up in all of that human progress was the natural world. As raw materials were extracted, waste products and excess materials were discarded. As

agriculture progressed, rural landscapes were removed of variation. As industry expanded, byproducts were released into bodies of water, air, and soil.

It is in the Industrial Revolution that Guha (2000) finds the roots of environmentalism. He offers the paradox that as England, the progenitor of industrialization, was shifting its economy and population to the urban landscape, there was a simultaneous longing for a simpler, rural life. Creatives like Wordsworth, Ruskin and William Morris lamented the passing of rural England at the hands of industrialism. Morris begins his poem "The Earthly Paradise:"

> Forget six counties overhung with smoke,
> Forget the snorting steam and piston stroke,
> Forget the spreading of the hideous town;
> Think rather of the pack-horse on the down,
> And dream of London, small, and white, and clean,
> The clear Thames bordered by its garden green . . .

This juxtaposition of a choked and dirty, industrial London with a clear and unspoiled version places an immediate value on the one that was lost over the other that is reality. Mary Shelley's response to industrialism is perhaps the most popularized as it has been made and remade in the cinematic medium, paid homage in myriad written works and modern media, and lives on as part of Western culture. She wrote *Frankenstein* in 1819 as an allegory for the industrializing world. Shelley, John Keats, Percy Bysshe Shelley and Lord Byron were all part of the Romantic tradition that tended to promote a nostalgic perspective. That nostalgia was apparent in the writings of many English authors and poets, and it eventually crossed the Atlantic.

As industrialism spread to the US, it sparked a similar tradition, the Transcendentalist tradition. Henry David Thoreau was one of the most nature-bound of

the tradition. Thoreau's purpose was to live simply, with nature, and with *principle*. His essay, "Life without Principle," was a jab at society for its apparent lack.

> If a man walk in the woods for love of them half of each day, he is in danger of being regarded as a loafer; but if he spends his whole day as a speculator, shearing off those woods and making earth bald before her time, he is esteemed an industrious and enterprising citizen. As if a town had no interests in its forests but to cut them down. (Thoreau 1996, 369)

He faulted his contemporaries for working too hard for too little, and he chided the irresponsibility toward nature that was fostered by monetary greed. In addition to Thoreau's philosophy of humans in nature, there was also (among others) George Perkins Marsh. His work *Man and Nature* painted the relationship between humans and nature in terms of the immense impact the former has on the latter, which is a concept that had not yet been fully realized. "His insights made a growing public aware of how massively humans transform their milieus. Many before Marsh had pondered the extent of our impact on one or the other facet of nature. . . None had seen how ubiquitous and intertwined were these effects, both wanted and unwanted. Marsh was the first to conjoin all human agency in one somber global picture" (Lowenthal 2000, 268).

Thoreau and his contemporaries were taking a stand against the coming industrial tsunami. No amount of pleading or criticism or eloquence was going to turn away the tide of industry; if there was a rip with nature that occurred before the Industrial Revolution, it was *at* the Industrial Revolution that nature was devoured by the machine.

AMERICAN ENVIRONMENTAL MOVEMENT

The modern American environmental movement is a varied and increasingly dynamic entity born out of a backlash to the Industrial Revolution and fed by the many philosophies and factions that splintered with and from a spreading American philosophy. Views of how industrialized America should build itself into the physical environment have been at odds from the beginning. Proposals regarding appropriate use of resources, the sequestration and safeguarding of landscapes, and the protection and legal standing of non-human life in this country are met by varying degrees of support, protest, or indifference, all from interests working inside the domain (self-proclaimed or not) of the environmental movement. This lack of consensus and the lack of an overarching cause have prevented the US environmental movement from doing more than waxing and waning with environmental crises and the attention of political elites. The fractured state of the US environmental movement is nowhere more obvious than in its ranging movement organizations.

The first official social movement organizations in the US that focused on issues related to modern environmental issues, such as The Appalachian Mountain Club, The Audubon Society and The Sierra Club, formed during the latter 1800s (Brulle 2000). Many of those organizations, including the examples above, were established to promote and/or protect some idealized nature by founders who felt deeply connected to places or objects in the environment. Whether immediately, or over time, environmental organizations incorporated into their missions the protection of that environment from development, encroachment, and/or the public at large. The Appalachian Mountain Club, Audubon Society and Sierra Club all exist today and all have grown into strong regional

or national EMOs. They have been joined, however, by thousands of other environmental organizations that advocate for the protection and conservation of Earth's resources, most operating independently and promoting individual missions (Brulle 2000).

Environmental organizations share the strong bond of respect, support and defense of the environment; however, they differ in at least as many ways. Not only do they vary in the extent to which they act to support and defend the environment (e.g., direct action versus non-participatory organizations), but they are often unique in their structure, geographic/environmental focus, method and style of outreach, mission, use of technology, and action. This reality broadens the frame of acceptance for the public while also preventing the buildup of movement harmony. The challenges that affect the unification of environmental organizations in the US have come to reflect the challenges of the US environmental movement as a whole.

FROM MOVEMENT TO ORGANIZATION

Periods of alienation from nature, such as those marked by medieval Judeo-Christian inculcation, the Scientific Revolution and Enlightenment era, and the Industrial Revolution sparked clear counter-movements by individuals who not only disagreed with popular philosophies of the time but also with a growing separation they perceived to be occurring between humankind and nature. St. Francis, in response to the interpretation of the Bible (an interpretation that asserted man's inherent dominion over all entities in nature) espoused by the Christian hierarchy of his time, suggested an alternate interpretation of the Bible that regarded nature with kinship and humility. Had religious powers so desired, they could have had him killed for that indiscretion (White 1967).

Later in western civilization, Rousseau and his fellows formed the counterculture to the Scientific Revolution-Enlightenment Era (Merchant 1980). Members of that counterculture are regarded as the early Romantics. Still later, Mary Shelley and her contemporaries responded with condemnation to the changes brought about by the industrialization spawned from the Industrial Revolution (Guha 2000; Shabecoff 2003).

Shelley's discontent, along with that of others mentioned above, is emblematic of countercultural social movements (however small or ineffective), and was the means by which new knowledge—that expressing opposing points of view—was negotiated (Jamison 2001). Knowledge, once is has been translated from the counterculture to the public, has a chance of becoming recognizable in public life. In other words, a social movement has the greatest chance for success when it has been extracted from loft and abstraction and decoded for mass consumption. Perhaps that is a reason the works of the Romantics and Transcendentalists live on.

While social action for nature or against changing human culture can be linked to numerous historical settings, it is the period after American industrialization that carries examples of social action that can be linked most directly to the modern US environmental movement. Those who took up where Thoreau left off, cradled in the arms of an industrialized nation early in the 20th century, were people such as John Muir, who, as a preservationist, advocated the protection of natural areas from the destructive habits of humankind. He was the founder of the Sierra Club, and his influence with Roosevelt is thought to have driven the president to begin protecting US wilderness areas under federal mandate. Muir did not spark environmental movements as such, but he certainly incited a social movement with his preservationist credo. Gentlemen with the

time and discretionary income to travel began seeking out the parts of America that had yet to succumb to Manifest Destiny. Yvard-Djahansouz (2000, 112) provides a description of the early 20th century environmentalists as "middle and upper class male hikers, campers, hunters, sportsmen and nature writers." That description, perhaps not far from what is thought of the modern environmentalist, with the exception of gender, aptly illustrates a social movement such as Muir's Sierra Club.

Early 20th century environmentalism and earlier movements like Transcendentalism and Romanticism can all be considered social movements. Additionally, they each have a strain that focuses on nature or responds to an increasing divide between humans and nature. The study of social movements did not formally come into popularity until after World War II. Social researchers were specifically interested in the growth of Nazism, and out of that focus came the contention that social movements were "irrational, dysfunctional, and ultimately dangerous" and "were the province (sic) of the disconnected" (Meyer and Kretschmer 2007, 541). As research into social movements has become popularized, the theorized characteristics of social movements have evolved from that negative description to one less polarizing. A more benign description of social movements portrays them as loose associations of individuals with one or more common goals and a shared agenda. Within that new perspective of studying social movements has grown an interest in social movement organizations, which has resulted in further refinement of formal organization in social movements. McCarthy and Zald (1977, 1218) state: "a social movement organization . . . is a complex, or formal, organization which identifies its goals with the preferences of a social movement or a countermovement and attempts to implement those goals." Diani

and Bison (2004, 282), however, define social movement organizations as "networks of informal interactions between a plurality of individuals, groups, or associations, engaged in a political or cultural conflict, on the basis of a shared collective identity." The first definition depicts a formal body while the second depicts a looser, less prescribed association and they can both be true, depending on the organization.

Within the study of social movements, and out of the social and political turmoil of the 1960s, emerged what is known as the modern environmental movement. The environmental movement that formed out of the 1960s progressive era, considered in relation to historical levels of environmental activism, experienced considerable growth in movement organizations. In addition to a proliferation of organizations and increased interest in activism, EMOs changed in their fundamental composition (Brulle 2000; Johnson 2008; Shabecoff 2003; Schlosberg 1999). This period saw an increase in the professional environmental organization – one that is "less dependent upon individual members, and adopts goals focused around 'new' or 'second-generation' environmental political issues" (Johnson 2008, 968). This type of professional organization embodies McCarthy and Zald's (1977) definition of the social movement organization and has facilitated the spread of the environmental movement across the country and around the world.

Environmental campaigns in the US have been, for the most part, local or regional in scale, with the notable exceptions of Earth Day, first celebrated in 1970, the United Nations Conference on Environment and Development (Earth Summit) of 1992, and most recently, the campaign to stop human-induced global warming. The issue has been swirling about the public consciousness for several years, and it may eventually take on

the purpose and relevance of the society-altering movements that have shaped this country. The global warming campaign may, however, be a victim of Downs' (1972) issue attention cycle—consisting of (1) the pre-problem stage; (2) the stage of public concern; (3) the realization of costs stage; (4) the interest decline stage, and (5) the issue decline stage—in that the public is beginning to realize the costs of significant progress on the issue.

The problem of global warming is more expansive than other environmental problems around which environmental movements and EMOs form because its geographic focus is planetary, its scale is global. Most organizations form around smaller-scale issues and are commonly referred to as either grassroots or mainstream, mass or elite, community-based and professional, or local and global. This is how both McCarthy and Zald's (1977) and Diani and Bison's (2004) definitions work in defining organizations.

Today's EMOs vary in size, resources, philosophy, and focus, and this complicates their examination. Research has included public opinion and policy outcomes (Agnone 2007); grassroots studies (Ball and Beckford 1997; Batterbury 2003; Cable and Benson 1993; Gulbrandsen and Holland 2001; Kousis 1999); organizational networking (Diani and Rambaldo 2007; Schlosberg 1999); gender and justice (Bretherton 2003; Merchant 1980; Newell 2005); local-to-global dynamics (Checker 2004; Harper 2001); global environmental movements (Brennan 2006; Kilbourne, Beckman, and Thelen 2002; Rootes 1999; Rootes 2003; Williams and Ford 1999; Young 1999); historical change (Brand 1999; Diani and Donati 1999; Melosi 2000; Rucht and Roose 1999); and EMOs as agents in the political system (Anderson 2004; Brulle 2000; Dryzek

et al. 2003; Ford 2003; Johnson 2008). Studies have also taken a comparative look at the structures and activities between place-based, local EMOs and institutionalized, national EMOs (Carmin 1999; Carmin and Balser 2002; Morris 2008). This study adds to this long list a categorized compilation of characteristics and their associations with one another and an exploration of the role of geography, specifically the concepts of place and scale, to explain the oft-studied characteristics of EMOs.

With a background in the progression of environmentalism from philosophy to organization, the next chapter delves further into social movement research, including the study of environmental organizing, to define the conceptual basis for this study. From there, the geographic ideas *place* and *scale* are defined through the literature. The idea of place is discussed for the possibility that an organization could construct a place of influence. The idea of scale is discussed as a possibility that organizations could function according to the scale of their constructed places of influence. This research works to synthesize the two and apply them to the study of EMOs.

CHAPTER 3. CONCEPTUAL FRAMEWORK

The more than 30,000 registered EMOs in the US (Carmichael et al. 2012) exist to influence environmental discourse in their own ways and at particular scales of influence. The environmental movement, while remaining true to an overall focus on the environment, has formed a number of offshoots as it has evolved. There is a climate change movement that crosses with the energy conservation and renewable energy / anti-fossil fuel movements. There is an environmental justice movement, a wildlife protection movement, a habitat conservation movement, and an organic foods movement. The strands of the movement share the same motivation to protect, conserve, preserve, and better understand environmental processes, but they diverge greatly from each other in practice.

As is the chimeric environmental movement, the organizations that support the movement are divergent creatures with their own ideologies, missions, and goals. They form and grow with particular environmental philosophies and foci, establish themselves within particular social and geographic domains, and experience varying levels of success. Research concerning environmental movement organizing is undertaken to understand social movements, to understand how networks are established and exploited, to understand why groups of people identify with certain causes, and to understand the characteristics and dynamics of organizations. Comparisons are based on organizational philosophy, size, structure, activist tactics, network structure, and resources. A thread that examines the interplay between local and national organizations has emerged in the literature. This study examines the extent to which the socio-spatial concepts of place and scale play roles in environmental organizing. Organizations articulate place in the

meanings they ascribe to it by organizing to protect it. Place is scaled according to the frames in which issues reside, which is based on the attitudes and identities fostered by the organizations involved with those issues. This study weaves place and scale into the discourse, and it examines whether the geographic scope of an EMO, as created by the social and geographic scaling of place, acts as an independent variable on the behavioral characteristics of EMOs.

The following three sections lay out the conceptual framework for this study. The first section provides an overview of the literature on organizing, from social movement theorizing to research on the environmental movement and environmental organizations. The second section introduces the concept of place. Literature exploring place (sense of place, place-making, place attachment) supports the notion that it can provide context for organizing. The third section weaves the concept of scale with place. Scale has become a highly criticized concept over the past three decades, especially within human geography. While its viability as an ontological construct may be at question, scale (construction of scale, politics of scale) has become an oft used tool for studies in movement organizing. This study draws a connection between place and scale as they are able to influence environmental organizations.

ORGANIZING

The study of organizing, organizations, and movements is taken on within psychology, sociology, anthropology, management studies, economics, political science, and geography. Scholars are interested in the processes of organizing, the dynamics and structural characteristics of organizations, the spread of social movements, and numerous other topics. Since this is a geographic study of EMOs, this accounting considers the

strands related to geographic and environmental movement inquiry. Within the narrowed scope of discussion, two distinct forms of organizational analysis emerge, as a theoretical construct (understanding the processes whereby individuals organize into a group with a common purpose) and as a tool for categorization (comparing the characteristics of organizations and movements to better understand how they effect change). Both forms of organizational analysis are explored further below.

Organizing as a Theoretical Construct

Since there is no geographic theory of organizations, geographers have borrowed from other disciplines to examine aspects of organizing and organizations. Del Casino Jr. et al., in their attempt to describe some methodological frameworks in which geographers may explore organizations, provided a list of theories that lend themselves to geographic inquiry. The authors argued that organizations are infused with geographies, and "spatial ontologies and epistemologies are mapped into their rules, procedures, and practices" (Del Casino Jr. et al. 2000: 524). Some of the suggested theoretical approaches included systems theory, population ecology, rational choice theory, structuration theory, and discourse theory. While none of these is a theory specifically of organizing, each could be advanced through the study of organizations. Two theories that are specific to organizing are collective action theory and resource mobilization theory. Both theories work to explain the process of organizing.

Mancur Olson theorized collective action in the 1960s. Individuals join groups when they share a common interest advanced by the group. Though a group is made up of individuals with their own unique interests and purposes, those individuals, as members of a group, represent a unified concern. It follows, then, that for an

organization of common interest, the "characteristic and primary function is to advance the common interests of groups of individuals" (Olson 1965, 7). What happens, however, when a group is too large or too dispersed for individuals to participate in collective action? Sociological theorists introduced resource mobilization theory as a means of better elucidating social movements.

Resource mobilization theory is meant to "explain the dynamics of mobilization, to identify the type of resources and organizational features that condition the activities of [social movements], and to focus on the relationship between the movements and the political system" (Canel 1997, 189). Evaluation of movements according to these qualities can help reveal how movements and related organizations emerge and function. The resource mobilization paradigm separates itself from Olson's collective action frame in that (1) it does not assume that participants in a movement organization are either victims of a perceived ill or irrational, and (2) its focus is on the political nature of movements as opposed to the economic nature. McCarthy and Zald (1977), in outlining resource mobilization theory, distinguish between movements and movement organizations, which allows for organizations to be understood based on their own dynamics as opposed to those of the movements to which they belong. Resource mobilization theory also proposes that movement organizations, though often using disparate tactics, engage the political system to achieve their goals. As they engage the political system, they become agents within that system. Finally, resource mobilization theory "emphasizes the variety and sources of resources; the relationship of social movements to the media, authorities, and other parties; and the interaction among

movement organizations (McCarthy and Zald 1977, 1212). Within resource mobilization theory, as developed by McCarthy and Zald, there are a number of stated assumptions.

The first assumption within resource mobilization theory considers the link between a grievance and collective mobilization to be weak (as opposed to strong). While previous researchers, including collective-action researchers, held the assumption of strong ties between an individual's cause of distress and the formation of a social movement around it, resource mobilization theory assumes that concerned outsiders may mobilize around a problem even when they will not directly benefit. Furthermore, researchers suggest that it is often organizations that help incite the aggrieved to mobilize. That assumption is validated both by mainstream environmental organizations with members who are rarely the victims of environmental ills around which their organizations mobilize and by the occurrence of mobilization in areas only after an elite body has organized individuals. Laura Dunn's documentary *Green* offers an example of that type of mobilization for environmental justice in a Louisiana community.

The second assumption of resource mobilization theory concerns strategy and tactics, and presumes, in addition to concern about possible conflicts with authorities, that movement organizations maintain numerous strategic responsibilities like "mobilizing supporters, neutralizing and/or transforming mass and elite publics into sympathizers, and achieving change in targets" (McCarthy and Zald 1977, 1217). Resource mobilization defines "mass" publics as those who are directly affected by an environmental problem and "elite" publics as those individuals with discretionary income who are not directly affected by an environmental problem. Within this strategic frame, the tactics chosen for

change become the problematic factor since mass and elite publics will commit different resources toward solving the problem.

The third assumption outlined in resource mobilization theory relates how a movement organization conveys itself to the larger public through existing public infrastructure: communication, social, institutional, and professional. If an organization is made up of directly affected, directly benefiting individuals who reside within close proximity of an environmental problem, that organization may be best served by utilizing aspects of societal infrastructure that differ from those utilized by elite organizations. The number of willing bodies and the amount of money will differ between the two, so choices about whether to commission a public service announcement or enlist volunteers for door-to-door campaigning must be made strategically. The series of assumptions laid out in resource mobilization theory provide for systematic comparisons of organizations based on how they represent themselves to the public as well as the strategies and goals they engage as part of their existence.

Organizations as Objects of Inquiry

While collective-action theory and resource-mobilization theory present ways of looking at organizing, organizations, and social movements, there are numerous ways to explore and define EMOs and numerous organization-related variables to be compared empirically. For example, research has related the types of activism undertaken by an organization and its structure and financial capacity to the tactics used to affect social change, which was related to the social or political nature of the supplier of resources (Brulle 2000; Carmin 1999; Dreiling and Wolf 2001). Mobilizing organizational resources, then, can be thought of as the mobilization of efforts toward an action deemed

acceptable (implicitly or explicitly) by an organization's benefactors. The relationship between resources and mobilization was thought to be a material factor influencing EMOs (Dreiling and Wolf 2001).

Brulle's (2000) in-depth examination of EMOs explored the relationship between organizational form and organizational discourse. His research was broad in scope and for the organizations studied, focused on relationships between mobilizing resources and organization size as well as discourse and practices. Brulle's main research goal was to evaluate US EMOs to draw out evidence of their increasing inability to motivate citizens to take on greater environmental responsibility.

Carmin and Balser (2002) were interested in the factors that lead an environmental organization to adopt certain types of action. The authors constructed a framework for understanding how organizational behavior is negotiated, through the influence of experience (what has worked historically), values and beliefs (core views that are relevant to developing organizational purpose), political ideology, and environmental philosophy on the perceived political climate. The authors used two environmental organizations (Greenpeace and Friends of the Earth), which were followed through their earliest periods of existence, to develop their framework. The authors concluded that resources, political opportunities, and interpretive processes shape organizational action.

In addition to exploring whether and how organizational characteristics influence organizational activities, researchers have been interested in whether and how organizational characteristics affect change. For example, Johnson (2008) found that the size of an organization was positively associated with policy activity. He also found that

the diversity of organizational goals was positively associated with policy activity (i.e., the more varied the goals, the more likely the organization is to catalyze political change). Johnson, Agnone, and McCarthy (2010) found that the environmental movement influenced environmental law passage when protest and institutional activity were both elevated.

Much environmental movement research has focused on differentiating between what is perceived to be two opposing ends of organizing, described as local and global, direct action and non-participatory, mass and elite, informal and formal, volunteer and professional organizations, among other binaries. McCarthy and Zald (1977, 1218) differentiated between "classical" (dependence upon direct constituent resources) and "professional" (outsider involvement and limited constituent action) movement organizations. These terms represent organization types in opposition, with one end being commonly understood as more localized, loosely structured, and reliant on direct action and the other understood as less localized, hierarchically structured, and reliant on non-participatory action.

A number of researchers have sought to understand the differences and dynamics between the two ends of organizing. Carmin (1999) described the ends as voluntary and professional environmental organizations, and she attempted to explore relationships between the two. She found that they had a symbiotic relationship, with voluntary groups identifying with emerging issues and professional groups intent to shape policy. She discussed resource mobilization theory, which currently suggests that movement organizations have shifted from volunteer-based campaigns focused on issues that directly impact organizers to member-based donation campaigns for which funding

allows professionals to address issues that do not directly impact organizers. In terms of activity, she found that professional organizations were more likely to engage in public policy-related tactics, and voluntary organizations, with less access to policy setters, were more likely to engage in less conventional tactics. "Similar to other movements, a number of environmental issues are general in nature and cross local, state, and national boundaries. Many issues, however, are site-specific and contribute to the unique qualities of the environmental movement" (Carmin 1999: 117-18). She found that environmental issues that arise in particular locales forward local activism, and she concluded that the two scales work together, one advancing the movement and the other changing policy.

