

ABSTRACT

ABELE, MATTHEW ROBERT. Environmental Advocacy in the Wake of an Environmental Crisis: The Dan River Coal Ash Spill and the North Carolina Coal Ash Management Act. (Under the direction of Dr. William J. Kinsella).

Home to the largest electricity utility provider in the United States, North Carolina hosts millions of gallons of coal ash slurry stored in open-air ponds across the state. These ash ponds became a political focus in 2014 when a pipe burst at the Eden, NC facility releasing over 30,000 tons of this material into the nearby Dan River. This event resulted in an immediate push by state agencies, constituents, and environmental organizations for strong coal ash management policies. This situation provides a valuable case study demonstrating the advocacy methods utilized by environmental non-profits in the creation of the Coal Ash Management Act of 2014. Interviews conducted with state legislators, representatives of environmental organizations, and one contracted expert revealed overarching narratives of risk, articulation, and public expertise. In the process of advocating for this bill, the environmental community articulated a single powerful goal through the construction of a strong network of organizations. As part of its advocacy strategy, the NC Coal Ash Coalition exemplified Kinsella and Mullen's (2007) framework of public expertise in presenting a powerful case for coal ash policies in North Carolina.

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Environmental Advocacy in the Wake of an Environmental Crisis: The Dan River Coal Ash
Spill and the North Carolina Coal Ash Management Act

by
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BIOGRAPHY

In May of 2013, I received my bachelor's degree in Appropriate Technology from Appalachian State University. This degree helped me establish a strong background in renewable energy technologies and environmental issues. After graduation, I decided to continue my education at North Carolina State University to receive a master's degree in Communication. My studies in this program have mostly been catered towards environmental communication. Outside of the classroom, I have been able to translate these studies into practical experiences through internships and volunteering opportunities at local organizations dedicated to environmental issues. After I graduate in May 2015, I seek to enter the workforce as a communication practitioner at a local environmental non-profit organization.

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Introduction

In the state of North Carolina, Duke Energy owns and operates 14 coal-fired power plants. Each of these facilities is home to a number of storage ponds that are designed to hold the leftover materials after the coal is burned to generate electricity (Southern, 2014b). The residual material placed in these ponds is often referred to as coal ash. This ash contains numerous heavy metals and toxic chemicals including mercury, cadmium, and arsenic (U.S. EPA, 2013).

In North Carolina, Duke Energy owns and operates 32 of these ash ponds spread out across the entire state (Duke Energy, 2015a). One of these ponds, however, demonstrated the risks posed to the citizens and environment of North Carolina. According to the Southern Alliance for Clean Energy (SACE, 2014a), the Dan River Power Station in Eden, North Carolina operated two ponds containing a total of 216,365,348 gallons of coal ash slurry. On February 2, 2014, stormwater pipes located below the ponds failed, causing coal ash to gush into the nearby river. An estimated 30,000 to 82,000 tons (27 million gallons) of coal ash material reportedly leaked into the Dan River, a source of drinking water and irrigation for many communities downstream (Duke Energy, 2014; Henderson, 2014).

Immediately following the spill Duke Energy, alongside state and federal government organizations, began the cleanup process. This process can be seen as both literal and metaphorical. In the literal sense, Duke Energy, the U.S. Environmental Protection Agency (EPA) and the state of North Carolina were overseeing the physical clean up of the Dan River. Metaphorically, these organizations were involved in image restoration and

reputational risk mitigation. While these were all short-term responses, environmental advocacy groups across the state were calling for long-term solutions.

Environmental groups called for the closure of all coal ash ponds across North Carolina and movement of the material to safer locations. This pressure, in turn, led the North Carolina State Legislature to draft the Coal Ash Management Act of 2014.¹ This bill changes the landscape of coal ash management in the state of North Carolina and is being cited as a national-level model; however, some are still unhappy with the final product. The bill's highlights include preventing construction of new coal ash ponds, a staggered timetable for removal and closure of high and intermediate risk ponds, and the creation of a new coal ash commission (Kenney, 2014).

The final ratified version of the Coal Ash Management Act is a 45-page document including 29 sections. The first section of the bill explicitly forbids the NC Utilities Commission from allowing an electric utility to recover the costs of an unlawful discharge through the increase of customer rates. This section helps ensure that consumers are not held liable for the negligence of electric utility providers. Another section of the bill establishes the creation of a Coal Ash Management Commission. This Commission consists of nine members (six selected by the General Assembly and three selected by the governor) who will oversee studies conducted by the state, recommend closure plans, and make suggestions for future laws.