Researchers have also differentiated between organizations in a more geographic way, according to a range from local to global. This is an important differentiation, and one that could be found to influence the other opposing identifiers. Schaffer and College (1995) examined how environmental groups at the local, state, and national levels represent environmental issues. The authors began with those categories to differentiate between movement interest groups and communal advocacy groups. Differentiating between two ends of organizing has been fairly easily accomplished, but that project ends at description. A further step has been in exploring the interplay between the two to discern whether each plays a different part in the movement and how effective each is in the role it plays.

Saunders (2007) used observation, interviews, network analysis, and a survey to examine the relationship between local and national environmental organizations operating in London. She sought to discover whether, according to her study, local environmental campaigns were marginalized by formal, national organizations. Saunders

contended that national organizations, intent on protecting their budgets, tend to focus on environmental issues that gain the most sympathy from the public – their funding source. Part of her study focused on networking among organizations, and she found that national organizations tended to be more connected to each other than to local campaigns. She also found that local groups connected more with local groups, especially when there was a particular issue at stake.

Saunders not only differentiated between local and national groups, but she included regional groups as well, which she found were more likely than local or national to connect with groups at different levels. She did find that the national groups in her study made an effort to involve local activists and grassroots organizing, which differs from the findings of other researchers (Cudworth 2002; Diani and Donati 1999). Ultimately, she found that local groups do not rely on national groups for help and resources, and that national groups do not marginalize local groups. They do, however, appear to work with local groups that focus on issues that fit their own and are projected to be successful in their campaigns. She found that regional groups worked with local and national groups in an in-between role.

Rootes described environmental movements as being "conceived as broad networks of people and organizations engaged in collective action in the pursuit of environmental benefits" (Rootes 1999: 2). He categorized the movement organizations as "diverse and complex, their organizational forms ranging from the highly organised (sic) and formally institutionalised (sic) to the radically informal, spatial scope of their activities ranging from the local to the almost global, the nature of their concerns ranging

from the single issues to the full panoply of global environmental concerns" (Rootes 1999: 2).

Rootes focused on issues that impact the development of environmental movements: the issues surrounding institutionalization, environmental struggles at the local level and how they relate to national and global movement organizations, and the possibilities for developing a global environmental movement. Rootes characterized activists as either radical or institutionalizing and concluded that the first may need the resources of the second while the second may need the radical thinking and grassroots mobilizing ability of the first.

Rootes also examined the dynamics between local environmental organizing on a larger scale. He explored the role of local environmental campaigns in keeping the movement salient when attention waned for national organizations as well as the connections of local campaigns to each other and to national organizations (Rootes 2007). He examined the relationships between local campaigns and national environmental movements and separated local activism from the movement instead of incorporating it as a characteristic or nuance of the movement because, he argued, most of the recognized "movement" organizations were never local but were general movements not directly associated with a particular place or problem. Rootes credited local campaigns with "discovering" environmental issues that are eventually taken up at the national level, which is the scale at which political change for the movement occurs. Local organizations establish the pace and tone while national organizations provide movement stability (Carmin 1999; Rootes 2007).

The idea that national groups are more likely to catalyze policy change than local groups is supported by Cable and Benson (1993), who argued that local environmental activism is focused on environmental justice, with activists less concerned with policy-making than with enforcing existing laws. They argued that local activism exists to impact the regulatory process as opposed to the policy process. They painted the local-level struggle as the citizen against the corporate polluter, with regulatory agencies as the goal for influence. Their study looked at a narrowed field of organizations with its focus on environmental justice.

Research on environmental organizing has examined organizational structure to examine how structure affects change. Research has also compared organizations to examine how different types of organizations bring about change. What have been neglected are the roles of place and scale in the establishment of organizational structure and organizational type, and the compilation and comparison of categories into which organizational characteristics may be fitted. This study endeavors to accomplish these tasks, which requires furthering understanding of place and scale as concepts of geographic inquiry.

PLACE

The idea of place, as in a locale, a point on a map, a reality, is inherently geographic; although, place is not confined to a point on a map. Place could be the entire map. Brennan (2006) argues that even a "global citizen" is rooted in place – the place of the planet. Place is also understood in social and psychological terms, as in the meanings we imbue, the emotions we ascribe, and the histories we build into place. Stedman (2002) argued that a problem with sense-of-place research is that there are divergent

paths of inquiry. One is highly theoretical, with a phenomenological slant that, while heavy with hypotheses, lacks any operationalized testing. It would be difficult to test hypotheses based on a concept perceived to be experience-based when each experience is unique. The other is a positivistic path that is rich with quantitative hypothesis testing, but that lacks exploration or consideration of any theoretical underpinnings. Place is a concept widely discussed in social science and geography literature, and the goal here is not to describe all of the research that flows through the concept. What is important is developing an understanding of the concept within research focused on environmentalism and environmental organizing.

Stedman used his sense-of-place study to examine the concept's potential influences on behavior. Stedman examined place and behavior through the lens of residents living near a Wisconsin recreation area that had undergone immense development. To assess concepts of place attachment and belief, Stedman used a survey consisting of Likert-style questions that operationalized concepts to enable positivistic hypothesis testing. He hypothesized that behavior would be affected independently by place attachment and place satisfaction. He found that attachment and satisfaction influenced behavior, which was, in this case, the intention to protect place. He found that high attachment and low satisfaction increased the likelihood of engagement behavior. "We are most willing to defend places that are strongly tied to our identity and for which we hold negative attitudes" (Stedman 2002: 576). For Stedman, negative attitudes were those born out of perceived environmental problems.

If we are more willing to defend places to which we are physically and/or emotionally tied, whether in a positive or negative way, then why do we also defend

spaces to which we have no direct connections? Much as researchers have differentiated between local and global organizing, they have also differentiated between place and space, concepts that are variously juxtaposed as local-and-global, hearth-and-cosmos, near-and-far, us-and-them, inside-and-outside, place-and-placelessness, particularism-and-universalism, *gemeinschaft* (community)-and-*gesellschaft* (society), and romantic-and-cosmopolitan. If place is the world to which we are intimately connected, then space is the world beyond or outside of place. To describe it in terms of environmentalism, place is the spring within which we learned to swim and from which we drank that is now the "small" ecosystem threatened by encroaching development. Memory, emotion, and physical experience are impressed upon the place in a way that makes it ours. In contrast, space is multiple large ecosystems threatened by mass deforestation in the world's hardwood forests. There is no one place and the many places of deforestation are not ours through experience. This difference between place and space is a recurring topic in environmental literature, and one that is inherently scalar in nature.

Scannell and Gifford (2013) investigated how people involved themselves in a global issue based on local or global framing of the issue. They surveyed citizens in three areas about climate change by presenting them with climate-change information. The information was framed according to the local area and reframed to the global level. As a control, residents were also asked about their engagement with climate change action without being given scaled information first. The local information was created to examine the role of place attachment in determining support of an environmental issue – in this case a global issue. The authors found that local message framing was more effective at promoting engagement than global framing or no framing at all. They also

found that local framing was even more effective when the local message was received by a group with a strong sense of place.

Geographers exploring social movements have studied how movements are affected by place, scale, and space. Nicholls (2009) wove the concept of place-making or building on the cohesive power of place together with the concept of networks of places organizing for social action. The idea is that activists come together out of trust and proximity, and they link with distant activists who came together out of trust and proximity, and so on until a network of activist places forms dynamic activist space. Rootes (2007) also referenced place. For him, activism occurred from the level of place out of a sense of protecting the identity and purity of a place. Environmentalism does not, however, only occur in place, locally. It occurs locally and globally and at all the scales of place in between, from local to global. Tuan brought the concept of place together with the concept of scale in his book *Cosmos and Hearth*. He described his interpretation of hearth and cosmos in terms of the Chinese words *t'ien* and *tu*, the former defined as heaven, civilization, culture, and the latter defined as earth, home, family.

> When Westerners speak of 'the splendors' of the Chinese empire, they have [*t'ien*] in mind – its astronomical-astrological worldview, its rites and ceremonies, its architecture, literature, art . . . At the opposite pole of 'the splendors' is *tu* or soil, which evokes locality, homestead, and hearth. This is the nurturing root of one's being. Attachment to it is built on the unexamined foundations of biological life, the intimacies of childhood experience, the warmth of familial communions, local customs and practices, the unique qualities of place. (Tuan 1996: 16)

Although sense of place research tends to focus on individuals, organizations are able to promote a sharable image of place or tie themselves to place or place-make. Relph (1976) talked about shared place and mass consensus of place. Organizations promote

particular identities, and they tie themselves to particular places, from local to global in scope. Those identities and ties can be wrapped in images of place in which groups of people may believe. It is possible to evaluate the types of behaviors that organizations undertake based on their chosen and projected identities and ties to place – and through that the scope or scale of organizing.

SCALE

Scale is a concept of study throughout the discipline of geography. Smith (1993: 101) defined scale as "the materialization of contested social forces." Smith and Dennis (1987) argued that scale is not preordained but is constructed by social processes. They examined scale from the perspective of traditional, regional geography, according to which scale was irrelevant or taken for granted. Lebel, Garden, and Imamura (2005) discussed negotiating scale for power. They argued that scale is shaped in an ongoing process of social, political, and economic perception. Geographers differentiate between cartographic scale, geographic scale, operational scale, and scale as a measure of resolution (Marston 2000; Marston, Jones, and Woodward 2005). Of concern here is the concept of scale through the lens of human geography, which Marston (2000) (see also Howitt (1998)) characterized as having size, level, and relation, with relation offering the most complex understanding of the concept. "As geographers, then, our goal with respect to scale should be to understand how particular scales become constituted and transformed in response to social-spatial dynamics" (Marston 2000: 221). Marston offered three tenets that make up our understanding of the production of scale: (1) scale is a way of framing phenomena as opposed to a phenomenon itself; (2) there are tangible

outcomes to the scalar framing of phenomena; and (3) phenomena can be re-framed to fit an alternate scale.

Scale, according to Moore (2008), has become more important to geographers over the past 20 years as a theoretical construct. Moore discussed the place of scale in social science research in general and in human geography research in particular. Both Moore and Mauz, Debarbieux, and Granjou (2013) cited Marston (2000) and Herod (2010), who both examined the concept of scale, outlining the history of scale as a concept in geography and geographic theorizing, as important figures in examining the definition and properties of scale in geography, with an agreement that scale is a fluid, social construct. Moore considered a number of definitions of scale within geography, including scale as a reflection of "real material processes, events, and spatial formations" (204) and scale as a representation of discourse without apparent ties to actual, physical conditions. In discussing the veins of geographic thinking concerning scale, Moore warned against using scale as a blanket concept to examine issues that would more appropriately be examined through the socio-spatial contexts in which they occur. He argued that using scale in that way denies the exploration of place-making and sense of place that could be examined instead.

Moore worked to distinguish scale as a category of analysis from scale as a category of practice. Scale in practice is just a way of understanding the world, but scale in analysis is projecting scale as an object that defines the world. Instead of a perspective or way of organizing phenomena, it becomes an actor that causes phenomena. Moore saw this as a problem because it makes something real that is not and allows us to perpetuate generalities based on the characteristics we attribute to scale. Scale is not a

given construct, but one that is contingent upon the circumstances of the phenomenon under investigation. Moore argued that "the tendency to partition the social world into hierarchically ordered spatial 'containers' is what we want to explain – not explain things with" (212).

In his exploration of scale, Brenner (2001) pointed out that it was limiting to simply apply the concept of geographical scale to socio-spatial phenomena. Brenner argued that the many research initiatives that have examined the production of scale, including the "organizational structures and strategies of . . . social movements" (592), have "underpinned a noticeable slippage in the literature between notions of geographical scale and other core geographical concepts, such as place, locality, territory and space" (592). The place-space concept may be viewed in terms of scale when attempting to understand the process of environmental organizing because sense of place and place-making is an integral part of local-level environmental organizing. It may be thought of as the key. There is either one place – the planet, or there are all places within the space of the planet. The two concepts appear inextricably linked at both ends, with a transition between.

Paasi (2004) looked at the changing concept of scale as it impacted the interpretations of region and place. Paasi discussed the state of scale in the geographic literature and noted that its position as an ontological concept was in question. Paasi posited that places and regions are both open and closed to the processes of change, and the processes of change acting upon places and regions are "crucial in generating and transforming the dynamism of scale(s)" (540). Paasi stated:

> Scales are not fixed, separate levels of the social world but, like regions/places, are structured and institutionalized in complex ways in de/reterritorializing practices and discourses that may be partly concrete, powerful and bounded, but also partly unbounded, vague or invisible. Scales are also historically contingent; they are produced, exist and may be destroyed or transformed in social and political practices and struggles. The institutionalization/ deinstitutionalization of region, place and scale are in fact inseparable elements in the perpetual process of regional transformation."(Paasi 2004: 541)

Sayre (2005) also outlined the controversy around scale in human geography (Marston's socially constructed scale and Brenner's argument that scale loses power when applied to phenomena better suited to other socio-spatial concepts), and argued that there has not yet been resolution over what is scale in human geography. He attempted to resolve the issue using work in ecology. He differentiated between grain and extent and between scale and level to clarify the "epistemological and ontological moments of scale" (278). He agreed that scale is not a given (*a priori*) but is produced. He described the concept of scale as it is understood through the discipline of ecology. An interesting product of ecological scale studies is the finding that units of observation affect outcomes. Phenomena (patterns, processes, relationships) that are apparent at a particular spatial scale may not be so at another. In environmental organizing, this is akin to a problem that is experienced at a particular scale and may not be apparent at another. This is part of the reason there are scales of organizing, and it works in both directions in a way. If I have to live next to a mining operation that threatens the air I breathe, water I drink, or soil in which my garden grows, I am more likely to organize against it. If I do not live next to a mining operation, then I may not even know it exists. At the other end, climate change is a large-scale problem that is experienced by everyone, but I would not

be likely to organize around it at the local level because I do not see it there, which makes it more difficult to fight locally.

Smith and Kurtz (2004) examined the concept of a politics of scale through citizens organized around the community gardens issue in New York City. They offer a definition of politics of scale: "the ways in which social actors draw on their relationships at different geographical scales to press for advantage in a given political situation" (199). The subject of the study concerned the city deciding to auction off 114 properties it considered vacant but that had become community gardens. Citizens organized against it. The properties were dispersed throughout the city, which presented challenges for organizing. Activists grew the cause by linking the community garden struggle with other struggles, connecting with non-garden organizations, and using the Internet to spread information to places beyond the neighborhoods in which the gardens were located. The campaign was successful in that the properties were purchased and remained community gardens.

Brenner (2001) also discussed politics of scale, and he differentiated between a singular and a plural meaning. The singular meaning denotes analysis of processes or phenomena through which a spatial entity (organization) is formed and differentiated from other spatial entities. It is an intra-scalar process of exploration. The plural meaning denotes analysis of processes or phenomena by which spatial entities are differentiated among scales and through which the scales are negotiated. It is an inter-scalar process of exploration. Brenner (601) hypothesized that "geographical scale appears to 'matter' most to social outcomes – that is, to have the most obvious and far-

reaching causal impacts – in those social processes or transformations which are described through a plural rather than through a singular notion of a politics of scale."

Rangan and Kull (2009) examined politics of scale through a study of acacia plant transfers across four regions: southern Africa, Madagascar, southern India, and northern Australia. Specifically, they examined the processes by which introduced plant species go from being unnoticed in the landscape to being symbols of political change or discord. They argued that the concept of scale appears to be apolitical and without agency and contended that "scale is the means through which ecological (and related social and economic) *change* is *made* political. Ecological change (indeed any kind of change) is a given, but it is made political by bringing together three moments of social action – operation, observation, and interpretation – to produce scales that represent ecological and attendant social change as disruptive, transformative, or evolutionary" (Rangan and Kull 2009: 30). Rangan and Kull borrowed Sayre's argument that scale is a production of operation, observation, and interpretation (corresponding to Sayre's ontological, epistemological, and translation moments). It is in the interpretation that scale is produced. This appears similar to Paasi's scalar re-framing of environmental issues. Operational scale is produced according to time, space, and power. It is the scale of structure. Observational scale is produced according to the measurement and control of space. It is the scale of agency. Interpretive scale is produced according to experience and behavior.

Mauz, Debarbieux, and Granjou (2013) stated that environmental organizations have been moving toward globalism in the past several decades partly because environmental problems are increasingly being understood from a global scale. Further,

they contended that understanding at any other scale is outdated and ineffective because global problems cannot be solved at a local or national level alone. The problem with this contention is in thinking that there are only global environmental problems. Who will comprehend and act on behalf of a local spring and the ecosystem created by its existence but local actors? That is certainly not the kind of problem around which Conservation International would be likely to mobilize its considerable resources. While Mauz, Debarbieux, and Granjou acknowledged that local environmental action is valid and does exist, they stated that globalization changes the way local environmental issues are perceived. The authors discussed the concept of scale and argued for its existence as a social construct as opposed to something concrete. Their study only looked at international environmental organizations, but it considered how those organizations construct scales and move between them to accomplish their missions. The organizations, according to the authors, have two requirements: (1) global discourse and (2) local context. Schaffer and College (1995) were thinking in the reverse when they posited that local groups benefited from global groups because the latter were able to increase the scope of an issue to gain support. Whether local benefits global or global benefits local, the environmental issue in either case is reframed to fit an intended scale.

Ozen (2009) illustrated framing to scale in his study that followed the processes of adoption, cooptation, and transformation as local movements expand to national movements. He viewed these processes as they occurred for the Bergama movement in Turkey, a movement against the operation of a gold mine in the area. Local movements tend to emerge in response to tangible, physical threats (e.g., mining operation) against tangible, physical objects (local watershed), and the citizens who become involved in

local campaigns tend to be those directly impacted by the threats (Ozen 2009). Ozen found that local campaigns, due to the complex and place-free nature of environmental issues, tend to incorporate broader concepts into their struggles. In the case of the Bergama movement, those broader concepts allowed the struggle to spread beyond the local level. Nonlocal activists may not have been directly impacted by the Bergama mining operation, but they were able to connect to broader issues of social and economic inequality about which the Bergama mining operation became a symbol. The connection was a reframing of the issue that allowed the movement to grow, but it changed in the process. In a local-to-national environmental movement, the environmental problem must be reframed in order to transition scales.

Usher (2013) also focused on a local environmental threat in his examination of how local activists represent nature in defense of place as a response to that environmental threat. In his study, the environmental threat was an opencast coalmine. His research analyzed the discourse created around the issue. Usher argued that "scale has become a key site of discursive contestation in environmental conflicts as it provides a platform for local protestors to gain broader support by linking their campaign to regional, national or even global movements, thus serving to shift the focus from the fate of the local town to the state of the global environment" (813). In Usher's study, the movement expanded as the perceived environmental threat was also made a social, economic, health, and moral threat. "The environment acted as a discursive hook . . . on which to hang other discourses of opposition, therefore how nature is represented is of great symbolic significance" (823).

Rootes (2007) argued that local issues are solved by framing them in universal, political terms. That reframing invites non-local actors to participate, which may help or hurt a campaign (e.g., Turkey's Bergama movement). As far as a global movement, Rootes is not hopeful given the reality of the separation between local and national organizing. Local campaigns solve local problems and may allow them to be elevated to national issues through reframing, but according to Rootes, they are unlikely to contribute to global environmental justice. Part of this is seeing the local versus global in economic terms, or that local actors are poor and issue awareness is local, and global actors are wealthy and attempting to impose their will on the masses, which includes local actors.

PLACE AND SCALE IN THIS STUDY

EMOs can be organized according to several characteristics: assets, employees, employee expenses, membership, volunteers, mission, goals, programs, outreach activities, environmental philosophy, environmental focus, and others. They can also be characterized by the geographic range of their intended impact – a local watershed, a park, a coastline, a planet. People join EMOs, whether they are loose coalitions of individuals mobilizing around a community-level issue or formalized, hierarchical associations of individuals with similar concerns but no direct influence or consequences, because they agree with the missions of those organizations and with the goals laid out to achieve those missions. This study is not concerned with why individuals join EMOs. Although that would be fascinating research, it is well covered (Clayton and Opotow 2003; Dunlap and McCright 2008; Fisher 2010; Gamson 1991; Routhe, Jones, and Feldman 2005; Scannell and Gifford 2013; Stedman 2002; Wilke 1999). This study examines organizations themselves, which is also well covered research territory (Brulle

2000; Cable and Benson 1993; Carmin 1999; Carmin and Balser 2002; Carter 2007; Cudworth 2002; Diani and Donati 1999; Dreiling and Wolf 2001; Johnson 2008; Johnson, Agnone, and McCarthy 2010; Rootes 1999; Rootes 2007; Saunders 2007; Schaffer and College 1995; Straughann and Pollak 2008); however, this study differs from these works in that it examines the relationship of scale as a product of organizational place-making to an organization's functional characteristics.

Part of uncovering the scale of an organization is in examining how its purpose is framed. Della Porta and Piazza (2007) posited that frames become the identities of organizations and how citizens identify with them. Do they also become the means by which organizational characteristics are negotiated and determined? For example, is an organization that is rooted in a local place, with a geographic scale reaching out to cover an area that bounds its roots, more likely to rely on volunteers or congressional lobbyists? What about an organization that is rooted in a global place, with a geographic scale reaching out to cover its planetary bounds? For this study, scale is viewed as a self-determined (determined by the organization) outcome of the process an organization undertakes to imbue itself with the identity it has chosen as its place of action. Organizational scales range from local to global, which relates to descriptions of environmental organizing as ranging from local to global. Brennan's (2006) local and global are the romantic and the cosmopolitan that look toward the future and the past, respectively. He contended that the old "need not give way to the new, nor be absorbed into it. Rather, it lies alongside it, ever available to be enlisted as critic or supporter, foe or friend" (145). This is the relationship that local organizing can have with global organizing. One is looking to change laws and perceptions for the future. The other is

looking to protect and conserve the integrity of existing environments. Is it more than simply local-to-global organizing? Is that organizational range influenced by local-to-global place-making and scale?

Moore (2008, 215) asked the epistemological question "what makes it more or less likely for particular scalar categorizations and frameworks to take hold in practice?" Moore talked about scales as ladders and scales as nesting dolls. Scale for this study is a hybrid because it is a ladder (separate rungs without hierarchy) that may be nested (interact with one another). This would morph the metaphor to perhaps resemble a chain of rings that increases in size. Each scale is linked to another through ideology or action or merely through the circumstance that they are environmental organizations. They may or may not interact with one another, but they are all necessary to carry out the purpose of the environmental movement. Based on Moore's notion that scale should be viewed in terms of process, he might say that instead of exploring the elements and boundaries of environmental organization scales, we should focus on the process of environmental organizing across scales – the spread of the movement from local to global.

Undertaking this examination of the relationships between organizations' functional characteristics and the role of scale as a product of organizational place-making in determining of those characteristics requires developing a method of investigation. Terms must be defined and operationalized, which includes defining an organizational scope of behavior determined from individual and grouped characteristics. Additionally, information must be organized and a means of analysis must be delineated that appropriately addresses the topic. The following chapter outlines this study's methods.

CHAPTER 4. METHODS

SELECTION OF ORGANIZATIONS

There are numerous methods of compiling EMOs for study. Researchers focused on understanding how local campaigns transition to national efforts have examined organizations through a selected local campaign or organizations within a particular locale (Della Porta and Piazza 2007; Kempton et al. 2001; Ozen 2009; Saunders 2007; Smith and Kurtz 2004; Stromsnes, Selle, and Grendstad 2009; and Usher 2013), based on newspaper articles concerning environmental topics (Carmin 1999), and through documentation of political agenda setting and lawmaking (Agnone 2007; Shaffer and College 1995). Researchers intent to examine EMOs as a whole have sampled in some way from the population of all US environmental organizations (Brulle 2000; Brulle et al. 2007; Johnson and Frickel 2011; Shaffer 2000; Straughan and Pollak 2008). Unfortunately, there is not yet an exhaustive listing of EMOs, so every study must cobble together its sample from an apparent population. This study is no different in that it is guaranteed to have missed organizations, but it is reasoned that by narrowing the assumed population based on a variable (in this case, an event: the Deepwater Horizon environmental disaster) that links the selected organizations, more of the narrowed population will be encompassed. This creates a case study instead of a randomly selected sample from the whole population of organizations; therefore, any results would only specifically apply to this case and these data. However, this case study reveals patterns and relationships that could lead to further study. Beyond the narrowed field, a rubric was developed to establish a second tier of selection. This was done to ensure that the

same level of information would be available for all organizations used for this project, which increases the potential strength of any comparisons.

For this study, an EMO is defined as a non-profit, 501(c)(3) organization that maintains as part of its mission the protection of – through education, public engagement, scientific research, or political advocacy – some aspect of the natural environment. An organization classified under 501(c)(3) of the Internal Revenue Code is a tax-exempt organization commonly referred to as charitable. A 501(c)(3) organization cannot be structured or operated to benefit private interests, and no amount of net earnings from the organization may benefit a private shareholder or individual. An organization classified as 501(c)(3) may participate in limited lobbying activities.[7] Organizations selected for this study were classified as 501(c)(3). EMOs of interest here are further defined, for the purposes of this study, as those that focused in whole or in part on responding to the Deepwater Horizon environmental disaster. It is expected that repeating this methodology with a different environmental disaster would necessitate re-defining EMOs based on the environmental disaster selected as a common link; although, organizations could still be selected according to their 501(c)(3) status.

EMOs were selected from the GuideStar Internet-based nonprofit database (*http://www.guidestar.org*), through snowballing from selected organizations, and through a basic Internet search. The GuideStar database contains information on over 2.2 million nonprofit organizations in the US, most of which are currently active organizations. The GuideStar database maintains information concerning the location of an organization, contact information, and an organization's website. It may also provide

[7] See the Exemption Requirements - Section 501(c)(3) Organizations Webpage on the Internal Revenue Service Website: (*http://www.irs.gov/Charities-&-Non-Profits/Charitable-Organizations/Exemption-Requirements-Section-501(c)(3)-Organizations*)

information concerning an organization's finances, mission statement, supported programs, and impact (via statements from the organization, independent reviews, and experts in the environment and philanthropy). Not all of the possible information is available for all of the organizations in the database, but not all of the possible information was needed for this study. The search terms used for the GuideStar database search comprised the following (Table 1).

Organizations selected through GuideStar database searches were used as starting points for snowball selection. For snowballing, organizations were located through an existing organization's website, usually through its "Links" webpage. Several organizations' websites contained pages listing their partners and other affiliated websites. To ensure inclusion of as many potential study organizations as possible, a basic Internet search was conducted as well. The search terms used were "environment + Gulf of Mexico" and "Gulf of Mexico + environmental issues." From the results, EMOs were selected. Any environmental movement organization that turned up in a search and met the second-tier selection criteria was included in the dataset. The criteria included that the organization must:

- be an EMO classified as 501(c)(3);
- have responded in some way to the Deepwater Horizon environmental disaster;
- maintain a website located on the Internet; and
- have had an available IRS 990 "Return of Organization Exempt From Income Tax" form (IRS Form 990) from 2010 or later.

Table 1. Search terms used to locate study organizations

"Texas"	"Louisiana"	"Alabama"	"Mississippi"	"Florida"
"Texas + Wetlands"	"Louisiana + Wetlands"	"Alabama + Wetlands"	"Mississippi + Wetlands"	"Florida + Wetlands"
"Texas + Gulf"	"Louisiana + Gulf"	"Alabama + Gulf"	"Mississippi + Gulf"	"Florida + Gulf"
"Texas + Ocean"	"Louisiana + Ocean"	"Alabama + Ocean"	"Mississippi + Ocean"	"Florida + Ocean"
"Texas + Environment"	"Louisiana + Environment"	"Alabama + Environment"	"Mississippi + Environment"	"Florida + Environment"

Whether an organization was located through GuideStar, snowballing, or the basic Internet search, all organizations selected for this study met the criteria included in the second-tier selection criteria. For example, an organization selected through the initial search was eliminated if it did not maintain a website. The initial search of organizations, including all tags and all three methods (GuideStar, snowballing, and basic Internet) revealed 226 organizations. That number was reduced to 74 using the second-tier selection criteria to eliminate organizations.

ORGANIZATION OF THE DATASET

For each of the organizations selected for this study, certain factors determined to help define the scope of an organization's behavior were located and inserted into a database. The database provided a means of organizing and reorganizing the different factors according to the variables they would help define. The master version of the database is included as an appendix to this document. Data were compiled that described each organization's general characteristics, mission, programs, finances, and structure. Data also described each organization's response to and activities around the Deepwater Horizon environmental disaster. Data were gathered from the most recently available

(2010 or later) IRS Form 990 and organization websites. The IRS Form 990 contains financial and programmatic information as well as information concerning an organization's professional characteristics. It is submitted annually by nonprofit organizations to demonstrate their tax-exempt status. Individual forms may contain dozens of pages of information, but not all of that information pertains to this research. Information contained on an organization's website can vary significantly and may include information similar to that included in the IRS Form 990 (Table 2). Beyond that, websites may also contain information about an organization's mission and goals, its programs, media releases, newsletters, and methods of outreach.

DEFINING THE SCOPE OF ORGANIZATIONAL BEHAVIOR

There are numerous ways to explore and define EMOs, and numerous organization-related variables exist that may be compared. Other research was concerned either with examining EMOs through comparisons of their structure and environmental discourse, through comparisons of their structure and behavior, or through the transformation of an environmental issue as it moves across the scales of the organizations involved. This study borrows characteristics of structure, discourse, and behavior and compares them across organizational scales. To do this, certain variables were defined and determined that characterized the scope of each organization's behavior. Defining the variables was partly based on Brulle's (2000) in-depth examination of EMOs exploring the relationship between organizational form and organizational discourse. His research was broad in scope and for the organizations studied, focused on relationships between mobilizing resources and organization size as

Table 2. Selected organization characteristics and source locations

Type of Information	IRS Form 990	Website
Year Founded	X	
Net Assets	X	
Mission of Organization	X	X
Paid Employees	X	
Reliance on Volunteers	X	X
Participate in Lobbying Activities	X	X
Participate in Political Campaigning	X	X
Support of Another Organization	X	
Grants Paid	X	
Organization Resources		X
Grants Received	X	
Organization Hierarchy	X	X
Salaries Paid / Employee Expenses	X	
Executive Director Salary	X	
Percentage of Support from Public	X	
Membership Dues Received	X	X
Existence of Chapters or Regional Offices	X	X
Newsletter Available		X
Organization Programs		X
Goals of Organization		X
Methods of Outreach		X
Media Releases		X
Location of Organization	X	X

well as discourse and practices. Defining the variables was also partly based on a model developed by McElroy and van Engelen (2012) for defining the scope of corporate sustainability functions.

McElroy and van Engelen developed three characteristics to define the programmatic scope of a corporate sustainability management function: (1) type(s) of activism undertaken; (2) goal-related area of impact; and (3) geographic and social reach. For this study, scope of organizational behavior is developed based on the three defining elements of McElroy and van Engelen's work, and this study adds a fourth element, the financial capacity of organizations. The four defining elements of an organization's

scope of behavior for this study are (1) organizational outreach, (2) motivation, (3) geographic scope and (4) financial capacity. Within those defining elements are eleven variables.

The first defining element of an organization's scope of behavior is organizational outreach, which is defined as the types or methods of activism adopted by an organization to achieve its mission and goals. This element consists of seven variables, each of which indicates a type of *outreach* adopted by one or more of the organizations under study. Outreach variables include organizations with education programs, organizations that focus on information gathering and dissemination, organizations that conduct monitoring and/or restoration, organizations that undertake policy campaigns, organizations that provide rescue and/or rehabilitation services, organizations that maintain research programs, and organizations that undertake grassroots campaigns. There are many different outreach activities that would not fit neatly into one of these seven variables; however, the categories were developed based on the outreach adopted by organizations included in this study, so all outreach activities appropriate for this study do fit into the seven variables. The variables were determined based on the outreach behavior available on organizations' websites. Not all organizations undertook all outreach variables, but many organizations undertook more than one.

The second defining element of an organization's scope of behavior is its *motivation*, which is defined as the predominant environmental focus and environmental discourse adopted by an organization. This element is made up of two variables, environmental focus and environmental philosophy. Each organization has its own point of view on the environment, what issues are important and how citizens should organize

to respond. For example, one organization may form around threats to an endangered species and another may form to protect a coastal wetland area. Both organizations may have coalesced in the same place but for different reasons – focused on different environmental issues. In addition, the first organization may address the issue of the endangered species from a viewpoint of protecting it while the second organization may address the issue of the coastal wetland area from a viewpoint of preserving it, a different (if subtle) philosophical viewpoint from protectionism.

The third defining element of an organization's scope of behavior is its *geographic scope*, which is defined as the extent of intended diffusion of influence adopted by the organization. Every environmental issue is based in some place, whether that place is the nesting site for the endangered species mentioned previously or the Amazon rainforest. Each of these places may exist as such for a group of citizens formally organizing on its behalf, and while the organizations may maintain their physical presences (offices, equipment, or employees) in places of equal size, the places of their intended influences are very different in terms of scale. One may reach across a place of perhaps 20 square miles and the other across more than 2 million square miles. Geographic scope is an expression of the scale of an organization, not necessarily in terms of size but in terms of geographic extent.

The fourth defining element of an organization's scope of behavior is *financial capacity*, which is an expression of the relative wealth of an organization. This element is a determinant of an organization's size because financial capacity allows an organization to hire staff, run a granting program, and contract experts in science and public policy. The more available funds an organization maintains, the better equipped it

is to grow. Financial capacity, along with the other scope-of-behavior elements, must be further defined and operationalized in order to be measured and examined for this study.

As with previous studies of EMOs, this research used a coding scheme that allowed a number of available characteristics to inform the variables under study (Brulle 2000; Lipset, Trow, and Coleman 1956; Michels 1959). For this study, organizations were categorized using the variables defining their behavior, which were determined by appropriate characteristics from the list (see Table 2) and information assembled through analysis of organizational documents. Many of the characteristics used in this study were similar to Brulle's (e.g., staff size and organizational mission and goals); however, this project used those characteristics and others to develop an organizational scope of behavior consisting of the four elements described above, outreach, motivation, geographic scope, and financial capacity, and their associated variables (Figure 1).

The four components of the scope-of-behavior model help to define an environmental movement organization, but it was expected that each element also informed and was informed by the others. For example, an organization's desired focus (part of its motivation) was expected to be associated to some extent with the types of activities it adopted as its outreach. Those two variables were expected to be associated with that organization's geographic scope, and all of it was expected to be associated with the financial capacity of that organization.

To test for those connections, each variable was first defined using a number of characteristics, through analyzing organizational documents from websites and IRS Forms 990 and through statistical procedures. Once the variables were defined, they

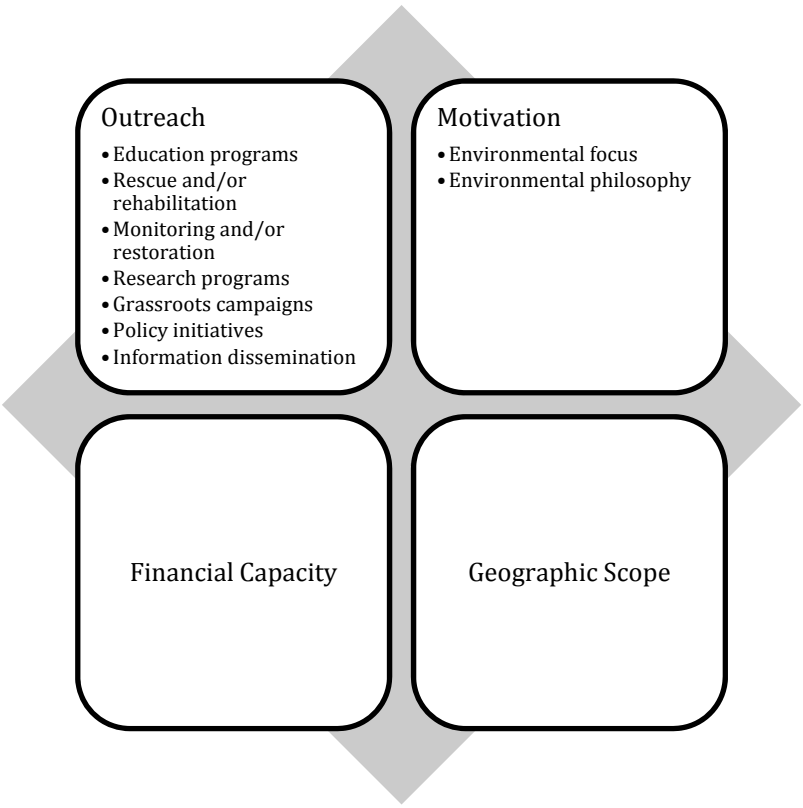

Figure 1. Organizational scope-of-behavior elements and their associated variables

were organized according to categories so they could be compared through statistical analysis. Finally, a set of statistical tests was performed to determine whether and to what extent scope-of-behavior variables were associated according to the data in this case study. Beyond basic analyses of association, it was hypothesized that place and scale, as represented by geographic scope, are more deeply associated with the three other scope-of-behavior elements. If an organization's intended geographic scope is associated with its financial capacity, its outreach activities, and its motivation, is it also able to inform those elements in some way? Does an organization's chosen place and scale have any predictive power over the other elements of its scope of behavior? To test this, further statistical analyses were performed.

The following sections further define the variables of the scope-of-behavior model for EMOs included in this study and list the characteristics used in their development. Descriptions are included to specify the ways in which the characteristics used to define the scope-of-behavior variables were interpreted. There were numerous possible characteristics that could have described organizations for this study, but only those that best defined the four variables of an organization's scope of behavior were used (see Table 2).

Organizational Outreach

An organization's outreach, its type or method of activism, is the way in which the organization chooses to use its resources to achieve its goals and support its mission. Activism can include organizing volunteers for a rally, soliciting members to write letters to government officials, or lobbying government officials. The organizational outreach variable in this study was developed from information available in organizational publications, in the IRS Form 990, through organizational websites, and through news reports and other media. Sources used to determine the organizational outreach variable included: mission of organization; goals of organization; participation in lobbying activities; grants paid; grants received; organization programs; and media releases. Some sources were straightforward because they were themselves types of outreach, as in whether an organization awarded grant monies. Some sources, however, required analyzing organizational documents to discern key words or phrases that could indicate outreach. From locating outreach types directly and constructing them through content analysis, seven categories of outreach were determined that ranged from conducting research to developing educational materials.

Organization Mission – An organization's mission statement may include information concerning the means by which that mission may be accomplished. In addition, intended actions may be inferred. Information concerning mission statements was gathered from organizations' websites unless it was available from IRS Forms 990.

Organization Goals – An organization's goals may highlight the activities undertaken to accomplish its mission and organizational programs. Information concerning goals was gathered from organizations' websites.

Lobbying Activities – An organization's participation in lobbying activities is a type of outreach. The IRS Form 990, from which lobbying data were gathered, requires organizations to indicate whether they carry out lobbying activities.

Grants Received – The grant monies received by organizations may be associated with certain action items or programs. The IRS Form 990 required information concerning any grant monies received by an organization, but the details offered by grant recipients varied. Information was used to relate to organizational outreach when it was available.

Grants Paid – Grant-making is a type of outreach and is also required on the IRS Form 990. In addition, an organization's grant-making program may offer insight into its preferred methods of action as well as being an action in itself.

Organization Programs – Organizational programs are the methods by which an organization takes action.

Methods of Outreach – The Internet is a method of outreach for all of the organizations under study, but there may be other methods. All methods of

reaching out to the public, industry, and government officials are methods of taking action. Within an organization's outreach activities, there may be information concerning other organizational activities.

Media Releases – In addition to being actions in themselves, media releases may also provide information concerning programmatic or other organizational activities.

Motivation

An organization's motivation provides a means of understanding how the organization came to be and has evolved. Its motivation is defined by two variables, its environmental focus and its activism philosophy. Environmental focus, for this research, is the part of the environment upon which an organization is founded. It grounds the organization's mission and goals. An organization may focus on affecting change for coastal issues while another may focus on wildlife rescue. A third organization may focus more broadly, with an eye on several environmental issues at once. Organizational philosophy, for this research, is the foundational ideology of the organization. It is the belief system upon which an organization's activism is built. Brulle (2000) calls this variable an organization's discourse. An organization's action may be built on a philosophy of protectionism, conservationism, preservationism, or scientific research for diffusing better understanding.

The organizations selected for this study responded to the Deepwater Horizon environmental disaster, so that narrowed the range of environmental impacts as defined by focus and philosophy. Each organization selected was definable in terms of its focus and philosophy. Information concerning those variables was located through analyzing

the contents of organizational websites and available media reports, looking specifically at organizations' missions, goals, programs, and newsletters. Trends were sought among the factors from which categories were developed for organizational focus and philosophy variables.

Organization Mission – An organization's mission statement may reveal its motivation simply through describing its mission. In that statement, an environmental focus may be revealed in the area of the environment upon which the organization intends to act. Organizational philosophy may be revealed in a description of the overarching approach an organization takes toward its focus. Information concerning mission statements was gathered from organizations' websites unless it was available from IRS Forms 990.

Organization Goals – An organization's overall or programmatic objectives can reveal its motivation. Like its mission statement, the goals statement may describe its underlying focus and philosophy as it describes the tangible goals it means to achieve in support of its mission. Information concerning goals was gathered from organizations' websites.

Organization Programs – A desired motivation can guide the programs undertaken by an organization. For example, a program designed to train citizens to sample area waterways stems from a protectionist philosophy focused on watersheds. Information concerning programs was gathered from organizations' websites.

Newsletter – An organization's newsletter can reveal its motivation through the subject matter chosen for articles, statements made by organization leaders, and

through solicitation of support and action. Newsletters were gathered from organizations' websites.

Geographic Scope

An organization's geographic scope defines the geographic footprint intended by that organization – the extent of its place of action. It is an indication of the intended diffusion of an organization's mission and its outreach. The geographic scope variable was developed from information presented in organizational publications, in the IRS Form 990, through organizational websites, and through news reports and other media. Factors that were assumed to indicate an organization's geographic scope included mission, goals, and programs, whether an organization paid out grants, maintained a volunteer program, released information to the press, and published a newsletter. Analysis of organizational documents uncovered trends among mission, goals, and programs. These factors were used to initially define the geographic scope variable. The last four factors (whether an organization paid out grants, maintained a volunteer program, released information to the press, and published a newsletter) were compared to the determined scope variable through comparing proportions of each factor across the categories of geographic scope.

Organization Mission – An organization's mission statement may define the geographic and social boundaries of its reach. For example, an organization with the mission of preventing a coal-fired power plant from being built in a township would likely self-limit its reach to that township. Information concerning mission statements was gathered from organizations' websites unless it was available from IRS Forms 990.

Organization Goals – An organization's goals may indicate the organization's desired audience, across space and the public. Information concerning goals was gathered from organizations' websites.

Organization Programs – A program undertaken by an organization may indicate an area of coverage, whether it is a program to conduct weekend counts of shorebirds at a local beach or an education program aimed at developing a curriculum for coastal ecosystem management. Each program has an intended geographic scope. Information concerning programs was gathered from organizations' websites.

Grants Paid – An organization that maintains a grant-making program influences the recipient of the awarded grant monies directly through the monetary award and indirectly through the type of project funded. Grant recipients, in turn, inform the geographic and social reach of the grant-making organization. In addition, it was suspected that being able to award grants to individuals or other organizations would indicate an extension of reach. Information concerning grant-making was gathered from IRS Forms 990.

Volunteers Program – An organization's volunteers are the organization's believers. These are the citizens who support an organization's mission and actively seek, without compensation, to help the organization achieve its goals. Information concerning the existence of volunteer programs was gathered from IRS Forms 990 and through analyzing the information contained on organizations' websites.

Media Releases – Media releases provide information about organizational programs and activities, and they are directed at particular targets. The information contained in press releases and whether an organization released information to the press at all may reveal an organization's geographic scope. Information concerning media releases was gathered from organizations' websites.

Newsletters – Newsletters are meant to disseminate programmatic and organization-related updates across an organizations' membership, supporters, and/or the interested public. They can reveal information concerning the spread of an organization's field of influence. Information concerning newsletters was gathered from organizations' websites.