¹ North Carolina General Assembly, Senate Bill 729/Session Law 2014-122; text and legislative history available at: <http://www.ncleg.net/gascripts/BillLookup/BillLookup.pl?BillID=S729&Session=2013>

A major piece of this legislation is the prohibition of coal ash impoundment expansions and new construction effective October 1, 2014. Further down the road, subsections 309.208(e) and 309.208(f) of the Coal Ash Management Act require that power plants convert to only dry fly ash by 2018 and then dry bottom ash by 2019 (Coal Ash Management Act, 2014). Fly ash is a byproduct of the coal burning process that travels with the gaseous materials but is captured before leaving the stack. Bottom ash, on the other hand, is the residual material that falls to the bottom of the furnace (Electric Power Research Institute, 2009). Current ash storage methods mix this material with water and then store it in coal ash ponds or impoundments. Subsections 309.208(e) and 309.208(f) force utilities to no longer mix the ash with water and instead store it in a dry state. To determine the closure plans for ash ponds in North Carolina, the Coal Ash Management Act requires that the NC Department of Environment and Natural Resources (DENR) study and classify all ponds based on their “risks to public health, safety and welfare, the environment, and natural resources” (CAMA, p. 1). Each pond must be classified as either high-risk, intermediate-risk, or low-risk by the end of 2015. These classifications will then help to determine the timeline for closures of ponds across the state. The bill itself began this process by listing the ash ponds at the Dan River Steam Station, Riverbend Steam Station, Asheville Steam Electric Generating Plant, and the Sutton Plant as high-priority. Each of these plants is to be closed “as soon as practicable, but no later than August 1, 2019” (CAMA, sec. 3b). Combined, all of these sections completely alter the way North Carolina approaches the oversight and management of the residuals associated with the coal power plant systems.

This study utilizes the experiences of groups working to develop the Coal Ash Management Act to provide a case study of advocacy methods employed in the drafting of environmental legislation. In particular, eight participants from the legislative and environmental communities outlined their understanding of the situation through a series of in-depth interviews. Each of these interviews was conducted after the legislative session had concluded, giving the participants an opportunity to describe their involvement throughout the entire process. The results pointed to three recurring themes: risk analysis, public expertise, and articulation. These themes reflect the inductive nature of this project as they derived directly from the experiences of the participants. Once these themes were identified a theoretical framework was employed to help dissect this information.

From the responses of the participants it was evident that the decision making process was guided by the approaches to risk analysis employed by individual legislators. These legislators demonstrated Renn's (1992) technical, economic, and psychological risk approaches. These classifications directed the advocacy strategies employed by environmental organizations when working with legislators to create new coal ash policies. The advocacy strategies were dependent upon Kinsella and Mullen's (2007) three forms of public expertise. These forms of public expertise are external expert support, public expertise that pertains to and derives from local knowledge, and locally achieved technical and scientific authority. A coalition of environmental organizations worked together to employ these strategies to effectively engage with the state legislative body. This coalition worked together to articulate a shared understanding for the future of coal ash in the state of North

Carolina. Members of the coalition brought forth varying forms of expertise to collectively create a strong advocacy force in favor of tough coal ash policies. The next section helps us to interpret and understand the experiences of participants through the lenses of risk, expertise, and articulation.

Theoretical Framework: Risk, Public Expertise, & Articulation

The theoretical framework for this research serves the purpose of helping us better understand and interpret the experiences of the respondents selected for participation. Their responses pointed to the major themes of risk, public expertise, and articulation. To better understand these themes I first incorporate a multi-theoretical approach to risk from a variety of authors. Ortwin Renn (1992) helps to develop classifications of risk analysis that provide useful insights into how individuals make risk-related decisions. From there, Griffin (2004) presents a social-psychological approach to risk through his Risk Information and Processing Model. This framework leads directly into the three forms of public expertise developed by Kinsella and Mullen (2007). Finally, the theoretical framework of this research concludes with Laclau and Mouffe's (1985) concept of articulation and how it relates to the collaboration of advocacy organizations.

Risk

By developing risk as a concept, we can begin to understand the framework in which decisions about coal ash were made by legislators, advocacy groups, and citizens in North Carolina. This next section defines and develops the idea of risk through technical, economic, social-psychological and rhetorical perspectives. As an introduction to the concept, Kates and Kasperson (1983) define risk as "a measure of hazard" and hazard as a "threat to people and to what they value" (p. 7029). From this standpoint, hazards are the objective conditions that may cause harm while risk involves the human appraisal of hazards. Beck (1992) reinforces this point in his analysis of risk in which he defines it as the "systematic way of dealing with

hazards...introduced by modernization” (p.21). In the instance of this research, coal ash can be seen as a hazard while decisions regarding management of the ash can be regarded as constituting the associated risks. Beck (1992) then goes on to observe that some people are more affected by risk than others. In many cases, this risk is unequally distributed among social and economic classes with those at the bottom suffering disproportionately.

Nevertheless, as Beck continues, he states that wealth and power are not immune to the effects of risk. Those who profit from the continued path of modernization may be subjected to hazards affecting “legitimation, property, and profit” (Beck, 1992, p. 23). This was especially evident for Duke Energy following the Dan River spill. The cost to clean up the ecological and reputational damage demonstrates the corporation’s susceptibility to risk.

In the process of assessing and predicting future occurrences of risk, we would expect decision makers to employ a series of risk appraisal strategies. Renn (1992) highlights these strategies through his classification of risk perspectives. These classifications incorporate a variety of approaches to risk including technical, economic, psychological, sociological, and cultural perspectives (Renn, 1992). In developing coal ash legislation, we could anticipate that policymakers would place a significant amount of emphasis on technical, economic, and sociological perspectives of risk.

Renn (1992) describes the actuarial approach to technical risk analyses as a way to predict the “physical harm to humans or ecosystems” (p. 58). This approach relies on objective measurement through scientific methods to define future harm. An example of the actuarial approach would be predicting human exposure to contaminants through a municipal

water supply based on data from previous coal ash spills. These data could help to determine the potential harm to humans resulting from allowing these ponds to continue to reside next to local water sources. However, this approach to risk is often one-dimensional and excludes other important factors such as social or economic variables.

The economic approach to risk takes the previous step further by broadening the idea of risk analysis. This approach “describes the degree of satisfaction or dissatisfaction associated with a possible action or transaction” (Renn, 1992, p. 61-62). This can allow someone in a decision-making position to weigh the differences between risks and benefits (Renn, 1992). In the case of coal ash, the economic approach would involve the struggle between cost of removal and benefit of reduced risk. It would be expected that this approach would carry significant weight with both legislators and representatives of Duke Energy. Economic factors would most likely be of the utmost importance in developing a plan for closing and relocating massive ash ponds across the state of North Carolina. This approach, however, fails to account for the subjective nature of individual utilities (Renn, 1992). It is important to note that individual conceptualizations of the risk-benefit relationship may vary from person to person.

As a way to understand subjective judgment of risk, Renn (1992) suggests the use of the psychological perspective. This approach “focuses on personal preferences for probabilities and attempts to explain why individuals do not base their risk judgments on expected values” (Renn, 1992, p. 64). This diversion from judgment based on expected values can be linked to a lack of contextual information in objective data or unfamiliarity

with the subject matter. In these cases, individuals regress to mental biases and typical ways of doing things, otherwise known as heuristics (Renn, 1992). This approach can “reveal public concerns and values” and “represent personal experiences in ways that may not be possible in the scientific assessment of risk” (Renn, 1992, p. 66). In the realm of this study, the psychological perspective can help decision-makers develop a coal ash management policy that integrates the perspectives and understandings of the citizens of North Carolina. These classifications of risk perception lead to my first research question.

RQ 1: What approaches to risk analysis did state legislators incorporate into the creation of the Coal Ash Management Act?

These approaches to risk analysis are often driven by an individual’s motivation to seek information about a potential risk. McComas (2006) exemplifies this point when she states that “greater affective responses” and “greater social pressure” lead to a perception of a need for more information (p. 82). This perspective leads directly into Griffin’s risk information seeking and processing model, which states that information sufficiency influences information seeking and processing (Griffin et al., 2004). In other words, an individual’s perception of their knowledge related to a risk subject influences their motivation to seek out more information. The less an individual feels they know about the subject the more motivated they are to seek out information. We could expect this model to apply to policymaker’s decisions and behaviors when it comes to the creation of legislation that tackles issues involving substantial risk.

This framework of risk is important to understand as it can help guide our understanding of how legislators approach risk and risk related decisions. Even further, Renn's (1992) classifications of risk analysis help direct the types of information most beneficial to certain legislators. These insights can help advocacy organizations determine the type of public expertise most fitting to their overall strategy.

Public Expertise

Public expertise as envisioned by Kinsella (2004) is the idea of citizens engaging in “productive collaboration with technical specialists” through a “reasonable fluency in the language(s) of science” (p. 85). This fluency allows for a more open, inclusive decision-making process that helps ensure a voice for all of those who may be impacted by the decision. However, Kinsella (2004) states that if this ideal is not reached “public expertise can also take the form of technical knowledge made available to the public by supportive specialists through consultation, advising, education, or facilitation of citizen-directed research” (p. 85). In this instance, specialists would represent the citizen communities through their technical expertise. This collective body of decision makers leads to a more holistic idea of expertise, which includes multiple aspects of the problem from the local and scientific perspectives. To help clarify this concept, Kinsella and Mullen (2007) identify three forms of public expertise: external expert support, public expertise that pertains to and derives from local knowledge, and locally achieved technical and scientific authority.

External expert support. The first and least robust form of public expertise identified by Kinsella and Mullen (2007) derives from within the expert community itself.