Financial Capacity

An organization's financial capacity concerns the standing of an organization's resources in terms of finances and infrastructure. Six factors were analyzed concerning finances and business structure in order to define a variable for financial capacity. The factors included net assets, employee expenses, executive director salaries, membership dues received, existence of organization chapters, and existence of a volunteer program. Three of the factors used to define organizational wealth (net assets, employee expenses, executive director salaries) were gathered at the ratio level of measurement. That offered the ability to compare the factors in a more robust way than if they were nominal factors, so Spearman rank statistical analysis was used to test for correlation among the variables. All other factors were then compared through analyzing the proportions of each factor

across the categories for financial capacity. Data for these factors were obtained from available IRS Forms 990.

Net Assets – An organization's net assets was expected to provide a clear picture of its financial capacity. It was suspected that other financial indictors would be linked with reported net assets, making that variable a good starting point for defining the categories for organizational wealth. Information concerning an organization's reported net assets was gathered from IRS Forms 990.

Salaries Paid / Employee Expenses – The amount of money spent on employee salaries and other expenses may be an indication of its financial capacity, but it can also help determine whether employees are an important component of an organization's business structure. It can reveal what money is spent on the business of maintaining the organization. Information concerning an organization's employee expenses was gathered from IRS Forms 990.

Executive Director Salary – An organization may or may not have an executive director, which can reveal something about its structure, but the salary of an executive director can be an important indicator of the organization's financial capacity. Information concerning an organization's employee expenses was gathered from IRS Forms 990.

Membership Dues Received – Not all organizations require membership dues, but those that do will use those dues toward supporting the organization. Information concerning membership dues was gathered from IRS Forms 990 and through analyzing the contents of organizations' websites.

Existence of Chapters or Regional Offices – Some organizations are able to maintain regional offices around a state, country, or the world. Others have local or regional chapters that may have some level of autonomy – perhaps even complete autonomy – from the larger organization. Whether an organization is able to maintain regional offices or grow chapters may indicate its stability and financial capacity. Information concerning chapters and regional offices was gathered from IRS Forms 990 and organizational websites.

Volunteers Program – Volunteers can be integral to carrying out the mission of an organization and to achieving its goals. The existence of a volunteers program may indicate a structurally sound organization, but a reliance on volunteers may indicate diminished financial capacity. Information concerning the existence of volunteers programs was gathered from IRS Forms 990 and through analyzing the contents of organizations' websites.

DATA ANALYSIS METHODS

Within the context of the Deepwater Horizon environmental disaster, relationships between and among the four elements that define organizational scope of behavior were explored to determine the existence of and relative strengths of those relationships. Because data used for this study were not always immediately apparent, a series of content analyses was undertaken of organizational documents and information to draw useable factors from sources that could be used to ultimately define the scope-of-behavior elements made up of eleven variables. Factors used to define the variables were often only available at a nominal scale of measurement, which was conducive to categorization and limited statistical analyses. In one case, available data were of a

sufficient scale of measurement (ratio) to warrant a more powerful statistical procedure, Spearman rank. In a few other instances, variables were initially determined through qualitative analysis of certain factors and then compared to other factors through analysis of proportions.

Once the eleven variables were determined, statistical tests were performed to explore the relationships among them. These tests included chi-square analyses for independence between variables and Cramer's V analyses for strength of association between variables that were not independent of each other through chi-square analysis. In addition to Cramer's V, adjusted residuals analyses were also conducted to explore the individual associations between the paired categories within the paired variables. Finally, tests for predictability were performed between geographic scope (expressing place and scale for organizations) and each of the other elements of organizational scope of behavior.

Spearman Rank Correlation Coefficient

Spearman rank statistical analysis was performed to initially determine the variable for financial capacity. The test compares two sets of ranked data to determine whether and to what extent the sets are correlated. A Spearman rank correlation coefficient is between -1 and +1, with results compared to a distribution of values based on levels of significance. The correlation coefficient provides an indication of the strength of relationship between the compared sets of data. The null hypothesis states that the paired sets are independent, and the research hypothesis states that the paired sets are either directly or inversely related. The Spearman rank correlation coefficient is

calculated by dividing the sum of differences between pairs by the number of cases (Figure 2).

Spearman rank analysis was chosen because it was determined to be a better method for the ratio-level data gathered for financial capacity. Spearman rank was most appropriate because it is a nonparametric test. The data amassed for this case study do not represent a random sample from which inferences will be made about a population. As such, the assumptions required for parametric statistical techniques were not met, and a nonparametric procedure was required. Assumptions for the Spearman rank analyses used in this study include (1) the data consist of a systematically chosen sample of 74 pairs of ratio-level, monotonic values and (2) each pair of values represents the same unit of association. Spearman rank correlation analyses were performed between the following paired factors:

- reported net assets and employee salaries/expenses;
- reported net assets and executive director salaries; and
- employee salaries/expenses and executive director salaries.

Chi-Square Test for Independence

Once the eleven variables comprising the four elements of scope of behavior were established, chi-square tests for independence were performed between variable pairs. Chi-square analysis is performed to examine whether paired variables are associated. In chi-square analysis, observed frequencies between paired values from a given sample are compared to frequencies that would be expected if the variables were independent of each other. The observed and expected frequencies are used to calculate a chi-square test statistic, which is compared to values in a chi-square distribution (Figure 3).

$$r_s = 1 - \frac{6\Sigma d_i^2}{n(n^2 - 1)}$$

Where:
d_i = the difference between paired ranks; and
n = the number of cases

Figure 2. Spearman rank formula

$$\chi^2 = \sum \frac{(F_o - F_e)^2}{F_e}$$

Where:
F_o = observed frequencies; and
F_e = expected frequencies

Figure 3. Chi-square test for independence formula

A statistically significant result for chi-square analysis indicates only that the compared variables are not independent. It does not indicate a strength or direction of association. Assumptions for the chi-square test used for this study include (1) the data consist of a systematically chosen sample of 74 pairs of values; (2) the sampled observations are classifiable according to where they fall across categories for the paired variables; and (3) the variables tested are either inherently categorical, or categories were constructed for comparison. Chi-square analyses were performed between the following paired variables:

- each of the seven organizational outreach variables (education programs, information dissemination, monitoring/restoration, policy initiatives, rescue/rehabilitation, research programs, and grassroots campaigns) and geographic scope;

- each of the seven organizational outreach variables (education programs, information dissemination, monitoring/restoration, policy initiatives, rescue/rehabilitation, research programs, and grassroots campaigns) and financial capacity;
- each of the seven organizational outreach variables (education programs, information dissemination, monitoring/restoration, policy initiatives, rescue/rehabilitation, research programs, and grassroots campaigns) and both of the motivation variables (environmental focus and environmental philosophy);
- motivation as measured by environmental focus and motivation as measured by environmental philosophy;
- both of the motivation variables (environmental focus and environmental philosophy) and geographic scope;
- both of the motivation variables (environmental focus and environmental philosophy) and financial capacity; and
- geographic scope and financial capacity.

Cramer's V Test for Strength of Association

As previously stated, a statistically significant chi-square result does not indicate how strongly two variables are associated, only that they are associated. Because it increased the strength of this study, a follow-up test, Cramer's V (Figure 4), was performed for statistically significant chi-square results that provided an indication of the strength of association between associated variables. A Cramer's V test results in a value between 0.0 and 1.0, with a value greater than 0.5 representing a strong correlation

between the variables; a value from 0.3 to 0.5 representing a moderate association; a value from 0.1 to 0.3 representing a weak association; and a value from 0.0 to 0.1 representing little if any association.

Adjusted Residual Association

Similar to Cramer's V analysis, the calculation of adjusted residuals (Figure 5) tells more about associated variables than simply that they are associated, which is all that a chi-square test is able to reveal. Adjusted residuals help describe the nature of association between variable pairs that are determined through chi-square analysis to be associated. They give an indication of the difference between an observed frequency and an expected frequency (calculated as part of the chi-square test) while accounting for the overall sample size, which offers a means of determining what categories are most and least associated between variable pairs. This test, along with chi-square and Cramer's V, allows for a thorough and meaningful quantitative assessment of the variables tested.

Adjusted residuals can be positive or negative. They are positive when the observed frequency is greater than the expected frequency and negative when the observed frequency is less than the expected frequency. Calculated residuals are units of standard error above or below a frequency that would be expected if there were no association between the variables being compared. With them it is possible to see direction and strength of association within each cell of a contingency table.

Guttman's Coefficient of Predictability, Lambda, λ

This study explores the potential of geographic scope to predict the other elements of organizational scope of behavior. The four scope-of-behavior elements, including

geographic scope, are made up of nominal, categorical data, which narrows the options for statistical analysis. There is a test, however, that provides a nominal measure of the degree to which one variable may be accurately predicted with the knowledge of another, Guttman's coefficient of predictability, or Lambda (λ) (Figure 6).

Guttman's coefficient of predictability, or Lambda, produces a test statistic that ranges from 0.0 to 1.0. A statistic of 0.0 indicates that the independent variable does not have any predictive power over the dependent variable. A statistic of 1.0 indicates that the independent variable has perfect predictive power over the dependent variable. For this study, the independent variable is geographic scope, and the dependent variables are those associated with the other three elements of the scope of behavior model.

This study uses all of the quantitative tools described in this chapter along with the evaluation of available information on websites, news reports, and tax documents to examine EMOs. The methods to which this study adheres are scientific, clearly outlined, and repeatable. The following chapter describes the products of analysis.

$$Cramer's\ V = \sqrt{\frac{\chi^2}{\left(n(k-1)\right)}}$$

Where:
χ^2 = the calculated chi-square test statistic;
n = the sample size; and
k = the number of rows or the number of columns in the contingency table, whichever is smaller

Figure 4. Cramer's V formula

$$Adjusted\ Residual = \frac{F_o - F_e}{\sqrt{F_e \times p_{rt} \times p_{ct}}}$$

Where:
F_o = observed frequencies; and
F_e = expected frequencies
p_{rt} = proportion of row total
p_{ct} = proportion of column total

Figure 5. Adjusted residual association formula

$$\lambda = \frac{\sum f_i - F_d}{N - F_d}$$

Where
f_i = the largest frequency within each subclass of the independent variable;
F_d = the largest margin total of the dependent variable; and
N = the number of observations

Figure 6. Guttman's coefficient of predictability formula

CHAPTER 5. ANALYSIS

This study involves the identification of and characterization of an organizational scope-of-behavior model for EMOs based on a case study of environmental organizations that responded to the Deepwater Horizon environmental disaster. The model consists of eleven individual variables making up four behavioral elements, and each individual variable was assessed as it related to the other ten. In addition to testing for associations between the variables, the variable representing the spatial extent of organizational influence, geographic scope, was examined against the scope-of-behavior variables to which it was statistically associated to test its predictive power. The four elements that define organizational scope of behavior are (1) organizational outreach, (2) motivation, (3) geographic scope, and (4) financial capacity. Organizational outreach encompasses seven individual outreach types that serve as variables and reflect organizations' activities or approaches: organizations with education programs, organizations that focus on information gathering and dissemination, organizations that conduct monitoring and/or restoration, organizations that undertake policy initiatives, organizations that provide rescue and/or rehabilitation services, organizations that maintain research programs, and organizations that undertake grassroots campaigns. Motivation is comprised of two components that serve as variables – environmental focus and environmental philosophy. Geographic scope and financial capacity each represent one variable.

The eleven individual variables that make up organizational scope of behavior were compared using chi-square statistical analyses and, when appropriate, Cramer's V and adjusted residual association analyses, to determine whether and to what extent they

were associated with each other. When two variables were shown to be significantly associated based on the chi-square analysis results, a secondary Cramer's V test and an adjusted residual analysis were performed to determine the strength and direction of association. Cramer's V tests indicate strength of association and adjusted residuals indicate strength and direction of association between variables. There were 55 chi-square tests performed between the set of variables, and 15 of these were statistically significant. Of the 40 that were not statistically significant, 17 tests had a confidence level of at least 85%. Each variable defining an organization's scope of behavior was associated with at least one other variable.

The predictive capacity of *geographic scope* was examined by determining a coefficient of predictability for all variables that were significantly associated with *geographic scope*. There were four variables that were significantly associated with *geographic scope*, each at the 95% confidence level: *environmental focus*, *financial capacity*, *rescue/rehabilitation*, and *grassroots campaigns*.

This chapter illustrates the steps taken for analysis for this case study. The first part of this chapter details the process of defining the elements of organizational scope of behavior – from what sources data were gathered to build the four elements, how categories were determined to define the bounds of the elements, and how categories were ultimately validated before they were used in hypothesis testing. With the four elements of organizational scope of behavior defined, including the eleven variables associated with those elements, the second part of this chapter outlines the results of each of the statistically significant chi-square, Cramer's V and adjusted residuals tests performed as well as the tests performed to explore the predictive power of geographic

scope on the variables to which it is significantly associated. A full discussion of the results outlined in this chapter is reserved for Chapter 6.

SCOPE OF BEHAVIOR VARIABLES

Organizational Outreach

Organizational outreach, the way in which an organization chooses to use its resources to achieve its goals and support its mission, is perhaps the most important characteristic of an organization as it defines the public face and reputation of the organization and determines the extent to which the public is able to be involved in the organization. For this study, organizational outreach was explored within a set of major categories of outreach. Data gathered from organizational websites, blogs, newsletters, and IRS Forms 990 were reviewed to determine the major types of outreach undertaken by the selected organizations. To incorporate the environmental disaster linking the organizations under study, data sources were evaluated to determine outreach activities directly related to the disaster as well as those generally undertaken.

Organizational Outreach Variables

The measurement scale for organizational outreach data, which were organized through content analysis into seven major categories that were converted to variables for statistical analyses, was nominal (Table 3). An organization was assigned to a variable if the approach was offered as a method by which the organization accomplished its mission or goals, either in general or in response to the Deepwater Horizon disaster. Each category of outreach became a variable that was compared individually with other scope-of-behavior variables through the appropriate analyses.

Table 3. Organizational outreach variables

Outreach Category	Outreach Description
Information	Organization that: • produced publications and/or documentary films concerning issues related to its environmental focus or the environmental disaster • authored press releases related to its environmental focus and/or the disaster • published a blog related to its environmental focus • authored feature articles concerning its focus and/or the disaster
Policy Initiatives	Organization that: • solicited virtual volunteers to participate in initiatives (e.g., letter-writing campaigns) related to its mission and/or the environmental disaster • conducted policy work (e.g., lobbying) related to its mission and/or the environmental disaster
Education Programs	Organization that: • produced educational materials or fostered education programs as part of its mission • developed education materials concerning the disaster • hosted specific conferences or offered workshops related to its environmental focus and/or to the environmental disaster • offered training courses related to its environmental focus
Research	Organization that: • conducted scientific research in areas related to its environmental focus • sponsored and/or conducted research related to the environmental disaster • authored and/or published research reports
Monitoring / Restoration	Organization that: • conducted field monitoring and/or environmental restoration projects as part of its mission and/or in response to damage from the environmental disaster
Rescue / Rehabilitation	Organization that: • rescued wildlife as part of its mission and/or in response to the disaster • rehabilitated wildlife as part of its mission and/or in response to the disaster
Grassroots Campaigns	Organization that: • solicited physical volunteers to participate in initiatives (e.g., beach cleanup) related to its mission and/or the environmental disaster • held rallies or public protest events concerning the environmental disaster

During collection of outreach data, it became apparent that a number of outreach activities were undertaken by most of the selected organizations, including reporting on environmental events related to their missions and concerning the Deepwater Horizon disaster, publishing newsletters, and propagandizing to increase support. Because those activities were undertaken by almost all of the selected organizations, they were essentially non-varying, and as such they were not employed to enumerate organizational outreach approaches for quantitative analysis. These activities are understood to be common or general characteristics of the organizations in this case study.

While some outreach appeared to occur universally across organizations, there were a few outreach activities taken on by only a few organizations. Only 11 percent of the selected organizations performed rescue/rehabilitation activities (Figure 7). The number of organizations in this category may be low because it requires appropriate infrastructure. Specialized facilities and staff are required for handling and housing injured wildlife. It is beyond the scope of this study to fully examine the possible factors that influence an organization's outreach efforts, but it presents a possibility for future study.

Motivation

Determining organizations' areas of impact required examining the primary purpose and focus of each organization. These two characteristics are related, but they are not identical, so motivation was split into two aspects – environmental focus and environmental philosophy. Further analysis of each organization's mission statement and

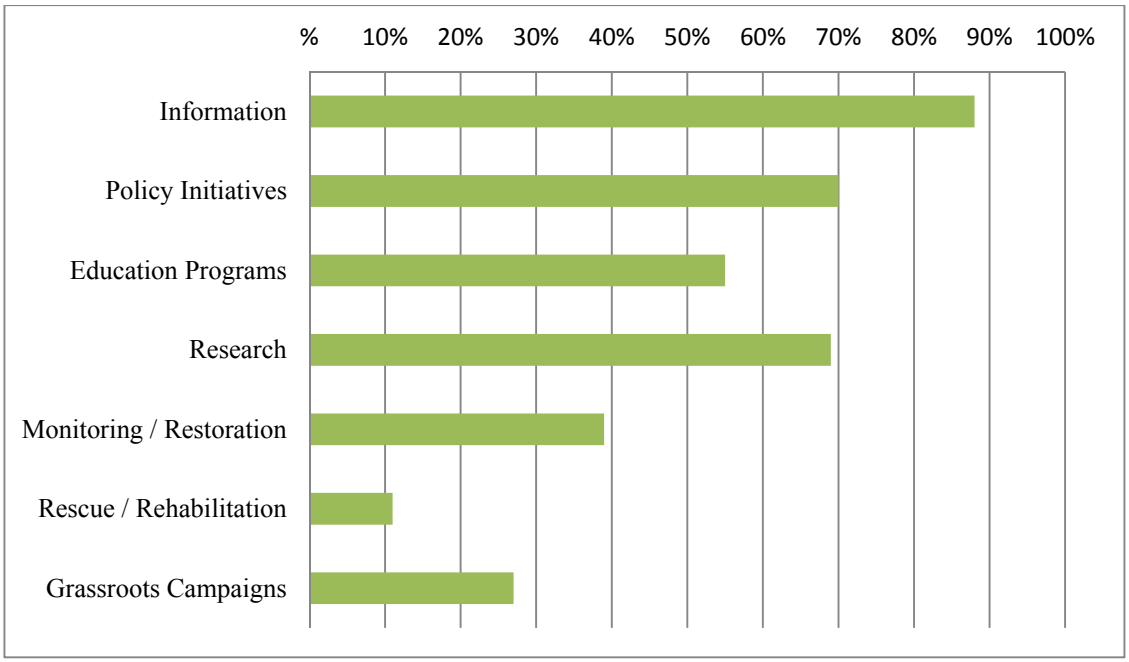

Figure 7. Percentages of organizations undertaking outreach types

goal statement helped determine the organization's environmental focus and the ways in which the organization acts upon that focus. Brulle (2000) defines it as an organization's discourse.

In general, organizations fell into one of eight categories in terms of their environmental focus: coastal, energy, general environmental, oceans, urban environment, watersheds, wildlife, and wildlife & habitat. Separating wildlife and wildlife & habitat was necessary in order to differentiate between organizations focused primarily on animal species and those focused on ecosystems. A majority of the organizations (66%) maintained a focus on either the general environment or on wildlife & habitat. An organization's environmental focus was deemed "general" if it either did not concentrate on a particular facet of environmental organizing or it focused across a spectrum of issues. The Environmental Defense Fund is an example of an organization with a general

environmental focus, having programs regarding climate and energy, oceans, ecosystems, and human health.

In addition to the eight focus categories, there were also five categories describing organizations' general philosophies of action: communication, conservation, preservation, protection, and research. No one philosophy of action stood out more than another for the organizations selected, although protection was adopted as a philosophy of action the most and preservation the least often. In order to compare them to the other variables making up organizational scope of behavior, organizational focus and philosophy were considered separately: comparisons were made between organizational philosophy and each scope-of-behavior variable as well as between organizational focus and each scope-of-behavior variable. The two variables define an organization's motivation as part of its scope of behavior.

Geographic Scope

The third defining element of an organization's scope of behavior is its geographic scope, which is the extent to which an organization intends to diffuse and extend its ideology and action. It is not an apparent variable, but one that must be determined from assessment of assembled data. As indicated in Chapter 4, several factors (an organization's mission, goals, and programs, whether an organization paid out grants, maintained a volunteer program, released information to the press, and published a newsletter) were assembled and analyzed to develop the geographic scope variable. Through analysis, it became apparent that certain factors more clearly or appropriately defined the geographic scope variable than others. The most obvious indicators of scope were found in an organization's statements of mission, goals, and programs. Four other

factors – publication of a newsletter, media releases, payments of grant monies to individuals or other organizations, and the operation of a volunteer program – were not obvious indicators of geographic scope, so the initial assembly of organizations into geographic scope categories did not reflect those factors.

Organizations were initially categorized using information extracted from the first three factors: mission, goals, and programs. The categorized organizations were then tested against the remaining four factors by calculating the proportions of each geographic scope category according to each of the four factors (e.g., the proportion of organizations in the geographic scope category that maintained volunteer programs), to determine whether they lent support to the categories. While the 74 organizations evaluated could be categorized across a broad range of geographic scope, the categories for the organizational scope variable were determined by using the environmental scales of the event, the Deepwater Horizon disaster, of interest here.

The scale of the disaster was global with respect to its implications for deep water oil exploration and fossil fuel use, as well for its potential direct impact on global marine ecosystems caused by the circulation of oil and chemical dispersants through the world ocean. The disaster was also regional in scale in that its greatest impacts were in the environments along the coastal zone of and in the Gulf of Mexico. The five Gulf Coast US states were affected directly by the disaster, although the Texas coast was impacted least. And the disaster was also local in scale. Oil spewed from a particular location in the Gulf of Mexico less than 50 miles south of Louisiana. As the oil and the chemical dispersants used to mitigate its damage spread, they arrived at new locations. The disaster fostered problems for the beaches and wetlands and habitats and livelihoods of

the localities it impacted along the coastline. Since the Deepwater Horizon disaster occurred at local, regional, and global scales, it is appropriate to expect that the data regarding the organizations under study would reveal those scales in terms of their geographic scope.

Local Organizations

Of the 74 organizations selected, eleven were classified as local in geographic scope. These were organizations that tended to be place-based in mission and action. Content analysis uncovered certain similarities for these organizations' missions, goals, and programs. The organizations with local geographic scope did not espouse ideologies focused on issues or efforts far from their bases of operation. Their missions, goals, and programs were largely place-based. Organizational missions often mentioned a local audience or place. Organizational goals focused on specific places or residents, often geared toward particular neighborhoods or communities. Finally, organizational programs took place in or targeted the local area.

Regional Organizations

There were 24 organizations that fell into the regional category in terms of their geographic scope. These organizations extended their missions and actions beyond those with local scope to a larger area. The missions and goals for regional organizations either did not mention specific places or their *place* was a large area—a particular state, coastal basin, or expanse of coastline. Organizational programs were broader in scope than a local place or local environmental issue, encompassing a larger impact area.

Global Organizations

The remaining 39 organizations are categorized as global in geographic scope. These organizations tended to have the largest scopes and many could be considered aspatial in ideology and effort. Their missions and goals were not place-based but were driven by ideals, with the purpose of affecting change on a national or global scale. Organizations in the global geographic scope category tended to direct major programs that focused on several different environmental issues instead of just one. The global scope category contained organizations that were actually global, but it also included organizations at the national level. Global scope, for this study, describes organizations with ideologies and efforts that extend beyond a regionally defined place, which includes national organizations.

Frequency Testing for Geographic Scope Categories

With the three scales of geographic scope determined, four remaining factors were tested against each. Three factors supported the scope categories (grant-making, publishing press releases, and having a volunteer program), and one did not (publication of a newsletter). Testing the factors involved calculating proportions for answers for each organization to the questions listed below.

- Did the organization grant money to individuals or other organizations?
- Did the organization have a volunteer program?
- Did the organization regularly publish a newsletter?
- Did the organization author press releases?

There is an apparent shift among the three geographic scope categories for grant making, press releases, and volunteer programs, and it shows that, for these data, publication of

newsletters does not obviously support the determined geographic scope categories (Table 4).

Grant making, press releases, and volunteer program rates changed as geographic scope was extended. The changes in granting and press releases makes it appear that organizations with greater scope are more likely to make grants available to individuals and other organizations and to publish press releases. The percentage of organizations that provided grants grew from 27 percent among local-scale organizations to 72 percent for organizations operating at the global scale, and the percentage of organizations that published press releases grew as well, although less dramatically. In reverse, it appears that organizations with greater scope are less likely to direct volunteer programs. The percentage of organizations that directed volunteer programs decreased from 82 percent at the local scale to just 44 percent at the global scale. The tracking of the three factors with the geographic scope categories seems apparent. As organizational scope extends, programs broaden, resources grow, and organizations become more capable of supporting external projects through grant funding. In addition, as organizational scope extends, missions and goals broaden beyond initiatives that would more easily utilize a base set of volunteers.

Unlike grant making, press releases, and volunteer programs, the factor for newsletter publication did not fully differ among scope categories. Based on the available data, it appears that most organizations, regardless of their relative scope, produce newsletters. Due to the lack of a pattern among the three categories, data for newsletters were not considered appropriate indicators of organizational scope.

Table 4. Proportions analysis to determine geographic scope

Geographic scope category	Regularly produced a newsletter	Published press releases	Provided grants to individuals or organizations	Maintained a volunteer program
Local	82%	45%	27%	82%
Regional	83%	54%	42%	71%
Global	85%	74%	72%	44%

Financial Capacity

An organization's financial capacity, as defined in Chapter 4, concerns the standing of its resources. To determine the relative financial capacity of the organizations in this study, six factors were analyzed concerning wealth and business structure. The factors included net assets, employee expenses, executive director salaries, membership dues received, existence of organization chapters or regional offices, and existence of volunteer programs. Data for these factors were obtained from available IRS Forms 990. Three of the factors, net assets, employee expenses, and executive director salaries, were assumed to track together. To determine whether this assumption could be supported, a series of nonparametric statistical tests was performed. Data for the three factors are in the form of ratios; however, the statistical test chosen was Spearman rank correlation analysis due to the absence of known population parameters. This study relies heavily on qualitative data analysis for the organizations selected based on one specific characteristic, their reaction to the Deepwater Horizon environmental disaster. The organizations studied were not a sample of a larger group of organizations, but are rather based on the meeting of a set of criteria: they maintained websites, an IRS Form 990 was available from 2010 or later, and they responded in some way to the Deepwater Horizon

disaster. A nonparametric test was considered to be the most appropriate, and Spearman rank was chosen because it is a test for bivariate correlation.

Spearman rank correlation analysis was performed between net assets and employee salaries, net assets and executive director salaries, and employee salaries and executive director salaries. Of the 74 organizations, 14 were removed from the Spearman rank analysis because data were unavailable for one or more of the three factors. Each of the 60 resulting organizations was ranked for each of the three factors. The difference between rank values between each factor was determined, and then the sum of the differences was squared for each comparison. The sums were inserted into the formula for Spearman rank analysis, and test statistics were determined.

Each Spearman rank analysis resulted in a test statistic of 1, which indicated a perfect positive correlation. Net assets were positively correlated with employee salaries and executive director salaries, and employee salaries were also positively correlated with executive director salaries. Since the three factors were found to track with each other among these organizations, the net assets factor was categorized so the remaining nominal-level factors (membership dues received, existence of organization chapters or regional offices, and existence of a volunteer program) could be tested. The organizations were categorized into four groups based on the net assets factor: organizations with reported net assets less than $100,000; those with reported net assets greater than $100,000 but less than $1 million; those with reported net assets greater than $1 million but less than $10 million; and those with reported net assets greater than $10 million. To be appropriate, the categories needed to reflect a legitimate separation of organizations' relative monetary strength. In addition, the categories were also intended

to reflect the distribution of organizations. The four categories satisfied both of these criteria. The first category of organizations with limited or negative assets, that is assets of less than $100,000, comprises 18 percent of the organizations. The second category of organizations with "moderate assets" includes groups with assets between $100,000 and $1 million and this comprises 23 percent of the organizations studied. The third category encompasses groups with "healthy assets" with more than $1 million but less than $10 million, comprises 35 percent. And the fourth category reflects groups with "unlimited assets" or those having greater than $10 million in assets. This group accounts for 24 percent of the organizations.

Proportions were calculated for the three remaining factors based on the four net assets categories, and patterns were detected for two of the factors (Table 5). The percentage of organizations requiring dues for membership increased as net assets increased, that is larger assets reflected a greater propensity for requiring dues. No percentage was less than 50 percent, which may show that membership in an organization is vital to support organizational function regardless of an organization's wealth. The percentage of organizations having chapters or regional offices also increased with the size of net assets, shifting from 15 percent to 61 percent along the continuum reflecting groups with the least and the greatest assets. Of the three factors, only volunteer programs was apparently not related to the size of net assets, but this was the only one of the six not directly related to an organization's business structure or finances. More than 50 percent of the selected organizations in every category had volunteer programs, which might indicate that volunteering is important for these environmental organizations regardless of their financial capacities.

Table 5. Proportions analysis to determine financial capacity

Financial capacity category	Received membership dues	Directed a volunteer program	Maintained organization chapters or regional offices
< $100,000	54%	62%	15%
> $100,000 and < $1 million	65%	59%	18%
> $1 million and < $10 million	77%	54%	42%
> $10 million	78%	61%	61%

Of the six factors used to define the financial capacity of organizations (net assets, employee expenses, executive director salaries, membership dues received, maintenance of organization chapters or regional offices, and existence of a volunteer program), the first three factors were positively correlated. Since the positive correlation was so strong, it was assumed that categories constructed using data for net assets could stand in for both employee expenses and executive director salaries. Of the three remaining factors, the two that were related to business structure or financial capacity (memberships and chapters/regional offices) positively tracked with the determined categories. It was necessary to define the financial capacity variable according to measureable data points (in this case, at the ordinal scale), and the strong positive relationships among all the of the business and financial factors analyzed for the selected organizations lent support to defining a scale of financial capacity according to reported net assets.

RELATIONSHIPS AMONG SCOPE-OF-BEHAVIOR ELEMENTS

The factors analyzed to determine organizational scope of behavior for this study were reduced to eleven variables: seven organizational outreach variables (information dissemination, policy initiatives, education programs, research programs,

monitoring/restoration, rescue/rehabilitation and grassroots campaigns), two motivation variables (environmental focus and environmental philosophy), geographic scope and financial capacity. To examine the role of the variables within the scope of behavior, they were compared through a series of chi-square tests for independence and, when appropriate, Cramer's V and adjusted residuals tests to determine strength and direction of association. The chi-square test was chosen because the variables were nominal and ordinal in their scales of measurement, and the goal was to determine whether the compared variables were associated with each other. Among the 55 chi-square tests for independence run among the eleven variables, 15 were statistically significant. These comparisons indicated that the variables paired were not independent of each other.

Statistically Significant Associations between Outreach Variables

Individual chi-square tests were performed between the seven outreach variables. A no-association null hypothesis was established between each pair, and a statistical significance threshold was set at 95% (α=0.05) for all the tests. Of the 21 comparisons between each outreach variable, only five were statistically significant. Secondary Cramer's V tests were performed for those, but strength of association was rather weak for all comparisons. Adjusted-residuals analysis was also performed on the associated variables to determine whether there was an apparent direction of association. The top numbers in each cell represent the observed frequencies, the middle numbers represent the calculated, expected frequencies, and the numbers in parentheses represent the calculated, adjusted residual scores.

Monitoring/Restoration and Grassroots Campaigns

With a calculated chi-square test statistic (χ^2) of 4.98, the null hypothesis of no-association between *monitoring/restoration* outreach and *grassroots campaigns* is rejected with a 97% degree of confidence (α=0.03) (Table 6). Although the test reveals a degree of association between the two variables, Cramer's V results indicate that the association is weak, with a test statistic of 0.26. Adjusted residuals reveal a positive association between the variables, with observed frequencies deviating from expected by 2.23 standard deviations. It appears that organizations that undertake monitoring/restoration as outreach are also likely to undertake grassroots campaigns.

H_0^1: The variable monitoring/restoration is independent of the variable grassroots campaigns for this case study.

Monitoring/Restoration and Rescue/Rehabilitation

With a calculated chi-square test statistic (χ^2) of 4.83, the null hypothesis that there is no association between *monitoring/restoration* outreach and *rescue/rehabilitation* outreach was rejected with a 97% degree of confidence (α=0.03) (Table 7). Cramer's V results indicate a weak association at 0.26, and adjusted residuals reveal a positive association between the variables, with observed frequencies deviating from the expected by 2.20 standard deviations. Results indicate that organizations that undertake monitoring/restoration as outreach were also likely to undertake rescue/rehabilitation outreach.

H_0^2: The variable monitoring/restoration is independent of the variable rescue/rehabilitation for this case study.

Table 6. Contingency table for outreach variables monitoring/ restoration and grassroots campaigns

Outreach Variables	Grassroots YES	Grassroots NO	Totals
Monitoring/Restoration YES	12 7.84 (2.23)	17 21.16 (-2.23)	29
Monitoring/Restoration NO	8 12.16 (-2.23)	37 32.84 (2.23)	45
Totals	20	54	74

χ^2=4.98; Cramer's V=0.26; calculated α=0.03

Table 7. Contingency table for outreach variables monitoring/ restoration and rescue/rehabilitation

Outreach Variables	Rescue / Rehabilitation YES	Rescue / Rehabilitation NO	Totals
Monitoring/Restoration YES	6 3.14 (2.20)	23 25.86 (-2.20)	29
Monitoring/Restoration NO	2 4.86 (-2.20)	43 40.14 (2.20)	45
Totals	8	66	74

χ^2=4.83; Cramer's V=0.26; calculated α=0.03

Rescue/Rehabilitation and Education Programs

The calculated chi-square test statistic (χ^2) was 3.74. Therefore, the null hypothesis of no association between *education programs* and *rescue/rehabilitation* outreach is rejected with 95% confidence (α=0.05) (Table 8). Cramer's V results indicate a very weak association at 0.22, and adjusted residuals reveal a positive association between the variables. Observed frequencies deviate from expected by 1.93 standard deviations.

H_0^3: The variable education programs is independent of the variable rescue/rehabilitation for this case study.

Table 8. Contingency table for outreach variables rescue/ rehabilitation and education programs

Outreach Variables	Rescue / Rehabilitation YES	Rescue / Rehabilitation NO	Totals
Education Programs YES	7 4.43 (1.93)	34 36.57 (-1.93)	41
Education Programs NO	1 3.57 (-1.93)	32 29.43 (1.93)	33
Totals	8	66	74

χ^2=3.74; Cramer's V=0.22; calculated α=0.05

Information Dissemination and Grassroots Campaigns

The calculated chi-square test statistic (χ^2) is 4.23 and therefore the null hypothesis of no association between *information dissemination* and *grassroots campaigns* is rejected with 96% confidence (α=0.04) (Table 9). Cramer's V results indicate a weak association at 0.24, and adjusted residuals reveal an inverse association between the variables. Observed frequencies deviate from expected frequencies by 2.20 standard deviations, indicating that organizations that disseminate information as a major outreach tactic are less to undertake grassroots campaigns.

H_0^4: The variable information dissemination is independent of the variable grassroots campaigns for this case study.

Information Dissemination and Policy Initiatives

As the calculated chi-square test statistic (χ^2) is 6.69, the null hypothesis of no association between *information dissemination* and *policy initiatives* is rejected with a 99% degree of confidence (α=0.01) (Table 10). Cramer's V results indicate a moderate association at 0.30, and adjusted residuals reveal a positive association between the

Table 9. Contingency table for outreach variables information dissemination and grassroots campaigns

Outreach Variables	Grassroots Campaigns YES	Grassroots Campaigns NO	Totals
Information Dissemination YES	15 17.57 (-2.06)	50 47.43 (2.06)	65
Information Dissemination NO	5 2.43 (2.06)	4 6.57 (-2.06)	9
Totals	20	54	74

χ^2=4.23; Cramer's V=0.24; calculated α=0.04

Table 10. Contingency table for outreach variables information dissemination and policy initiatives

Outreach Variables	Policy YES	Policy NO	Totals
Information YES	49 45.68 (2.59)	16 19.32 (-2.59)	65
Information NO	3 6.32 (-2.59)	6 2.68 (2.59)	9
Totals	52	22	74

χ^2=6.69; Cramer's V=0.30; calculated α=0.01

variables, with observed frequencies deviating from expected by 2.59 standard deviations. Results indicate that organizations that disseminate information as a major outreach tactic are likely to also undertake policy initiatives.

H_0^5: The variable information dissemination is independent of the variable policy initiatives for this case study.

Statistically Significant Associations between Motivation Variables

Environmental Focus and Environmental Philosophy

To determine whether the two variables that define an organization's motivation, *focus* and *philosophy*, are associated, a chi-square test was performed. As with the

previous chi-square tests, this one examined whether a null hypothesis of no-association (or independence) between the variables could be rejected. The threshold significance level was established at α=0.05, and the expected frequencies and a chi-square test statistic were calculated (Table 11).

> H_0^6: The variable environmental focus is independent of the variable environmental philosophy for this case study.

The chi-square test reveals a calculated level of significance of 0.02, which means that the null hypothesis of independence between the variables should be rejected. With statistical significance determined, a Cramer's V was performed to test for strength of association. The Cramer's V test statistic is 0.39, indicating a moderate association between focus and philosophy. Further analysis to determine a direction of association was performed. While no obvious patterns are detected within either focus or philosophy, it is apparent that the variables are associated. Adjusted residuals analysis indicates that organizations with a general environmental focus espoused a philosophy of communication by 3.07 standard deviations more than expected. Likewise, organizations focused on wildlife & habitat were philosophical preservationists more often than expected (adjusted residual of 3.24 standard deviations). Urban organizations were also preservation-oriented (2.89 standard deviations above expected), and ocean-focused organizations tended to be more research-based than expected.

Table 11. Contingency table for motivation variables environmental focus and environmental philosophy

Focus Categories	Communicate	Conserve	Preserve	Protect	Research	Focus Totals
Coastal	1 1.41 (-0.40)	2 1.62 (0.35)	0 0.86 (-1.04)	4 2.16 (1.55)	1 1.95 (-0.83)	8
Energy	0 0.35 (-0.66)	1 0.41 (1.06)	0 0.22 (-0.50)	0 0.54 (-0.87)	1 0.49 (0.86)	2
General	10 5.09 (3.07)	4 5.88 (-1.11)	0 3.14 (-2.40)	6 7.84 (-0.99)	9 7.05 (1.08)	29
Oceans	0 0.35 (-0.66)	0 0.41 (-0.72)	0 0.22 (-0.50)	0 0.54 (-0.87)	2 0.49 (2.53)	2
Urban	0 0.18 (-0.46)	0 0.20 (-0.51)	1 0.11 (2.89)	0 0.27 (-0.61)	0 0.24 (-0.57)	1
Watersheds	1 0.70 (0.40)	0 0.81 (-1.04)	1 0.43 (0.94)	1 1.08 (-0.09)	1 0.97 (0.03)	4
Wildlife	1 1.41 (-0.40)	3 1.62 (1.28)	0 0.86 (-1.04)	3 2.16 (0.71)	1 1.95 (-0.83)	8
Wildlife & Habitat	0 3.51 (-2.42)	5 4.05 (0.62)	6 2.16 (3.24)	6 5.41 (0.35)	3 4.86 (-1.14)	20
Philosophy Totals	13	15	8	20	18	74

χ^2=45.47; Cramer's V=0.39; calculated α=0.02

Statistically Significant Associations among Scope-of-Behavior Variables

Once variables within the two elements of organizational scope of behavior containing multiple variables were compared, all eleven variables were compared across the four elements. Analysis resulted in nine statistically significant associations given a threshold level of 95%. For those nine comparisons, Cramer's V and adjusted residuals analyses were performed to examine the characteristics of association. The following sections describe each significant association.

Rescue/Rehabilitation (Outreach) and Environmental Focus (Motivation)

The comparison between the outreach variable *rescue/rehabilitation* and the motivation variable *environmental focus* produced a chi-square of 16.80. The null hypothesis is therefore rejected with 98% confidence (α=0.02) (Table 12). Cramer's V test results indicate a moderate association between the variables, but adjusted residuals analysis does not reveal a clear direction or strength of association. There is, however, a strong association (3.78 standard deviations above expected) between wildlife as a focus and rescue/rehabilitation as an outreach tactic. Organizations focused on wildlife seem to choose rescue/rehabilitation as outreach.

> H_0^7: The variable rescue/rehabilitation is independent of the variable environmental focus for this case study.

Research (Outreach) and Environmental Philosophy (Motivation)

Comparing the outreach variable *research programs* to the motivation variable *environmental philosophy* resulted in a chi-square of 11.05, thus the null hypothesis is rejected with 97% confidence (α=0.03) (Table 13). Cramer's V test results indicate a moderate association between the variables. As with the previous comparison, adjusted-

residuals analysis shows a strong link (3.28 standard deviations above expected) between just one category pair, that between a research-based environmental philosophy and research as an outreach tactic.

> H_0^8: The variable research is independent of the variable environmental philosophy for this case study.

Policy Initiatives (Outreach) and Environmental Philosophy (Motivation)

The *policy initiatives* variable for organizational outreach was compared to the *environmental philosophy* motivation variable. A Chi-square test for independence and a follow-up Cramer's V were performed (Table 14). At a significance level of 0.05, the chi-square test statistic, χ^2=9.33 supports rejection of the null hypothesis. A Cramer's V test statistic (0.36) indicates a moderate association between the variables at 0.05. Adjusted-residuals analysis shows that most of the association between the variables is between *policy outreach* and *conservation philosophy* and *policy outreach* and *preservation philosophy*. There is a 2.24 standard error difference between observed and expected frequencies between policy and conservation frequencies and a 1.95 standard error difference between policy and preservation frequencies.

> H_0^9: The variable policy initiatives is independent of the variable environmental philosophy for this case study.

Grassroots Campaigns (Outreach) and Financial Capacity

The comparison between the outreach variable *grassroots campaigns* and *financial capacity* resulted in a chi-square test statistic of 8.77 and thus the null

Table 12. Contingency table for rescue/rehabilitation and environmental focus

Outreach Variable	Coastal	Energy	General	Oceans	Urban	Water-sheds	Wildlife	Eco-systems	Totals
Rescue / Rehabilitation YES	0 0.86 (-1.04)	0 0.22 (-0.50)	1 3.14 (-1.64)	0 0.22 (-0.50)	0 0.11 (-0.35)	0 0.43 (-0.72)	4 0.86 (3.78)	3 2.16 (0.71)	8
Rescue / Rehabilitation NO	8 7.14 (1.04)	2 1.78 (0.50)	28 25.86 (1.64)	2 1.78 (0.50)	1 0.89 (0.35)	4 3.57 (0.72)	4 7.14 (-3.78)	17 17.84 (-0.71)	66
Totals	8	2	29	2	1	4	8	20	74

χ^2=16.80; Cramer's V=0.48; calculated α=0.02

Table 13. Contingency table for research and environmental philosophy

Outreach Variable	Communication	Conservation	Preservation	Protection	Research	Totals
Research YES	8 8.96 (-0.63)	8 10.34 (-1.46)	5 5.51 (-0.42)	12 13.78 (-1.01)	18 12.41 (3.28)	51
Research NO	5 4.04 (0.63)	7 4.66 (1.46)	3 2.49 (0.42)	8 6.22 (1.01)	0 5.59 (-3.28)	23
Totals	13	15	8	20	18	74

χ^2=11.05; Cramer's V=0.39; calculated α=0.03

Table 14. Contingency table for policy initiatives and environmental philosophy

Outreach Variable	Communication Philosophy	Conservation Philosophy	Preservation Philosophy	Protection Philosophy	Research Philosophy	Totals
Policy Initiatives YES	8 9.14 (-0.76)	7 10.54 (-2.24)	8 5.62 (1.95)	14 14.05 (-0.03)	15 12.65 (1.39)	52
Policy Initiatives NO	5 3.86 (0.76)	8 4.46 (2.24)	0 2.38 (-1.95)	6 5.95 (0.03)	3 5.35 (-1.39)	22
Totals	13	15	8	20	18	74

Notes: χ^2=9.33; Cramer's V=0.36; calculated α=0.05

hypothesis is rejected with 97% confidence (α=0.03) (Table 15). Cramer's V test results indicate a moderate association between the variables. Adjusted-residuals analysis shows a clear inverse relationship between organizations with grassroots campaigns and net assets greater than $100,000 and less than $1 million, but reveals a positive relationship between organizations with grassroots campaigns and net assets greater than $1 million and less than $10 million. This was unexpected because organizations with fewer financial resources were thought to be more likely to undertake grassroots campaigns than those with greater resources.