This form of expertise consists of technical data presented by experts from outside the stakeholder community to challenge or oppose the viewpoints of other experts. Walter Fisher (1987) describes this kind of encounter as exclusionary, resulting in nonexperts becoming “spectators whose choice becomes only a nonrational choice between actors on stage” (p. 72). In this case, local citizens and knowledge have little to offer when determining matters of risk decisions. According to Frank Fischer (2000), “scientific and technological determinations have become the primary standards by which substantive regulatory decisions affecting environmental quality are reached” (p. 91). In traditional forms of expertise, policymakers depend on credentialed scientific expertise to provide technical evidence as a way to understand and mitigate risk. The Study Group on Environmental Assessment Hearing Procedures cited by Richardson, Sherman and Gismondi (1993) emphasized this approach when they stated “that technical experts are the people best qualified to determine the environmental effects of large-scale industrial projects” (p. 10). They believed this to be true due to technical experts’ presumed ability to separate fact and value. This separation is said to lead to solutions based solely on an objective basis (Richardson et. al, 1993). By claiming to remove the human element from scientific solutions, experts and their sponsors can portray their information as reasonable, rational, and unbiased.

This ethos of scientific objectivity is often accompanied by the belief that the “public’s perceptions of risk are generally understood to be subjective, mistaken, emotional, and even irrational” (Katz & Miller, 1996, p. 116). Even further, some members of expert communities and legislative bodies believe that public assessments of risk are based

inappropriately upon “socially constructed instruments that reflect their users’ individual and cultural biases” (Peterson, 1997, p. 91). With these assumptions, inclusive public participation in decision-making processes becomes much more of a challenge.

A related assumption involves an exclusive commitment to “technological discourse” (Peterson, 1997, p. 101). This type of discourse relies on closed systems dependent upon technical information while ignoring all other information derived from non-numerical sources (Peterson, 1997). This type of discursive boundary delegitimizes anyone “whose competencies fall beyond the predetermined, technologically defined realm of expertise” (Peterson, 1997, p. 101). By relying on this type of communication, expert communities and policy makers can exclude anyone they see as unfit from the conversation. This “technological discourse,” along with the other rationales mentioned previously, establishes an unwritten authority granted to those with specific technical knowledge.

Katz and Miller (1996) observe that in the eyes of some, this authority permits technical experts to correct public (mis)perceptions and promote behavior change. This power imbalance undermines the basis of those not classified as technical experts. In decision-making processes democratic ideology and values get turned upside down in favor of an elite group of experts (Majdik & Keith, 2011). “In some cases, expert communities become increasingly influential while the public becomes increasingly alienated, leading to monopolistic decision making with little legitimation” (Kinsella, 2004, p. 84). This literature helps to posit my next research question, which asks:

RQ 2: How did policymakers utilize input from external expert sources?

Kinsella (2004) goes on to point out that overemphasis on the expert community leads to the exclusion of “the most essential component of public discourse: the effective expression and exploration of individual and community values” (p. 84). These values can allow policymakers to reach a more holistic solution inclusive of all involved in the decision-making process. To ensure the inclusion of values we must place an equal amount of attention on the realm of public expertise that derives from local knowledge.

Public expertise that pertains to and derives from local knowledge. The second form of public expertise presented by Kinsella and Mullen (2007) stems from the local knowledge of citizen communities. This version of expertise consists of local experiences, knowledge, and values that are sourced directly from the individual communities with a stake in the issue at hand. This source of expertise is viewed more as inclusive, collaborative, and democratic. From this perspective, citizens and community members are the ones conveying the information as opposed to sympathetic outsiders.

While we should not entirely discredit the field of technical expertise, we need to address the importance of local knowledge, beliefs and values in assessing risk (Fischer, 2000). As mentioned previously, the authority of technical expertise often overshadows these attributes of risk evaluation. By repositioning the idea of expertise as an idea based on argument, technical literacy, and specialized local knowledge, we can assert the authority of public expertise derived from local knowledge in the field of decision-making.

Majdik and Keith (2011) argue that expertise should not be understood as a focus on knowledge but rather an ability to provide a sound argument. More specifically, these authors

state “experts are people who can make arguments about things that best respond to a particular problem, and who possess an expertise consisting in their ability to make a case for a particular definition of problem or solution” (Majdik & Keith, 2011, p. 374). This shift allows for anyone who provides a sound claim with supporting evidence to participate in the democratic process. Even further, this approach breaks down discursive boundaries to allow for the inclusion of language outside the technocratic realm. In the instance of public participants, sound arguments can be demonstrated through individual and community beliefs and values (Majdik & Keith, 2011). The importance of these attributes is highlighted by Paul Slovic (1999) when he states, “risk assessment is inherently subjective and represents a blending of science and judgment with important psychological, social, cultural, and political factors” (p. 699). These values and beliefs are essential to evaluating the practicality of solutions brought forth through the technical realm.