H_0^{10}: The variable grassroots campaigns is independent of the variable financial capacity for this case study.

Education Programs (Outreach) and Financial Capacity

Comparison of the variable for the *grassroots campaigns* form of outreach to *financial capacity* produced a chi-square test statistic of 16.75, which leads to rejection of the null hypothesis with 99.9% confidence (α=0.001) (Table 16). A Cramer's V of 0.48 indicates a moderate association between the variables. Adjusted-residuals analysis shows a direct relationship between organizations with education programs and those with net assets up to $1 million, and an inverse relationship between organizations with education programs and net assets greater than $1 million. This is evidence that organizations are less likely to provide education outreach programs as their financial capacity increases.

H_0^{11}: The variable education programs is independent of the variable financial capacity for this case study.

Grassroots Campaigns (Outreach) and Geographic Scope

The comparison of the *grassroots campaigns* outreach variable to *geographic scope* reveals a statistically significant association. A chi-square of 8.49 leads to rejection of the null hypothesis with 99% confidence (α=0.01) (Table 17). The Cramer's V statistic is 0.34, indicating a moderate association between the variables. Adjusted-residuals analysis reveals frequencies of grassroots campaigns and local-reach organizations, and frequencies of grassroots campaigns and regional-reach organizations are slightly greater than expected. The frequency of grassroots campaigns and organizations with global scope, however, was significantly lower than expected. This indicates that local and regional organizations are more likely to take on grassroots campaigns than are global organizations.

H_0^{12}: The variable grassroots campaigns is independent of the variable geographic scope for this case study.

Rescue/Rehabilitation (Outreach) and Geographic Scope

The outreach variable for *rescue/rehabilitation* was compared to *geographic scope*, and their association is statistically significant. A chi-square of 6.70 rejects the null hypothesis with 96% confidence (α=0.04) (Table 18). The Cramer's V is 0.30, indicating a moderate association. When rescue/rehabilitation as outreach is compared to local and regional scope, the organizations are slightly more numerous than expected. However, the frequency of organizations with rescue/rehabilitation as outreach and global geographic scope was significantly lower than expected. These results indicate that local and regional organizations are more likely to take on rescue/rehabilitation activities than are global organizations.

H_0^{13}: The variable rescue/rehabilitation is independent of the variable geographic scope for this case study.

Environmental Focus (Motivation) and Geographic Scope

Comparing the variable *environmental focus* from the motivation set to the *geographic scope* of organizations results in a chi-square of 29.26. The null hypothesis is rejected with 99% confidence (α=0.01) (Table 19). A Cramer's V of 0.44 indicates a moderate association between the variables. Adjusted-residuals analysis reveals general trends between scope and focus for all categories except wildlife focus and wildlife & habitat focus, for which observed frequencies are very close to what was expected if there had been no association between the variables. The other environmental-focus categories fell obviously into a particular scope category. Based on adjusted residuals, organizations that focused on energy, urban issues, and watersheds tended to operate at the local scale. Organizations focused on coastal issues often fit into the regional-reach category. And organizations focused on general environmental issues and ocean issues had a global scope more often than expected.

H_0^{14}: The variable environmental focus is independent of the variable geographic scope for this case study.

Financial Capacity and Geographic Scope

Chi-square analysis was conducted to compare the variables *financial capacity* and *geographic scope* to determine whether relative wealth (categorized by reported net assets and supported by reported employee expenses, reported executive director salary, collection of membership dues, and existence of organizational chapters or regional offices) was independent of scope (determined by content analysis of mission, goals, and programs, and supported by the existence

Table 15. Contingency table for grassroots campaigns and financial capacity

Outreach Variable	Net assets < $100,000	Net assets > $100,000 and < $1 million	Net assets > $1 million and < $10 million	Net assets > $10 million	Totals
Grassroots Campaigns YES	5 3.51 (1.02)	1 4.59 (-2.24)	11 7.03 (2.18)	3 4.86 (-1.14)	20
Grassroots Campaigns NO	8 9.49 (-1.02)	16 12.41 (2.24)	15 18.97 (-2.18)	15 13.14 (1.14)	54
Totals	13	17	26	18	74

χ^2=8.77; Cramer's V=0.34; calculated α=0.03

Table 16. Contingency table for education programs and financial capacity

Outreach Variable	Net assets < $100,000	Net assets > $100,000 and < $1 million	Net assets > $1 million and < $10 million	Net assets > $10 million	Totals
Education Programs YES	9 7.20 (1.10)	15 9.42 (3.10)	13 14.41 (-0.69)	4 9.97 (-3.26)	41
Education Programs NO	4 5.80 (-1.10)	2 7.58 (-3.10)	13 11.59 (0.69)	14 8.03 (3.26)	33
Totals	13	17	26	18	74

χ^2=16.75; Cramer's V=0.48; calculated α=0.001

Table 17. Contingency table for grassroots campaigns and geographic scope

Outreach Variable	Local	Regional	Global	Totals
Grassroots Campaigns YES	5 2.97 (1.49)	10 6.49 (1.96)	5 10.54 (-2.90)	20
Grassroots Campaigns NO	6 8.03 (-1.49)	14 17.51 (-1.96)	34 28.46 (2.90)	54
Totals	11	24	39	74

χ^2=8.49; Cramer's V=0.34; calculated α=0.01

Table 18. Contingency table for rescue/rehabilitation and geographic scope

Outreach Variable	Local	Regional	Global	Totals
Rescue / Rehabilitation YES	3 1.19 (1.91)	4 2.59 (1.12)	1 4.22 (-2.41)	8
Rescue / Rehabilitation NO	8 9.81 (-1.91)	20 21.41 (-1.12)	38 34.78 (2.41)	66
Scope Totals	11	24	39	74

χ^2=6.70; Cramer's V=0.30; calculated α=0.04

Table 19. Contingency table for environmental focus and geographic scope

Focus Categories	Local	Regional	Global	Totals
Coastal	0 1.19 (-1.25)	7 2.59 (3.52)	1 4.22 (-2.41)	8
Energy	1 0.30 (1.42)	0 0.65 (-0.99)	1 1.05 (-0.08)	2
General	2 4.31 (-1.55)	7 9.41 (-1.22)	20 15.28 (2.25)	29
Oceans	0 0.30 (-.60)	0 0.65 (-0.99)	2 1.05 (1.36)	2
Urban	1 0.15 (2.41)	0 0.32 (-0.70)	0 0.53 (-1.06)	1
Watersheds	2 0.59 (2.03)	1 1.30 (-0.33)	1 2.11 (-1.14)	4
Wildlife	2 1.19 (0.85)	3 2.59 (0.32)	3 4.22 (-0.91)	8
Wildlife & Habitat	3 2.97 (0.02)	6 6.49 (-0.27)	11 10.54 (0.24)	20
Totals	11	24	39	74

χ^2=29.26; Cramer's V=0.44; calculated α=0.01

of volunteer programs and reported grant making). The statistical test was performed to test a null hypothesis that the two variables were independent (Table 20). The chi-square test statistic, χ^2=13.99 with a level of significance of 0.03, supports rejection of the null hypothesis that the organization's relative wealth is independent of its scope. The Cramer's V is 0.31, indicating a moderate correlation at α=0.03. The adjusted residuals scores indicate that there is a positive association between local geographic scope and net assets of less than $100,000. There is also a positive association between global geographic scope and net assets greater than $10 million. There are inverse associations between local scope and assets greater than $10 million and between global scope and assets less than $100,000.

> H_0^{15}: The variable financial capacity is independent of the variable geographic scope for this case study.

Statistically Insignificant Associations among Scope-of-Behavior Variables

Of the 55 tests for independence conducted, 40 tests were determined to not produce statistically significant results because their confidence levels were above the established threshold of 95% (α=0.05) (Table 21). Although these comparisons were not statistically significant, there were 17 (bold alphas in the table) that would have been statistically significant at a level of significance of 85% (α=0.20). The 40 comparisons that failed to reach a 95% level of significance were examined further.

Table 20. Contingency table for the variables financial capacity and geographic scope

Net Assets	Local	Regional	Global	Assets Totals
< $100,000	5 1.93 (2.63)	4 4.22 (-0.14)	4 6.85 (-1.74)	13
> $100,000 and < $1 million	3 2.53 (0.37)	8 5.51 (1.47)	6 8.96 (-1.64)	17
> $1 million and < $10 million	3 3.86 (-0.59)	8 8.43 (-0.22)	15 13.70 (0.63)	26
> $10 million	0 2.68 (-2.04)	4 5.84 (-1.06)	14 9.49 (2.45)	18
Scope Totals	11	24	39	74

χ^2=13.99; Cramer's V=0.31; calculated α=0.03

Table 21. Calculated alpha values for scope-of-behavior variable comparisons with no statistical significance

Variable 1	Variable 2	α
Education programs	Research programs	0.38
Education programs	Monitoring/restoration	0.16
Education programs	Grassroots campaigns	0.63
Education programs	Environmental focus	0.18
Education programs	Environmental philosophy	0.40
Education programs	Geographic scope	0.09
Environmental focus	Financial capacity	0.09
Environmental philosophy	Geographic scope	0.11
Environmental philosophy	Financial capacity	0.14
Grassroots campaigns	Environmental focus	0.49
Grassroots campaigns	Environmental philosophy	0.51
Information dissemination	Education programs	0.15
Information dissemination	Research programs	0.09
Information dissemination	Monitoring/restoration	0.07
Information dissemination	Rescue/rehabilitation	0.24
Information dissemination	Environmental focus	0.23
Information dissemination	Environmental philosophy	0.06
Information dissemination	Geographic scope	0.10
Information dissemination	Financial capacity	0.12
Monitoring/restoration	Environmental focus	0.07
Monitoring/restoration	Environmental philosophy	0.41
Monitoring/restoration	Geographic scope	0.11
Monitoring/restoration	Financial capacity	0.47
Policy initiatives	Education programs	0.92
Policy initiatives	Research programs	0.08
Policy initiatives	Monitoring/restoration	0.47
Policy initiatives	Rescue/rehabilitation	0.61
Policy initiatives	Grassroots campaigns	0.55
Policy initiatives	Environmental focus	0.33
Policy initiatives	Geographic scope	0.32
Policy initiatives	Financial capacity	0.07
Rescue/rehabilitation	Grassroots campaigns	0.48
Rescue/rehabilitation	Environmental philosophy	0.50
Rescue/rehabilitation	Financial capacity	0.77
Research programs	Monitoring/restoration	0.99
Research programs	Rescue/rehabilitation	0.22
Research programs	Grassroots campaigns	0.12
Research programs	Environmental focus	0.46
Research programs	Geographic scope	0.13
Research programs	Financial capacity	0.08

GEOGRAPHIC SCOPE AS AN INDEPENDENT VARIABLE

A significant aspect of this case study was the exploration of *geographic scope* and whether it had any predictive power over the other scope-of-behavior variables. A coefficient of predictability using lambda (see Figure 6) was determined for the relationship between *geographic scope* and the variables to which it was found to be significantly associated through chi-square analysis. Of the ten possible statistically significant associations, only four actually were: *environmental focus*, *financial capacity*, *rescue/rehabilitation*, and *grassroots campaigns*.

The test for lambda generates a value between 0.00 and 1.00 and represents the degree to which a variable can be predicted with a known independent variable. A result of 0.00 is an indication that there is no predictive power, and a result of 1.00 indicates that there is a straight-forward relationship. The chi-square comparison between *geographic scope* and *environmental focus* produced an alpha of 0.01, which is highly significant. The calculated lambda (λ=0.02), however, indicated that the entire scope of *geographic scope* was essentially not predictive of an organization's environmental focus. The coefficient of predictability between *geographic scope* and *financial capacity* was not much better (λ=0.04). Comparisons between *geographic scope* and *rescue/rehabilitation* and between *geographic scope* and *grassroots campaigns* also produced coefficients of predictability that effectively indicated that there was no apparent statistical relationship (λ=0.00) between either one of the variables and geographic scope.

CHAPTER 6. DISCUSSION

The previous chapter described and detailed the analyses used to determine the eleven variables that comprise the four elements of organizational scope of behavior, the nominally scaled categories within each variable, and the four statistical tests used to examine the relationships between individual variables and possibilities of predicting variables based on a geographic component. That component for this study was *geographic scope*. Variables were tested using the chi-square test for independence. Of the 55 chi-square tests run for this study, 15 were statistically significant. For those, follow-up tests were performed to determine strength and direction (Cramer's V and adjusted residuals analysis) of association. Those variables that were significantly associated with *geographic scope* were tested to determine the relative predictability of that variable within this study. This chapter discusses the results of the statistical analyses performed between variables, which were outlined in the previous chapter.

STATISTICALLY SIGNIFICANT PAIRED VARIABLES

This portion of the discussion is organized according to the significant associations within and among the variables comprising organizational scope of behavior: organizational outreach (*information dissemination*, *policy initiatives*, *education programs*, *research programs*, *monitoring/restoration*, *rescue/rehabilitation*, and *grassroots campaigns*), motivation (*environmental focus* and *environmental philosophy*), *financial capacity*, and *geographic scope*. For each associated pair of variables, the follow-up tests, Cramer's V and adjusted residuals analysis, are discussed to clarify the relationships between the variables. Furthermore, the raw data were examined, including related information about the organizations under study and information related to the

other variables making up organizational scope of behavior, to help draw out connections that may exist between the compared variables as well as the categories used to define them for this study.

Individual Outreach Variables

The first variables compared were the seven comprising the organizational outreach element of organizational scope of behavior. It was expected that organizations that were similar in geographic scope and other scope-of-behavior elements would be similar in terms of all of the variables under consideration, including outreach. Of the 21 statistical comparisons among the outreach variables (*information dissemination*, *policy initiatives*, *education programs*, *research programs*, *monitoring/restoration*, *rescue/rehabilitation*, and *grassroots campaigns*), only five comparisons are significantly associated. Although the chi-square tests for independence are statistically significant, follow-up Cramer's V tests show that the association is weak for all but one of the outreach variable pairs. However, adjusted residuals analysis indicates a significant strength and direction of association for four of the outreach pairs. The data were further analyzed to explore the relationships and trends between the organizations in each statistically significant comparison. This section discusses the five significant outreach associations in statistical and qualitative terms.

The outreach variable for *monitoring/restoration* outreach was significantly associated with two other outreach variables, *grassroots campaigns* and *rescue/rehabilitation*, through statistical analysis. There were 29 organizations that indicated they undertook monitoring and/or restoration activities, and those organizations tended to be concerned with environmental protection, conservation, and research. The

organizations with monitoring and/or restoration activities were larger in geographic scope as well; only five of the 29 organizations were local groups. Analyses to determine whether and how the variable *monitoring/restoration* outreach is associated with the variable *grassroots campaigns* outreach indicate an association, but the Cramer's V value indicates it is a weak association. Adjusted residuals scores for strength and direction of association indicate that organizations that incorporate monitoring and/or restoration activities into their outreach are more likely to also take on grassroots campaigns and vice versa.

A comparison of the data for both variables shows similarities that may support statistical significance. Organizations that indicated grassroots outreach were generally regional in geographic scope with reported assets between $1 million and $10 million, and organizations that indicated monitoring and/or restoration outreach were similar. The twelve organizations that indicated they conducted both grassroots campaigns and monitoring and/or restoration as outreach (Table 22) were predominately classified as having regional geographic scope and typically had net assets between $1 million and $10 million. In addition, those organizations were predominately classified as having environmental philosophies concerned with protection.

Statistically, the association between the outreach variables *monitoring/restoration* and *rescue/rehabilitation* was nearly equivalent to the association between *monitoring/restoration* and *grassroots campaigns*. There is a statistically significant association according to the chi-square test, but the Cramer's V test shows that

Table 22. Organizations indicating both monitoring/restoration and grassroots campaigns outreach

Organization
Alabama Coastal Foundation
Birmingham Audubon Society
Coalition to Restore Coastal Louisiana
Coastal Bird Conservation / Conservian
Earth Watch
Gulf Restoration Network
Institute of Marine Mammal Studies
Lake Ponchartrain Basin Foundation
Land Trust of the Mississippi Coastal Plain
Louisiana Bucket Brigade
Nature Conservancy
Sea Turtle Conservancy

the association is weak. The adjusted residuals show a significant positive association, with an adjusted residual score of 2.20. Comparing the variables directly reveals that 75 percent (six out of eight) of the organizations that indicated outreach activities related to rescue and/or rehabilitation also indicated activities related to monitoring and/or restoration (Table 23). Most of the organizations that indicated both forms of outreach were local or regional in geographic scope; only one was global in scope. The organizations with both forms of outreach ranged in financial capacity, but 67 percent reported assets of at least $1 million. The association between the two outreach variables seems to lie heavily in their environmental focus. All but one of the six organizations with both forms of outreach was focused on wildlife and wildlife habitat.

Table 23. Organizations indicating both monitoring/restoration and rescue/ rehabilitation outreach

Organization
Conservancy of Southwest Florida
Ducks Unlimited
Institute of Marine Mammal Studies
Sea Turtle Conservancy
Texas Wildlife Rehabilitation Coalition
Wildlife Center of Texas

Based on analysis of the data beyond statistical testing, it appears that monitoring and/or restoration outreach is associated with rescue and/or rehabilitation outreach in terms of organizations' concentrations on local and regional geographic scope and their focus on wildlife and wildlife habitat. Since both forms of outreach, in reality, are related, an association between these variables was expected. Monitoring and restoration are often applied to specific places and/or particular species, and rescue and rehabilitation are almost exclusively linked to species. The only scope-of-behavior element that did not show some kind of trend between the two variables was environmental philosophy, which varied between research, conservation, and protection for the six organizations that indicated both outreach variables. Like the association between *monitoring/restoration* and *grassroots campaigns*, the association between *monitoring/restoration* and *rescue/rehabilitation* was supported through further examination of the data. Unfortunately, very few organizations in this study performed rescue and/or rehabilitation outreach. This could reflect data collection techniques; however, it is more likely that there are not many environmental rescue/rehabilitation organizations.

Among the outreach variables, *education programs* and *rescue/rehabilitation* were statistically associated through chi-square analysis. Follow-up tests for strength and

direction reveal that there is not a strong association between the variables and no significant directionality. A closer look at the variables reveals certain trends that may have led to the statistical association. *Rescue/rehabilitation*, as previously mentioned, was only indicated by eight organizations. Those organizations varied according to all of the scope-of-behavior elements but one, environmental focus, for which 88 percent of the applicable organizations indicated a focus on wildlife or wildlife habitat. Organizations with education outreach activities appeared to share more characteristics. These organizations predominantly indicated the *wildlife & habitat* and *general* categories within the environmental focus variable, and most of the organizations were regional or global in geographic scope. Of the 41 organizations indicating education outreach, only about 10 percent reported net assets under $10,000. This would seem to indicate, at least evident in these data, that a certain amount of financial capacity is required to provide education programs as outreach.

Of the seven organizations that provided both education outreach and rescue/rehabilitation outreach (Table 24), a slight majority (57 percent) was focused on wildlife. This is likely due to the emphasis that rescue/rehabilitation efforts place on wildlife and because there are relatively few organizations undertaking that form of outreach. In addition to their focus on wildlife, the seven organizations offering both education and rescue/rehabilitation outreach tended to have regional geographic scope and at least $1 million in net assets. These factors likely underpin the statistically significant association between variables, but they are not enough to reflect a strong association.

The outreach variable *information dissemination* is significantly associated with two other outreach variables, *grassroots campaigns* and *policy initiatives*. The association between the *information dissemination* and *grassroots campaigns* variables is of minimal strength according to the Cramer's V test, but adjusted residuals scores indicate where the association is strongest between the variables. There is an inverse association between the variables, meaning that organizations with both information outreach and grassroots outreach (Table 25) occurred less often than expected by 2.06 standard deviations. Comparing *information dissemination* to *policy initiatives* was the only paired test among the outreach variables with more than a weak Cramer's V test statistic. The adjusted residuals test is also significant between the two, with a positive association between organizations claiming both forms of outreach (Table 26).

Further investigation of the two sets of compared outreach variables (*information dissemination* and *grassroots campaigns* and *information dissemination* and *policy initiatives*) reveals that, in both cases, a large majority of organizations with either grassroots or policy outreach also disseminated information as outreach. The data show that 75 percent of the organizations that indicated grassroots campaigns as outreach and 94 percent of those that indicated policy initiatives as outreach also indicated information dissemination, meaning that only a few organizations with grassroots campaigns did not indicate that they also used information dissemination as outreach, and even fewer organizations with policy initiatives did not indicate information dissemination. In each case, comparing organizations indicating both forms of outreach (*grassroots campaigns* and *information dissemination* or *policy initiatives* and *information dissemination*) across

Table 24. Organizations indicating both rescue/ rehabilitation and education programs outreach

Organization
Conservancy of Southwest Florida
Ducks Unlimited
Florida Wildlife Federation
Institute of Marine Mammal Studies
Sea Turtle Conservancy
Texas Wildlife Rehabiliation Coalition
Wildlife Center of Texas

Table 25. Organizations indicating both information dissemination and grassroots campaigns outreach

Organization
Audubon Florida
Coalition to Restore Coastal Louisiana
Deep South Center for Environmental Justice
Earth Justice
Earth Watch
Florida Wildlife Federation
Friends of the Earth
Green Light New Orleans
Gulf of Mexico Alliance
Gulf Restoration Network
Institute of Marine Mammal Studies
Lake Ponchartrain Basin Foundation
Louisiana Bucket Brigade
Nature Conservancy
Sea Turtle Conservancy

Table 26. Organizations indicating both information dissemination and policy initiatives outreach

Organization	
American Fisheries Society	Lake Ponchartrain Basin Foundation
Audubon Nature Institute	Louisiana Bucket Brigade
Blue Ocean Institute	Louisiana Environmental Action Network
Center for Biological Diversity	Louisiana Wildlife Federation
Coalition to Restore Coastal Louisiana	Marine Environmental Sciences Consortium
Coastal Conservation Association	Mobile Baykeeper
Conservancy of Southwest Florida	National Marine Sanctuary Foundation
Conservation International	National Resources Defense Council
Consortium for Ocean Leadership	National Wildlife Federation
Deep South Center for Environmental Justice	Nature Conservancy
Defenders of Wildlife	Ocean Conservancy
Ducks Unlimited	Oceana
Earth Island Institute	Pew Research Institute
Earth Justice	Resources for the Future
Ecological Society of America	Restore America's Estuaries
Environment Texas Research and Policy Center	Sanctuary Friends of the Florida Keyes
Environmental Defense Fund	Sea Turtle Conservancy
Environmental Law Institute	SeaWeb
Environmental Working Group	Second Nature
Florida Wildlife Federation	Solutions to Avoid Red Tide
Friends of the Earth	Urban Conservancy
Gaining Ground Sustainability Institute of Mississippi	Water Environment Federation
Gulf of Mexico Alliance	World Resources Institute
Gulf Restoration Network	World Wildlife Fund
Izaak Walton League of America	

the other scope-of-behavior elements is analogous to omitting information dissemination from each and just looking at *grassroots campaigns* or *policy initiatives* alone. For example, 60 percent of organizations with policy outreach expressed global geographic scope, compared to 61 percent of the organizations with both policy and information outreach. The policy and information variables tracked together according to all of the other scope-of-behavior elements (i.e., similar proportions according to categories within each variable comparison) except environmental philosophy. This trend can be traced to the fact that these variables represented large proportions of the organizations in the study. There are 52 organizations that indicated *policy initiatives* as outreach and 65 that indicated *information dissemination* as outreach out of the 74 organizations. As previously mentioned, 94 percent (or 49) of the policy organizations are also information organizations, making it possible for only three of the policy organizations to deviate from information organizations across the other scope-of-behavior elements.