These arguments should also highlight the value of local knowledge. Brush and Stabinsky (1996) define local knowledge as “popular or folk knowledge that can be contrasted to formal or specialized knowledge that defines scientific, professional, and intellectual elites in both Western and non-Western societies” (p. 4). This type of knowledge can be as valuable, if not more valuable than credentialed expertise. Local knowledge is gained through the experience of human interaction with local environments. In some cases, this information has been passed on between generations in the form of oral tradition (Fischer, 2000). These experiences can be difficult to reproduce and understand from the perspective of western science. Kinsella (2004) states that the inclusion of local knowledge is

an important way to understand problems comprehensively, enhancing scientific validity as well as democratic legitimacy. Therefore this leads us to into the third research question of this project, which asks:

RQ 3: How was local knowledge utilized as an advocacy strategy for the Coal Ash Management Act?

Locally achieved technical and scientific authority. The third and final form of public expertise presented in this research consists of technical knowledge and scientific authority contained within the local community itself (Kinsella and Mullen, 2007). In this form, citizens themselves become a source of technical expertise. This differs from the first form of public expertise, as the source of scientific authority stems from within the community as opposed to sympathetic outsiders. This form of public expertise allows for local community members to effectively engage with decision makers who are more inclined to technical discourse.

This technical background is important in helping to alleviate rhetorical boundaries between local citizens and specialized experts. This observation aligns with the established use of what Peterson (1997) calls “creative discourse” in portraying arguments. Peterson (1997) defines creative discourse as reasoning that “seeks to expand the circle of potential participants to accommodate a constantly changing set of definitions and experiential bases” (p. 101). This type of discourse encourages the use of nontechnical as well as technical language. By using technical language, local experts can establish a basis for dialogue

between themselves and technical experts. This strategy can help to move technical experts from “a position of privilege to one of equal partnership” (Kinsella, 2004, p. 88).

Aside from alleviating the rhetorical boundary that may exist, technical competence is also necessary for practical engagement as well. As Kinsella (2004) points out, “citizens encounter more specialized terms and concepts, jargon, acronyms, and methodological questions, as well as related legal, administrative, and regulatory details” (p. 93). Without the technical competence to understand these related aspects of decision-making, citizens are not able to critically engage with the topic at hand. Local experts must possess technical competency not only to gain access to the conversation but also be able to actively engage in the conversation. Advocacy groups can help ensure this technical competence by providing local citizens with the knowledge necessary to engage in these conversations.

A major aspect to this third form of public expertise is the role of outside organizations and advocacy groups. In this classification of public expertise, local citizens are the final source of expertise rather than the advocacy groups. However, advocacy groups can serve in a role to help provide technical expertise and knowledge to the local community. This allows the citizens to develop and engage in technical discourse grounded in a local perspective. These advocacy organizations can help to develop and foster this locally sourced technical expertise through trainings, workshops, and other means of information dissemination. From there, the local community retains the ability to decide how to implement this technical knowledge. In the case of coal ash, advocacy organizations helped

community members understand the technical data related to groundwater contamination and structural stability of dams.

Advocacy groups themselves, however, can also be a source of locally achieved technical and scientific authority when their staff is composed primarily of members from the local community. In this case, the voices of the community are being represented by an advocacy organization that possesses some form of technical knowledge. Since the membership of this group is derived from the local community, it could also be assumed that their technical knowledge would be as well. In the context of coal ash, this could be an advocacy group representing a local community by providing local groundwater data to state legislators. In other words, these groups bring a scientific background grounded in local perspectives.

Overall, this last form of public expertise differentiates from the first two classifications by the type and source of knowledge. Locally achieved technical and scientific authority results from the local population possessing technical knowledge and scientific literacy. In the first form of public expertise, external expert support, experts from outside the local community are brought in to provide technical knowledge and scientific authority. In this first form, knowledge remains in the technical realm and is possessed by outside sources. Lastly, public expertise that pertains to and derives from local knowledge is dependent upon the values, beliefs, and experiences of the local population. This form focuses on local perspectives instead of technical literacy. These three categories, however, can become difficult to distinguish from one another when observing in the field. This can be attributed to

the observation that some communities and advocacy organizations use multiple forms in conjunction with one another. Even further, these three forms of public expertise are often employed together to develop a shared vision for environmental goals. In this case study, public expertise was a resource used by a variety of advocacy organizations to articulate a shared goal for coal ash clean up.

Articulation

The concept of articulation, as developed by Laclau and Mouffe (1985) and refined by Stuart Hall (1996), is concerned with the way individuals or organizations come together to redefine reality through discourse and practice (Deluca, 1999). Specifically, Laclau and Mouffe (1985) define articulation as “any practice establishing a relation among elements such that their identity is modified” (p. 105). The identities of participating groups or individuals become modified as a result of their connection to the larger issue at hand. Typically, these organizations assemble as a result of a struggle against a larger societal issue, such as gender inequality, racism, or corporate environmental degradation (Grossberg, 1987). Each of the groups, in turn, contributes by bringing its own voices and issues to the discussion. Together, this collection of voices works to rearticulate traditional understandings of society. Deluca (1999) identifies this opportunity when he states the need for new social movements to “link the different antagonisms that give rise to environmental struggles, workers’ struggles, feminist struggles, and antiracist struggles so as to make possible the disarticulation of the hegemonic discourse that constructs these various groups in relations to

oppression” (p. 345-346). As demonstrated by Deluca (1999), articulation is a powerful rhetorical technique that can also be utilized in the context of environmental struggles.

Through articulation, environmental groups can develop a shared understanding of environmental well-being from their own localized perspectives. From the perspective of Deluca (1999), these groups participate in the “rhetorical practices of constructing nature in ways that lead to linkages and networks among disparate groups” (p. 346). Under normal circumstances, each of these groups would not likely collaborate or work together. However, they become united through their shared understanding of the larger issues that pose a threat to their individual goals.

While each of these groups may have its own strategies and interests in the process of reaching a shared goal, Kinsella (2014) suggests that this can be an actual benefit of collaboration. He states that collaborative “diversity provides its own rhetorical benefits, linking arguments that can be persuasive for multiple audiences across multiple contexts” (Kinsella, 2014, p. 11). Such diversity can make the movement stronger by enrolling activists who otherwise would not have been involved. By creating a movement based upon the interests, strengths, and strategies of multiple organizations, environmental networks can begin to leverage powerful industry groups and government entities in unprecedented ways. This theoretical framework leads directly to the last question posed by this research.

RQ 4: How did the advocacy community articulate a shared goal for coal ash in the state of North Carolina?

This theoretical framework arose after initial data collection from the target population. The research initially took an inductive approach, meaning that an established theoretical framework did not guide and control data collection. Instead, the data brought forth a series of questions, which the theory helped to interpret and answer. By utilizing this approach, we can begin to understand the complex interactions that took place throughout the drafting of the Coal Ash Management Act. In this case, the data pointed to themes of risk, public expertise, and articulation, which were then connected to the theoretical background presented above. To fully understand this process, we must now consider the methods utilized in order to collect data for analysis.

Methods

The basis for this study originated from my background and interest in the environmental field. Immediately following the Dan River coal ash spill, I became interested in the response of the environmental advocacy community. It became apparent that much of their effort was directed towards the creation of coal ash rules in the state of North Carolina. For that reason, I sought out the strategies these groups were taking to ensure that strong legislation would be created. It is important to note my self-identification as an environmental advocate and engaged researcher. This position created a unique challenge, as my personal opinions often sympathized with the environmental community. However, it was understood that my role as a researcher required me to analyze the situation from all positions and perspectives. This allowed me to keep an open mind throughout all of the interviews conducted during this research.

After identifying my topic of choice, I submitted an exemption request for research to the institutional review board of the university. Not long after, I received an exempt status from the university, allowing me to begin this study. After receiving approval, I began the process of identifying and contacting respondents for participation.

Participant Selection

In this study, the population of interest was both small and difficult to access. Particularly, this population comprised legislators, contractors, and advocacy groups working to draft the Coal Ash Management Act of 2014. This small population led to a total of eight participants for the study. However, I was able to gain access to a large cross-section of the

environmental community involved in advocating for this bill. Specifically, I interviewed five representatives from environmental organizations. This is sizable portion of that population as only 13 environmental groups were members of the coalition working on this bill. My access, however, was limited when it came to legislative members, industry groups, and state agencies such as the NC Department of Natural Resources (DENR). This limited access most likely was related to non-disclosure agreements stemming from the multiple ongoing legal cases against Duke Energy and the NC DENR. Another limiting factor for participation was the timing of data collection. Interviews were conducted from October 2014 through January 2015. During this time period the State legislature was out of session. Many of the legislators were either out of town or committed to other full-time positions. However, because the focus of this research is on the strategies of environmental organizations, these limitations are important to recognize but not central to the collection of adequate data.

Participants were recruited through a network sampling strategy. This type of strategy very closely resembles the sociological sampling method presented by Raymond Gold (1997). This sampling strategy is driven by the belief that the “people whose society is to be studied are the very best source of information on how to put together an empirically grounded, representative sample of that society (Gold, 1997, p. 390). In particular, network or sociological sampling depends upon informants to identify other participants who are most relevant to the situation or study being conducted (Gold, 1997). In the case of this study, an initial participant was selected through the researcher’s previous connection to the

environmental community. From there, the first participant guided the sampling effort by identifying others who worked closely on this bill. This participant presented names of actors within both the advocacy and legislative community. Using these contacts, I continued data collection through interviews within these communities.

Five of the participants were representatives of local and national environmental advocacy organizations that have a significant presence within the state. Two participants were state legislators who were identified as having a major role in the bill drafting process. The last participant did not fit into either category but was involved in the formative process and had a significant understanding of both the bill itself and of the NC Department of Environment and Natural Resources' role in environmental legislation. It is important to note that many of the participants identified one another as key players in drafting this piece of legislation. These cross connections made it apparent that each participant played a significant role in creating the Coal Ash Management Act.