Of the five statistically significant associations among the seven variables that comprise the outreach element of the organizational scope-of-behavior model for this study, only one association shows moderate strength according to the follow-up Cramer's V test, but four showed significant associations within the paired categories according to adjusted residuals analysis. It is also possible to discern links between the variables that could help explain their statistical association. All of the associated variables trended in terms of geographic scope, and all of the relationships were positive except between *information dissemination* and *grassroots campaigns*, which are inversely associated. All of the outreach variable comparisons trend according to financial capacity, but only three pairs trend together according to environmental focus, (1) *monitoring/restoration* and

rescue/rehabilitation, (2) *education programs* and *rescue/rehabilitation*, and (3) *information dissemination* and *policy campaigns*. Only compared outreach variables *information dissemination* and *policy campaigns* trended according to all other scope-of-behavior elements. That was also the pairing with the strongest statistical significance, with a calculated level of significance (α=0.01), a Cramer's V statistic of 0.30, and the strongest adjusted residuals of the outreach variable pairings.

Motivation Variables

The second element of the scope-of-behavior model, motivation, was separated into two variables, *environmental focus* and *environmental philosophy*. It was expected that these variables would be significantly associated because the two concepts are related. Not only did chi-square analysis reveal strong statistical significance, but the Cramer's V statistic is 0.39, which indicates a moderate association between the variables. Adjusted residuals analysis, however, reveals that much of the strength in association is due to just a few paired categories (see Table 11). With a statistic of 3.07 standard deviations above expected, the environmental focus category *general* and the environmental philosophy category *communication* were highly positively associated (Table 27). The association seems intuitive and is reflected in an organization like Environmental Defense Fund that spreads its resources across a number of environmental issues, making communication the most appropriate organizational philosophy. Environmental Defense Fund relies on internal scientific inquiry, building partnerships across the industry/environmental divide, and affecting policy decisions concerning environmental issues from climate change to ecosystem health. Effective communication of the various environmental issues undertaken by an organization like Environmental

Defense Fund, from communicating the science supporting a particular stance to communicating incentives for change, is vital. Making broad environmental changes (the *general* category of the environmental focus variable) would seem to require the broadest means of impact (of the *communication* category of the environmental philosophy variable).

Adjusted residuals scores are also high between the focus category *urban* and the philosophy category *preservation* (2.89), between the focus category *general* and the philosophy category *preservation* (-2.40), between the focus category *oceans* and the philosophy category *research* (2.53), between the focus category *wildlife & habitat* and the philosophy category *communication* (-2.42), and between the focus category *wildlife & habitat* and the philosophy category *preservation* (3.24). The high scores for urban focus and preservation philosophy can be explained by the circumstance that there is just one organization of the 74 included in this study that is focused exclusively on urban environmental issues. Similarly, only two organizations were classified as having an ocean-issue focus, although both of them maintained research philosophies. The remaining three paired categories with significant adjusted residual scores (general focus and preservation philosophy, wildlife & habitat focus and communication philosophy, and wildlife & habitat focus and preservation philosophy) cannot simply be explained because of low numbers.

Table 27. Organizations indicating a focus on general environmental issues and a philosophy of communication

Organization
Citizens Environmental Coalition Educational Fund
Conservation International
Environmental Law Institute
Friends of the Earth
Gaining Ground Sustainability Institute of Mississippi
Louisiana Environmental Action Network
Propublica
Second Nature
Society of Environmental Journalists
Truth Out

Of the eight organizations with *preservation* philosophies, six focus on *wildlife & habitat* and none has a general focus (Table 28). Environmental preservationism is, by definition, directed at maintaining a perceived quality, and preservation of that quality is fixed on a particular place or thing. An environmental focus on wildlife & habitat would naturally fit within an environmental philosophy of preservation, which supports the high adjusted residual value of 3.24. A general environmental focus, however, is not one that concentrates on a particular place or thing, and so it seems natural that the adjusted residual score between those categories is negative, suggesting an inverse relationship. While a focus on wildlife & habitat may fit well within a preservation philosophy, the negative adjusted residual score suggests that it does not fit well within a communication philosophy. Not one of the organizations focusing on wildlife & habitat issues is classified as having a communication philosophy. Again, wildlife & habitat issues tend to be those that rely on philosophies aimed at protection, preservation, or conservation. It would be less important for an organization to solely spread information about species than to take direct action on behalf of that species' survival.

Outreach Variables and Motivation Variables

Among the seven outreach variables and two motivation variables, there are three statistically significant associated pairs: (1) *rescue/rehabilitation* and *environmental focus*, (2) *research programs* and *environmental philosophy*, and (3) *policy initiatives* and *environmental philosophy*. For *rescue/rehabilitation* and *environmental focus* and *research programs* and *environmental philosophy*, adjusted residuals scores reveal that the association between variables is due to one category pair. For *rescue/rehabilitation* and *environmental focus*, the strength of association is between the *wildlife* category of environmental focus and organizations indicating *rescue/rehabilitation* outreach (Table 29). There is a strong positive association between the two, with the actual frequencies rising 3.78 standard deviations above expected (see Table 12). This was expected since rescue and rehabilitation efforts are generally focused on wildlife species. Half of the organizations with rescue/rehabilitation outreach are also in the *wildlife* category of the environmental focus variable, and another 38 percent fall into the *wildlife & habitat category*.

A marked association between the variables *research programs* outreach and *environmental philosophy* is revealed by pairing the *research* category of environmental philosophy to organizations indicting *research programs* as outreach (Table 30). This pairing was 3.28 standard deviations above what was expected (see Table 13). This is not surprising, however, since an organization with a philosophy of researching environmental issues is likely to conduct research as part of its outreach. All 18 organizations with research philosophies also indicated that they use research as an

Table 28. Organizations indicating a focus on wildlife & habitat and a philosophy of preservation

Organization
Audubon Nature Institute
Florida Wildlife Federation
Galveston Bay Foundation
Louisiana Wildlife Federation
Sanctuary Friends of the Florida Keyes
Solutions to Avoid Red Tide

Table 29. Organizations indicating rescue/ rehabilitation outreach and a focus on wildlife

Organization
Institute of Marine Mammal Studies
Sea Turtle Conservancy
Wildlife Center of Texas
Texas Wildlife Rehabilitation Coalition

Table 30. Organizations indicating research as both outreach and environmental philosophy

Organization
Conservancy of Southwest Florida
Environment Texas Research and Policy Center
Environmental Working Group
Nature Conservancy
Oceana
Pew Research Institute
Resources for the Future
SeaWeb
World Resources Institute
Consortium for Ocean Leadership
Earth Watch
Ecological Society of America
World Wildlife Fund
Greater Caribbean Energy Environment Foundation
Gulf Coast Energy Network
Institute of Marine Mammal Studies
Marine Environmental Sciences Consortium
Mobile Baykeeper

outreach strategy. No other philosophy category is so strongly tied to research as is outreach, which is supported by the remaining adjusted residual scores.

The statistical significance found between the variables *rescue/rehabilitation* and *environmental focus and research programs* and *environmental philosophy* is most likely due to the associations described above between the single category pairs within each variable comparison. Overall results do not point to an overarching relationship between the two variables, but they do support the notion that there are relationships between certain forms of outreach and an organization's environmental focus and philosophy.

The third significant relationship between an outreach variable and a motivation variable is between *policy initiatives* outreach and *environmental philosophy*. The chi-square test is statistically significant, and Cramer's V reveals a moderate association. There is just one significant adjusted residual score between the variables, between the conservation category of environmental philosophy and organizations indicating policy initiatives as outreach. An inverse association is revealed between the categories, with an adjusted residual score of -2.24 (see Table 14). Unlike the comparisons between the previous category pairs (*rescue/rehabilitation* outreach and *wildlife* focus and *research programs* outreach and *research* philosophy), it is not immediately apparent why policy outreach and a conservation philosophy would be associated, inversely or otherwise. The data do indicate that fewer than half of the organizations with a conservation philosophy indicated policy outreach, while 62 to 100 percent of organizations under all other philosophy categories indicated policy outreach. Of the 74 organizations selected for this study, 70 percent indicated policy outreach.

Outreach Variables and Financial Capacity

A comparison of outreach variables to the scope-of-behavior element financial capacity results in two statistically significant associations. The outreach variables *grassroots campaigns* and *education programs* are both associated with *financial capacity*. Both comparisons result in significant chi-square statistics, and Cramer's V tests show a moderate strength of association for both. Adjusted residuals analysis and further investigation of the data reveal more about the relationships.

Adjusted residuals scores between *grassroots outreach* and *financial capacity* are significant between two paired categories, with the largest standard deviation from expected frequencies occurring between grassroots outreach and organizations with reported assets between $100,000 and $1 million (see Table 15). That pairing occurred less often than expected by 2.24 standard deviations. The raw data reveal that only one organization within this financial category conducted grassroots campaigns as part of its outreach efforts, the Birmingham Audubon Society. The majority of organizations with grassroots outreach reported net assets between $1 million and $10 million, and that category pair has an adjusted residual score of 2.18 standard deviations above expected (Table 31). It was expected that there would be an inverse relationship between financial capacity and grassroots outreach since the literature has often differentiated between the direct-action organization that relies on human resources and the non-participatory organization that relies on monetary resources. What the data seem to indicate here, however, is that a certain amount of financial capacity is necessary to undertake grassroots outreach. Only 30 percent of the organizations that indicated grassroots efforts reported less than $1 million in assets. The other 70 percent reported more than $1

million, but of those, nearly all reported less than $10 million. This supports a financial distinction between EMOs reliant on grassroots outreach and non-participatory EMOs: with the latter having assets in excess of $10 million.

Between *financial capacity* and the outreach variable *education programs*, adjusted residuals scores are even more pronounced, suggesting a stronger association between certain category pairs. A strong positive association (adjusted residual score of 3.10) is revealed between education programs as outreach and reported assets between $100,000 and $1 million (Table 32), and a strong inverse association (adjusted residual score of -3.26) was revealed between education programs and assets greater than $10 million (see Table16). These associations, along with the general trend in adjusted residuals across all financial capacity categories, indicate that as an organization's financial capacity increases, it is less likely to provide outreach in the form of education programs. The data also indicate that, in general, the organizations in this study with mid-range financial capacity were those that carried out education programs.

Outreach Variables and Geographic Scope

There are two statistically significant associations between the outreach variables and the scope-of-behavior element *geographic scope*. The significant outreach variables were *grassroots campaigns* and *rescue/rehabilitation*. The chi-square test between *grassroots campaigns* and *geographic scope* results in a calculated level of significance of 0.01, which is highly significant, and the test between *rescue/rehabilitation* and *geographic scope* results in a calculated level of significance of 0.04. The Cramer's V tests (0.34 and 0.30, respectively) indicate moderate associations between the paired variables. And adjusted residuals testing results are similar between the variable pairs.

Adjusted residual scores for the *global* category of geographic scope and for organizations indicating either *grassroots* or *rescue/rehabilitation* outreach reveal inverse relationships. Of the 39 organizations that have global geographic scope, only five conduct grassroots outreach (Table 33) and only one conducts rescue and/or rehabilitation outreach, Ducks Unlimited. For these comparisons, these numbers are lower than expected by 2.90 and 2.41 standard deviations (see Tables 17 and 18). Considering the two types of outreach, such findings should be expected. The data support the supposition that grassroots campaigns and rescue/rehabilitation efforts are necessarily focused at local and regional scales. Both forms of outreach rely on a narrowed concept of place, the former in terms of activists directly impacted by an environmental issue and the latter in terms of the environmental object (species and/or habitat) acted upon.

Environmental Focus (Motivation) and Geographic Scope

Only one of the motivation variables, *environmental focus*, is significantly associated with *geographic scope* through statistical analysis. Their association is moderate according to a Cramer's V statistic of 0.44, and adjusted residuals show general trends across the geographic scope categories and according to environmental focus (see Table 19). The highest adjusted residual score is between the *coastal* focus category and the *regional* geographic scope category (Table 34). At 3.52, the comparison reflects a strong positive association. Only one of the eight organizations that identified with a coastal environmental focus is categorized with a scope other than regional. Considering that coastal environments are themselves regional in scale, it seems logical that the

organizations that focus on costal environmental issues are predominantly regional in geographic scope.

Like the *coastal* focus category, four of the other focus categories show patterns across the geographic scope categories; although, trends for organizations within the oceans and urban categories of the environmental focus variable are likely due to the small number of organizations within those categories. The statistics for the other two focus categories, *general* and *watersheds*, are more likely to reflect actual relationships. Adjusted residuals for the geographic scope categories, *local* and *regional*, are negative for the *general* environmental focus category, indicating that the observed frequencies for these category pairs occurred less than expected. In contrast, the adjusted residual score for the *global* category of geographic scope is positive for the *general* environmental focus category. These results show that, for these data, organizations with a general environmental focus are more likely to be larger in geographic scope. For organizations with a focus on *watershed* issues, adjusted residual scores are positive at the *local* geographic scope and negative at both the *regional* and *global* scope scales. These results suggest that organizations with an environmental focus on issues related to watersheds are more likely to be more localized in their organizational concept of place.

Financial Capacity and Geographic Scope

The final comparison is between the scope-of-behavior elements *financial capacity* and *geographic scope*. They are significantly associated through statistical analysis. The positive association was expected, and adjusted residuals analysis confirms

Table 31. Organizations indicating grassroots outreach with reported net assets between $1 million and $10 million

Organization
Audubon Florida
Coalition to Restore Coastal Louisiana
Earth Watch
Florida Wildlife Federation
Friends of the Earth
Galveston Bay Foundation
Gulf of Mexico Alliance
Gulf Restoration Network
Institute of Marine Mammal Studies
Lake Ponchartrain Basin Foundation
Sea Turtle Conservancy

Table 32. Organizations indicating education programs outreach with reported net assets between $1 million and $10 million

Organization
America's Wetland Foundation
Birmingham Audubon Society
Blue Ocean Institute
Gulf of Mexico Foundation
Louisiana Wildlife Federation
Mobile Baykeeper
Ocean Research Conservation Association
Reef Relief
Restore America's Estuaries
Sanctuary Friends of the Florida Keyes
Second Nature
Society of Environmental Journalists
Solutions to Avoid Red Tide
Texas Wildlife Rehabilitation Coalition
Urban Conservancy

Table 33. Organizations indicating grassroots outreach and global geographic scope

Organization
Coastal Bird Conservation / Conservian
Earth Justice
Earth Watch
Friends of the Earth
Nature Conservancy

Table 34. Organizations indicating a coastal focus and regional geographic scope

Organization
Alabama Coastal Foundation
America's Wetland Foundation
Coalition to Restore Coastal Louisiana
Gulf of Mexico Alliance
Gulf of Mexico Foundation
Gulf Restoration Network
Marine Environmental Sciences Consortium

that the variables are linked. The most significant adjusted residual scores occur between financial capacity less than $100,000 and *local* geographic scope (2.63) and between financial capacity greater than $10 million and both *local* (-2.04) and *global* (2.45) geographic scope. There is also an overall trend among all the paired categories between the variables: in general, as financial capacity rose for organizations, geographic scope extended in scale (see Table 20). The data show that a majority of the organizations with *local* scope reported net assets of less than $1 million, while those with *regional* scope reported assets between $100,000 and $10 million, and those with *global* scope reported assets over $1 million (Tables 35, 36, and 37). Both the raw data and the statistical analyses indicate that the two variables generally track together for the organizations included in this study.

The relationship between an organization's financial capacity and its intended scale of influence is apparent in the organizations themselves. For example, the most universally recognizable global-scale organizations are also some of the wealthiest: Nature Conservancy, Environmental Defense Fund, Oceana, and World Wildlife Fund. The organizations with the most limited financial capacity are those with the most limited geographic scope. They are organizations like Green Light New Orleans and Wildlife Center of Texas that are highly focused on place-based issues. The question tested next for these compared variables as well as the other three that were significantly associated with geographic scope was whether an organization's scale of influence, if known, can be used to predict its other characteristics.

GEOGRAPHIC SCOPE AS AN INDEPENDENT VARIABLE

Although this study is partly about exploring associations between the four elements of organizational scope-of-behavior, another part is concerned with the viability of a geographic characteristic acting as an independent variable (geographic scope) to predict the other scope-of-behavior elements. Since all of the variables were nominal measures, the statistical possibilities were limited. The test chosen in these circumstances is the lambda coefficient of predictability, and it was run using only the variables that are shown to be significantly associated with geographic scope in the chi-square analyses previously reported. The four variables that qualified for lambda testing are the outreach variables *grassroots campaigns* (see Table 17) and *rescue/rehabilitation* (see Table 18), the motivation variable *environmental focus* (see Table 19), and *financial capacity* (see Table 20).

Table 35. Local organizations indicating net assets less than $100,000

Organization
Green Light New Orleans
Citizens Environmental Coalition Educational Fund
Citizens' League for Environmental Action Now
Louisiana Bucket Brigade
Wildlife Center of Texas

Table 36. Regional organizations indicating net assets between $100,000 and $10 million

Organization
Gulf of Mexico Foundation
America's Wetland Foundation
Coalition to Restore Coastal Louisiana
Gulf Restoration Network
Gulf and South Atlantic Fisheries Foundation
Environment Texas Research and Policy Center
Gulf of Mexico Alliance
Reef Relief
Sanctuary Friends of the Florida Keyes
Sea Turtle Conservancy
Lake Ponchartrain Basin Foundation
Texas Wildlife Rehabilitation Coalition
Solutions to Avoid Red Tide
Louisiana Wildlife Federation
Florida Wildlife Federation
Audubon Florida

Table 37. Global organizations indicating net assets over $10 million

Organization
Center for Biological Diversity
Resources for the Future
Earth Justice
World Resources Institute
Environmental Defense Fund
National Resources Defense Council
Conservation International
Pew Research Institute
Nature Conservancy
Ocean Conservancy
Oceana
Ducks Unlimited
Defenders of Wildlife
World Wildlife Fund

Of the four calculated coefficients of predictability, those assessing the relationships between geographic scope and the two outreach variables reveal that geographic scope has no predictive capacity. The calculated coefficients with *geographic scope* as the independent variable and *environmental focus* and then *financial capacity* as dependent variables show that geographic scope has virtually no predictive power over the two. The coefficient for the latter was the highest at 0.04, which is consistent with what was expected based on the strong correlation between the trends in financial capacities and geographic scope shown by the raw data and adjusted residual analysis. It was expected, however, that the calculated lambda would be much closer to 1.00. A lambda value closer to 1.00 represents a stronger predictive capacity. With a lambda of 0.04, geographic scope seems to have almost no predictive power over financial capacity for the organizations included in this study.

Although this study is not able to establish a geographic characteristic that, if known, could be used to predict other characteristics of EMOs, it develops a matrix encompassing the scope of organizational behavior and illuminates several relationships among the characteristics, which may be generalizable to EMOs as a population, that populate that matrix. These include the relationships among forms of outreach, between outreach and the issues upon which an organization concentrates its efforts, and between the relative wealth of an organization and its field of influence. Chapter 7 discusses the conclusions that can be drawn from this study and the implications of the findings for further understanding the characteristics and dynamics of EMOs.

CHAPTER 7. CONCLUSION

There were two main purposes for this study: determine whether the major characteristics of EMOs were independent of one another or in some way associated, and examine whether geography, specifically place and scale, influences an organization's characteristics. The major characteristics of EMOs, defined as organizational scope of behavior, were categorized according to four elements: organizational outreach, motivation, financial capacity, and geographic scope. Eleven variables were identified to represent these four elements. The seven variables associated with organizational outreach consisted of *information dissemination*, *policy initiatives*, *education programs*, *research programs*, *monitoring/restoration*, *rescue/rehabilitation*, and *grassroots campaigns*. The variables associated with an organization's motivation were *environmental focus* and *environmental philosophy*. The scope of behavior elements *financial capacity* and *geographic scope* consisted of one variable each, eponymously named.

The conceptual foundations for this study were cobbled from existing research. Exploration of associations among the characteristics that comprise an organization's scope of behavior was borrowed from related research concerning a survey of the entire population of EMOs in the US (Brulle 2000), and research focused on the factors behind an organization's adopted outreach tactics (Carmin and Balser 2002). This study also examined the relationship of scale as constructed by organizational place-making to an organization's functional characteristics. This facet was grounded in previous studies that dichotomized organizations between local and global (Cable and Benson 1993; Cudworth 2002; Diani and Donati 1999; Saunders 2007; and Schaffer and College 1995).

Using place and scale to define an organization's realm of influence, this study differentiated among local, regional, and global organizations to construct the variable named *geographic scope* and tested those categories as predictors of the other scope of behavior elements.