Before the interviews took place, each respondent received an informed consent form, which provided an overview of responsibilities, risks, and benefits related to participation in the study. The informed consent form highlighted the potential risk related to altered public perception about a participant in the case that their identity was revealed. However, the informed consent agreement addressed this concern by stating the measures taken to ensure confidentiality. In this study, participants were reassured that their identity would never be linked with their responses in written or oral reports. Once respondents agreed to these terms, the process of data collection began.

Data Collection

During the period following the Dan River spill and the 2014 state legislative session, media reports covering the issue of coal ash in North Carolina were concerned with public health, economic impacts, outcomes of the Coal Ash Management Act, and the state's relationship with Duke Energy. However, it appeared that few of the reports focused on the internal interactions taking place to make a piece of legislation like the Coal Ash Management Act possible. This helped to pique my interest in studying the communicative and advocacy strategies utilized in creating this bill. This interest in an area that had received little attention led me to take an inductive approach for this study.

An inductive approach directs the researcher to look for patterns and trends in the data being collected (Bernard & Ryan, 2010). In this study, that meant approaching interviews without a pre-determined theoretical framework in mind. The initial interviews were very broad and sought to better understand the situation from the perception of the participant. While subsequent interviews were also concerned with the perceptions, beliefs, and experiences of the participants, the questions were framed and developed based upon the responses of previous participants.

Throughout the course of these interviews it appeared that the number of respondents did allow for saturation related to the themes of risk, articulation, and public expertise. Glaser and Strauss (1967) define saturation as the point in which "no additional data are being found whereby the sociologist can develop properties of the category" (p. 62). In regards to this research, saturation was reached when participants continually described the roles of each of

the organizations involved in the coalition. Since each respondent seemed to be fairly familiar with the role of each organization, saturation was obtained fairly easily within the environmental advocacy community. Aside from data collected through these interviews, other sources of information were also utilized to help provide context and setting for the situation.

The research setting and timeline of events are based upon information provided by both Duke Energy and local and national news reporting organizations. The state of coal ash in North Carolina is an ongoing issue, which results in new developments daily. Data collected and reported in this research reflect the period immediately following the Dan River coal ash spill through February 2015. There are aspects of the issue that will continue to develop based upon the timeline established in the Coal Ash Management Act and also ongoing litigation. However, this research is predominantly concerned with the interactions, strategies, and approaches to environmental advocacy taken during the creation of the Coal Ash Management Act.

Analytical Approach

Immediately following the data collection phase of this research, the process of data analysis began. Consistent with the exploratory nature of this project, a grounded theory approach informed data analysis. Grounded theory is a method dependent upon inductive data collection to drive deductive theory (Glaser & Strauss, 1967). As mentioned previously, an inductive approach was taken during the process of conducting interviews. These interviews were unconstrained by a theoretical framework dictating the questioning process.

Each of the interviews was electronically recorded through a secure personal electronic device. This allowed the researcher to transcribe each interview at a later date. These transcriptions provided the opportunity to critically analyze each interview through an open-coding process.

This open process is often viewed as one of the first stages of analysis in the grounded theory approach (Strauss and Corbin, 1998). In this stage, a researcher analyzes the transcriptions line-by-line identifying potential concepts. I utilized this same approach to identify all the possible concepts available in each of the interviews. From there, Glaser and Strauss (1967) suggest pulling together these identified concepts and grouping them into larger themes. In this research, 38 themes were initially identified based upon the concepts. Glaser and Strauss (1967) then go on to state that the next stage is to link themes together through theoretical models. In my research, this stage consisted of combining themes into larger, more encompassing categories and discovering the connections between each. It was clear that the overarching themes of risk, articulation, and public expertise were present in each of the interviews analyzed.

Analysis

The data collected during each of the eight in-depth interviews provided valuable insight leading to the major themes identified in this project. The emic categories of risk, articulation, and public expertise are all based upon the experiences and insights offered by participants in this study, although participants did not necessarily use these terms. The analysis section presents these themes through the experiences of the environmental advocacy groups, contracted experts, and state legislators. We are able to dissect these experiences by utilizing the theoretical framework presented earlier. Combined, these pieces provide a holistic insight into the strategies employed by the environmental community in the process of advocating for strong coal ash rules in the state of North Carolina. This advocacy process began immediately following the coal ash spill on the Dan River in Eden, North Carolina.

Dan River Spill and Legislators' Approaches to Risk

When the coal ash spill on the Dan River occurred in February of 2014, a series of reactions and interactions set in motion a process that led to the creation of the Coal Ash Management Act. This began with the initial awareness created by news media and environmental organizations at the local and national levels. The images, texts, and sounds distributed throughout the state created a heightened sense of risk and responsibility that was otherwise unseen before the spill. The hazards posed by coal ash were not unheard of due to a much larger spill which had occurred in Kingston, Tennessee six years earlier. The Dan River spill, however, made the issue salient to the citizens of North Carolina. More

specifically, the spill heightened the awareness of hazard to the residents living near these coal ash ponds and citizens dependent upon drinking water derived from reservoirs nearby.