A case study approach based on an environmental issue to which all the organizations studied were connected was chosen for this research. The common thread among them was the Deepwater Horizon environmental disaster. All of the organizations responded in some way to the catastrophe, however organizations that responded to the disaster were not included in the study if they were not classified as 501(c)(3) (i.e. tax-exempt, non-profit), if they did not maintain a website, or if there was no available IRS Form 990 (the annual tax return for tax-exempt organizations) from 2010 or later. Since there was no complete listing of EMOs that responded to the disaster, several methods were used to develop the list of organizations from which the study sample was selected. These methods identified 226 responding organizations. But after eliminating organizations based on the required components listed above, a final list for the study was comprised of 74 EMOs (see Appendix).

For the 74 organizations selected, information was gathered using content analysis of on-line media concerning numerous characteristics that were synthesized into the four scope-of-behavior elements and eleven corresponding variables. Due to the nature of most of the available data, the variables were nominal in nature. The quality of the data limited quantitative analysis to only a few possibilities. The primary statistical test chosen was the chi-square test for independence with follow-up tests to be run when paired variables were determined to be statistically significant. The follow-up tests were

Cramer's V and adjusted residuals analysis. A Cramer's V statistic represents the strength of association between paired variables, and adjusted residuals scores can indicate strength, direction, and location of association within the categories of the paired variables. Four of the variables from outreach, motivation, and financial capacity were found to be associated with the variable geographic scope, our measure of place and scale. A separate follow-up test was performed between these four variables and geographic scope to calculate a coefficient of predictability with geographic scope as the independent variable.

The results did not establish a geographic characteristic that could be used to predict other characteristics of EMOs; however, they did illuminate several relationships among organizational characteristics that may be generalizable to EMOs in general. Those include relationships among forms of outreach, between outreach and the issues upon which an organization concentrates its efforts, and between the relative wealth of an organization and its field of influence. Some of these relationships seem obvious and have been discussed elsewhere in the literature, but this study is the first to explore these relationships through a focused lens using the Deepwater Horizon environmental disaster. That decision significantly narrowed the scope of research, enabling relationships to be viewed in context.

Primary statistical tests revealed 15 significant associations at a minimum confidence level of 95 percent. The follow-up test for strength of association, Cramer's V, did not indicate more than a moderate association between any of the paired variables, but adjusted residuals analysis proved more interesting. Scores for that test, along with further review of EMO websites and documents revealed trends between the pairs

themselves and between paired categories within the variable pairs. Within the 15 paired variables, five overall positive trends were discovered and three overall negative trends were discovered. For the other variables, associations were more complex.

GENERAL POSITIVE ASSOCIATIONS

Five of the paired scope-of-behavior variables were generally positively associated for this study. Four of these pairs were outreach-to-outreach – (1)*monitoring/restoration* and *grassroots campaigns*, (2) *monitoring/restoration* and *rescue/rehabilitation*, (3) *rescue/rehabilitation* and *education programs*, and (4) *information dissemination* and *policy initiatives* – and the fifth was between *geographic scope* and *financial capacity*. For outreach-to-outreach associations, the data allow the general inference that when one form of outreach was undertaken by an organization in this study, the other was more likely to also be undertaken than would have been expected from chance alone. A closer look at the positively associated outreach variables, along with extrapolating from information available from the organizations, provided support for this relationship. For example, 75 percent of the organizations indicating *rescue/rehabilitation* outreach also indicated *monitoring/restoration* outreach; however, only 21 percent of organizations indicating *monitoring/restoration* outreach also indicated *rescue/rehabilitation* outreach. For these data, then, organizations undertaking *rescue/rehabilitation* outreach were also likely to undertake *monitoring/restoration* outreach, but not necessarily the reverse. This is likely because rescuing and rehabilitating wildlife is a specialized form of outreach usually focused on a specific place and/or species. It requires training, certification, and special facilities or

equipment. These circumstances are likely why only eight of the 74 selected organizations indicated *rescue/rehabilitation* outreach.

Monitoring and restoration efforts can also be specialized, though this form of outreach tends to also solicit citizen activists with minimal training and supervision. The Louisiana Bucket Brigade is one of the 29 organizations that indicated *monitoring/restoration* outreach. Their monitoring outreach consists of providing citizens with the resources to monitor air quality near their industrial neighbors. The Sea Turtle Conservancy also runs a monitoring program to track various species of sea turtles. While the trackers are applied and maintained by organization staff, tracking and monitoring information is made available to the public through the "Turtle Tracker" program. Both Louisiana Bucket Brigade and Sea Turtle Conservancy conduct monitoring outreach, but the organizations differ in terms of how specialized that outreach is. Based on the structure of their monitoring programs, Sea Turtle Conservancy would seem to be the more likely organization to conduct rescue outreach, which it does. Their efforts are focused on a set of species and require the direct involvement of trained specialists and specific equipment.

The association between *monitoring/restoration* outreach and *rescue/rehabilitation* outreach was not the only outreach-to-outreach pairing that was supported through further investigation of the raw data. Connections also exist between information dissemination and policy initiatives outreach beyond the statistical analyses run. These two outreach variables, *information dissemination* outreach and *policy initiatives* outreach, were undertaken by most of the organizations selected for this study. Of the 74 organizations, 52 conducted policy outreach, 65 conducted information

dissemination outreach, and 49 organizations conducted both forms of outreach. That means that 94 percent of policy outreach organizations also indicated information dissemination as outreach. Based on that, it makes sense that trends would reveal themselves across the scope of behavior elements between the two variables because the organizations are the same. However, trends also revealed themselves within the information and policy combination of 49 organizations. All of the scope of behavior elements outside of the outreach element –motivation (environmental focus and environmental philosophy), financial capacity, and geographic scope –revealed trends across the category pairs for the combined outreach variables. The organizations indicating both forms of outreach tended to be global in geographic scope (46 percent) with reported net assets of at least $1 million (71 percent). In terms of motivation, the largest percentage of organizations indicating both information dissemination and policy outreach had a general environmental focus (41 percent) and espoused environmental philosophies of protection (29 percent) or research (29 percent). These percentages indicate that, for this study, information dissemination outreach and policy initiative outreach are more likely to occur together in organizations with greater geographic scope and greater financial capacity, and in organizations with a general environmental focus.

The connections between *monitoring/restoration* and *rescue/rehabilitation* outreach and between *information dissemination* and *policy initiatives outreach* were easily supported through an examination of the raw data, but extrapolations were less obvious between *monitoring/restoration* and *grassroots campaigns* outreach and between *rescue/rehabilitation* and *education programs* outreach. The association between *monitoring/restoration* outreach and *grassroots campaigns* outreach was positive

according to adjusted residuals analysis, but that could be because of the large number of organizations that did not indicate either form of outreach, with only 29 and 20 organizations indicating those forms of outreach, respectively. In one case, the Louisiana Bucket Brigade, the two forms of outreach go together since the organization's monitoring relies on grassroots involvement. That one case, however, yields nothing generalizable.

For the associated pair *rescue/rehabilitation* and *education programs* outreach, inferences are also few beyond the fact that organizations indicating rescue/rehabilitation outreach are more likely to also indicate that they maintain education programs. As mentioned above, only eight organizations studied here undertook rescue/rehabilitation outreach. Of those, seven also supported education programs as outreach. The seven organizations indicating both forms of outreach were predominately regional in geographic scope (57 percent) with reported assets of at least $1 million (71 percent). Despite the trends in scope and financial capacity, it was not possible to extrapolate a decisive association between the variables based on these results or based on further examination of information available from the organizations themselves.

Besides the positively associated outreach variables, positive trends were also revealed to exist between *geographic scope* and *financial capacity*. This association was expected and it seems obvious. The adjusted residuals score for organizations that indicated *local* scope and financial capacity under $100,000 was 2.63, which means that this frequency is 2.63 standard deviations more than expected from chance alone. Likewise, the frequency of organizations indicating both *global* scope and financial capacity over $10 million was 2.45 standard deviations above that expected from chance

alone. As geographic scope grows, at least among the organizations in this study, so does financial capacity. This conclusion is supported by previous studies comparing grassroots and mainstream organizations (Rootes 1999; Schaffer and College 1995). This pairing was one of the four statistically significant associations for geographic scope, and one that was expected to result in some level of determined predictability for geographic scope considering the close relationship between the two variables.

GENERAL NEGATIVE ASSOCIATIONS

In addition to the five generally positive associations, there were three generally negative, or inverse, associations. Those occurred between the outreach variables *information dissemination* and *grassroots campaigns*, between *education programs* outreach and *financial capacity*, and between *geographic scope* and *rescue/rehabilitation* outreach. In general, an inverse relationship indicated that as the frequency of one variable increased across categories, the frequency of the associated variable decreased.

Information dissemination outreach was inversely associated with *grassroots campaigns* according to adjusted residuals analysis. The frequency of organizations indicating both forms of outreach is 2.06 standard deviations less than expected from chance. Even with the large difference between the number of organizations indicating one or the other (20 organizations undertook grassroots campaigns and 65 disseminated information as outreach), the inverse relationship seems apparent. Comparing geographic scope between the variables revealed that organizations with information dissemination as outreach tended to be global in scope while organizations with grassroots outreach tended to be regional. According to financial capacity, the organizations indicating both forms of outreach were similar, with 67 percent reporting between $1 million and $10

million in net assets. Conjecture based on information from the organizations could indicate that as organizations expand in geographic scope, they rely less on grassroots organizing and more on providing the public with information expected to result in changes in attitude or political action.

The inverse relationship between *education programs* outreach and financial capacity was more pronounced, and it also is the highest Cramer's V score, 0.48. Adjusted residuals scores for education programs across the categories of financial capacity were positive at the lower end and negative at the upper end (Table 38). From these scores, for this study, it is possible to say that a reliance on education programs goes down as financial capacity increases for organizations. The score of 1.10 for the lowest financial capacity category, relative to the score of 3.10 for second category, indicates that a certain amount of financial capacity is needed to run an education program. This makes sense considering that education outreach usually relies on the development of a learning tool (booklet, web-based module, or physical space) to facilitate instruction. This, in addition to staff to maintain the program, costs money that may not be as readily available in organizations reporting less than $100,000. At the other end, organizations with more than $10 million in reported assets would have plenty of resources to provide education outreach. At that level, however, the organizations in this study were more focused on policy and information outreach.

The third generally inverse association occurred between *geographic scope* and *rescue/rehabilitation* outreach. As scope extended, adjusted residual scores decreased for organizations indicating rescue/rehabilitation outreach. Since rescue/rehabilitation outreach is largely place and/or species-based, a more acute conception of place,

Table 38. Adjusted residuals scores for organizations indicating education outreach across categories of financial capacity

Reported assets < $100,000	Reported assets > $100,000 and < $1 million	Reported assets > $1 million and < $10 million	Reported assets > $10 million
1.10	3.10	-0.69	-3.26

therefore organizational scale, would seem necessary. Only one of the global organizations included in this study undertook rescue/rehabilitation outreach, Ducks Unlimited, and their rescue/rehabilitation outreach after the Deepwater Horizon disaster was to act as an intermediary between citizens interested in volunteering to rescue affected wildlife and their partner organizations that were conducting actual rescue operations.

COMPLEX ASSOCIATIONS

Of the 15 statistically significant associations among the elements of organizational scope of behavior, seven were neither strictly positive nor inverse. Their associative strength lay between one or more category pairs within the comparison or, in in the case of *environmental focus* and *geographic scope*, the association was more of a trending of certain categories of one variable across categories of the other. While conclusions cannot be drawn from these results concerning overall relationships between any of these paired variables, it is possible to make inferences about certain categories within the variables.

Although no overall trend was apparent between the outreach variable *rescue/rehabilitation* and the motivation variable *environmental focus*, one category pair stood out according to adjusted residuals analysis. That pair was organizations with rescue/rehabilitation outreach that focused on wildlife. The frequency of that pairing was

3.78 standard deviations greater than expected from chance alone, which was expected considering the type of outreach. The environmental work of rescuing and rehabilitating must be focused on wildlife. It is likely that the variables were found to be statistically significant because of this one category pair. The statistically significant association between the outreach variable *research programs* and the motivation variable *environmental philosophy* is similar, with only one strongly associated category pair. For obvious reasons, it was expected that research outreach would be associated with a research philosophy. The frequency with which organizations indicated those categories is 3.28 standard deviations more than expected due to chance.

An association that was not fully expected was that between the outreach variable *grassroots campaigns* and *financial capacity*. The strongest associations between the two occurred with organizations indicating grassroots campaigns as outreach and reporting net assets between $100,000 and $10 million. That range made up the two middle categories of the financial capacity variable (Table 39). For the financial capacity category between $100,000 and $1 million, there was an inverse association, and for the category representing financial capacity between $1 million and $10 million, the association was positive. There is no easy explanation for this relationship, and it could simply be a reflection of the particular organizations selected for this study. These data suggest that grassroots outreach requires a certain level of financial capacity, which is an underrepresented notion in research depicting EMOs reliant on grassroots outreach.

The relationship revealed here is not one between financial capacity and grassroots as a type of organization, but between financial capacity and grassroots outreach, which may be just one of many tactics used by an organization. Only one

organization selected for this study used grassroots outreach alone. Green Lights New Orleans epitomizes grassroots as a local organization that installs free energy efficient light bulbs door-to-door as a means, according to its mission, of "demonstrating that a mass movement of individual actions creates a significant impact on our environment and community." The organization's reported net assets fall into the first financial capacity category, reported assets less than $100,000. This relationship reflects the standard depiction of EMOs reliant on grassroots outreach. The overall results that indicate that grassroots outreach is undertaken by organizations with greater financial capacity could suggest that grassroots campaigns are not just the domain of local, direct-action EMOs.

Not only was *grassroots campaigns* outreach associated with financial capacity, but it was also associated with *geographic scope*. The strongest association among the paired categories for the two variables occurred between grassroots outreach and the *global* category of geographic scope, with an adjusted residual score of -2.90. This result indicates that grassroots outreach, for organizations in this study, did not occur as often as expected from chance in organizations with global geographic scope. For both local and regional geographic scope, the frequency of grassroots outreach was 1.49 and 1.96 standard deviations above what was expected from chance. The relationship between grassroots outreach and geographic scope revealed in this study was expected based on the nature of grassroots outreach. Traditional grassroots campaigns affect change through diffusing, person-to-person groundswells of information, ideas, and beliefs.

Table 39. Adjusted residuals scores across financial capacity for organizations indicating grassroots campaigns outreach

Net assets < $100,000	Net assets > $100,000 and < $1 million	Net assets > $1 million and < $10 million	Net assets > $10 million
1.02	-2.24	2.18	-1.14

Unlike the relationships described above, there was no expected outcome for the relationship between the outreach variable *policy initiatives* and *environmental philosophy*. In fact, the associations among the paired categories for these variables failed to stand out significantly, although there was a strong inverse association between policy outreach and the conservation category of environmental philosophy. The adjusted residual score was -2.24. This could be because the conservation organizations in this study were largely focused on direct action on behalf of their target lands or species and not necessarily on affecting environmental policy, or it could be an anomaly specific to these data.

Another relationship for which there was no expected outcome was between the motivation variables *environmental focus* and *environmental philosophy*; although, an association was expected due to the inherent connection between an organization's philosophical beliefs and its intended focus. Among the paired categories for the two variables, there were six strong associations:

- *general* focus and *communication* philosophy (adjusted residual, 3.07);
- *wildlife & habitat* focus and *communication* philosophy (adjusted residual, -2.42);
- *general* focus and *preservation* philosophy (adjusted residual, -2.40);
- *urban* focus and *preservation* philosophy (adjusted residual, 2.89);

- *wildlife & habitat* focus and *preservation* philosophy (adjusted residual, 3.24); and
- *oceans* focus and *research* philosophy (adjusted residual, 2.53).

Each of these associations can reasonably be explained, but there were two that in retrospect seem most obvious. The first is between the *general* category of environmental focus and the *communication* category of environmental philosophy. An organization with a general focus, one aimed at tackling a number of global-level environmental problems (climate change, renewable energy, etc.), would naturally work from a communication philosophy because of the nature of the environmental problems. Global-level environmental problems are not easily tied to a place or perceived need, but are conveyed through understanding, which relies on communication. The second obvious association was between the *wildlife & habitat* category of environmental focus and the *preservation* category of environmental philosophy. The purpose of an organization espousing a philosophy of preservation would naturally be to preserve some aspect of the environment. It only makes sense that those aspects would be species and the habitats in which they naturally exist.

In terms of natural relationships, the association between *environmental focus* and *geographic scope* consists of a series of trends across the scope categories and according to environmental focus (Table 40). If geographic scope is a reflection of an organization's conception of place and from which an organization's efforts are scaled, then the associations revealed between geographic scope and environmental focus in this study can be seen as the movement of environmental focus along the scale shifts of geographic scope. What would be narrow conceptions of place, urban and watershed

issues are most strongly associated with local geographic scope according to adjusted residual scores. A *coastal* focus was most strongly *regional* in geographic scope, and both *general* and *oceans* focuses were most strongly associated with *global* geographic scope. If environmental foci could be places on a map, then each of these would correspond in scale with the geographic scope of the organizations they indicate. These results help illustrate the existence of and need for a relationship between an organization's intended environmental focus and its desired scale. The breadth of the focus may act to feed the scale of the organization.

FUTURE RESEARCH

This study endeavored to examine whether geography was at all predictive of other characteristics of EMOs. The determined geographic variable for this study was geographic scope, which is a representation of an organization's conception of place and its scale of influence. It is an abtract variable, but no more than the concepts of place and scale. While statistical significance was found in the associations between geographic scope and other variables that reflect an organization's scope of behavior, none of the associations revealed geographic scope to be a predictor of any other variable. Perhaps this is because geography is not a good predictor of an organization's characteristics, or perhaps the geographic variable developed for this study was too abstract. Future research could attempt to measure predictability using an organization's geographic proximity to an environmental problem, which would yield a ratio form of data instead of the nominal data used in this study. Future studies may also instead examine the predictability of other organizational characteristics. The relationship between geographic scope and environmental focus described previously in this chapter may

Table 40. Adjusted residuals scores across geographic scope and environmental focus

Environmental Focus	Local	Regional	Global
Coastal focus	-1.25	3.52	-2.41
Energy focus	1.42	-0.99	-0.08
General focus	-1.55	-1.22	2.25
Oceans focus	-0.60	-0.99	1.36
Urban focus	2.41	-0.70	-1.06
Watersheds focus	2.03	-0.33	-1.14
Wildlife focus	0.85	0.32	-0.91
Wildlife & habitat focus	0.02	-0.27	0.24

support the hypothesis that an organization's environmental focus is a predictor of its intended scale of influence.

Regardless of the predictive power of geographic scope, this study was able to draw connections between and among the characteristics of EMOs. Those connections, some of them geographic in nature, further our understanding of environmental organizing. Two major dilemmas exist in the study of EMOs. The first is that there are thousands of organizations in the US, and no database lists them all. This makes their study both imprecise and inaccurate. The second dilemma is that there is no set of standard organizational characteristics to be compared among EMOs to understand and evaluate their approaches, their limitations, their effectiveness, or their successes. This study attempted to address these dilemmas by narrowing the scope of organizations and by developing a scope of behavior matrix for organizations consisting of measureable characteristics that can be compared across all EMOs.

Using an environmental disaster as a means of narrowing the frame of possible organizations to be included in this study allowed a more complete picture of organizing to be developed around the disaster. Within the conditions established, response to the disaster, availability of appropriately recent IRS documents, and maintenance of a website, a sub-population of organizations could be amassed and examined. While this case study is not generalizable to EMOs as a population, it provides a robust mix of large-to-small scale organizations, modest-to-wealthy organizations, and a range of outreach and mission-related characteristics. A random sample taken from an assumed population of environmental organizations from one of the existing databases would be unlikely to pick up the ranges in characteristics that were achieved by the methods used in this study.

Exploring the characteristics of EMOs is only beneficial when there is agreement on what characteristics are important. Brulle (2000) began this work by characterizing organizations according to their discursive frames, their annual income and expenditures, their internal organizational structure, and their strategy for social change. This study moves that work forward by developing an organizational scope of behavior consisting of four major elements, including a geographic element, and eleven variables. The characteristics compared in this study were all developed through a combination of qualitative and quantitative analyses. The means by which they were developed are repeatable, and they should be tested and refined in future research.

APPENDIX SECTION

Master List of Selected EMOs

Organization	Organization
Alabama Coastal Foundation	Gulf Restoration Network
American Fisheries Society	Institute of Marine Mammal Studies
America's Wetland Foundation	Izaak Walton League of America
Audubon Florida	Lake Ponchartrain Basin Foundation
Audubon Nature Institute	Land Trust of the Mississippi Coastal Plain
Birmingham Audubon Society	Louisiana Bucket Brigade
Blue Ocean Institute	Louisiana Environmental Action Network
Center for Biological Diversity	Louisiana Wildlife Federation
Citizens Environmental Coalition Educational Fund	Marine Environmental Sciences Consortium
Citizens' League for Environmental Action Now	Mobile Baykeeper
Coalition to Restore Coastal Louisiana	National Marine Sanctuary Foundation
Coastal Bird Conservation / Conservian	National Resources Defense Council
Coastal Conservation Association	National Wildlife Federation
Conservancy of Southwest Florida	Nature Conservancy
Conservation International	Ocean Conservancy
Consortium for Ocean Leadership	Ocean Research Conservation Association
Deep South Center for Environmental Justice	Oceana
Defenders of Wildlife	Parks and Wildlife Foundation of Texas
Ducks Unlimited	Pew Research Institute
Earth Island Institute	Propublica
Earth Justice	Reef Relief
Earth Watch	Resources for the Future
Ecological Society of America	Restore America's Estuaries
Environment Texas Research and Policy Center	Sanctuary Friends of the Florida Keyes
Environmental Defense Fund	Sea Turtle Conservancy
Environmental Law Institute	SeaWeb
Environmental Working Group	Second Nature
Florida Wildlife Federation	Society of Environmental Journalists
Friends of the Earth	Solutions to Avoid Red Tide
Gaining Ground Sustainability Institute of Mississippi	Sustainable Fisheries Partnership Foundation
Galveston Bay Foundation	Texas Wildlife Rehabilitation Coalition
Greater Caribbean Energy Environment Foundation	Truth Out
Green Light New Orleans	Urban Conservancy
Gulf and South Atlantic Fisheries Foundation	Water Environment Federation
Gulf Coast Energy Network	Wildlife Center of Texas
Gulf of Mexico Alliance	World Resources Institute
Gulf of Mexico Foundation	World Wildlife Fund

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