The social pressure from constituents and organizations across the state helped to generate the momentum for creating a coal ash management policy. According to one respondent, the Dan River spill created a climate “where the legislature felt they had to do something. It created a political imperative to do something” (Environmental Organization Rep. 4, personal communication, 2015). These discussions, mixed with the fact that many legislators had coal ash ponds within their districts, led to the initial research phases for the bill.

At this point, the Environmental Rules Committee of the State General Assembly hosted several meetings in which organizations from across the state were invited to share their input on coal ash in the state. During this stage, legislators were collecting much information from a wide range of sources. This was partly due to the novelty of the issue and its lack of public attention before the spill. These observations correspond directly with the information seeking and processing model discussed earlier. Legislators and citizens alike had a heightened sense of risk mixed with a sense of information deficiency. This led directly to information seeking behaviors through the processes of public meetings, an established institutional format for addressing situations of this kind.

One legislator interviewed mentioned the breadth of information brought to the table from the numerous groups involved in the initial public meetings. His synopsis of the situation was demonstrated when he stated the public meetings were “sort of like a funnel.

You start very wide and slowly but surely you're narrowing the issues and you're trying to get information on very specific things" (Legislator 1, personal communication, 2014). From his perspective, many viewpoints and ideas were brought to the table from a variety of organizations but as time passed this funnel narrowed and legislators began to collect more specific information. The legislators participating in this research identified the Governor's office, Duke Energy, other industrial advocates, environmental advocates, and the Department of Environment and Natural Resources as some of the major actors in the issue. While this list is not exhaustive of all the organizations and stakeholders involved, it does comprise many of the interactions that took place during the legislative process, as portrayed in Figure 1.

In assessing the risks coal ash posed to citizens, groups, and businesses from across the state, legislators employed three approaches to risk analysis as highlighted by Renn (1992). These approaches addressed technical, economic, and psychological aspects of risk that would be important for assessing a situation as complicated as this one. The approaches were particularly evident in comments made by the two legislators interviewed for this research. One legislator remained well grounded in the technical and economic realm while the other appeared to rely heavily on the psychological approach.

The first legislator noted his attentiveness to the potential physical harm posed by these ponds. He mentioned his focus on data indicating the structural integrity of each of the dams holding back the coal ash from nearby bodies of water. These data had been collected on a yearly basis through dam inspections conducted by both Duke Energy and the

Department of Environment and Natural Resources. This legislator was confident in the structural integrity of the dams and believed that the Dan River spill was an unusual circumstance. For this reason, much of his philosophy and approach was based upon the data, which he believed, showed little potential risk for another occurrence of this magnitude (Legislator 2, personal communication, 2014).

This same legislator was also particularly attentive to the costs of cleaning up and relocating the coal ash ponds in the state. This perspective falls under the economic approach to risk analysis highlighted by Renn (1992). This legislator portrayed this approach when he mentioned his concern with “how to protect the economy and the environment at the same time...how to protect Duke Energy who employs tens of thousands of people in this state, and millions upon millions...of dollars of investment” (Legislator 2, personal communication, 2014). He was aware that a solution to the issue would potentially cost upwards of a few billion dollars. With this knowledge in mind, the legislator compared the economic risks to the potential benefits of cleaning up the coal ash ponds across the state. This risk benefit comparison had a significant impact upon the way he worked to move the bill.

The final risk analysis approach noticed in this study aligns with Renn’s (1992) psychological classification. Another legislator who participated in this research noted his careful consideration of input from environmental advocacy groups who were representing the ideas and opinions of citizens across the state. This legislator convened a series of meetings with these groups to understand public perceptions related to the ash ponds. This approach to risk analysis can help to bridge the gap between the technical information being

provided by groups like DENR and Duke Energy and public understanding of the legislative approach. These examples help us to address the first research question presented in this study, which sought to identify the approaches to risk analysis state legislators incorporated into the legislative process. It was evident that the two legislators employed strategies utilizing technical, economic, and psychological approaches to risk analysis.

Articulation by Environmental Groups

An overarching trend observed throughout the interviews was the reliance on multiple coalitions of organizations to increase the efficacy of the environmental agenda. The organizations involved had many different missions, strategies, and areas of expertise. However, they were all able to align themselves with the goal that “all ash impoundments...in North Carolina that are owned by Duke Energy would be fully cleaned up, converted from wet to dry ash handling, and that all existing wet impoundments would be moved away from waterways and remediated from any existing contamination problems” (Environmental Organization Rep. 3, personal communication, 2015). This goal emerged from the realization that each pond, despite their varying sizes, poses a significant risk to the citizens living nearby. One respondent noted that this was not an issue solely affecting the Dan River community but all communities located near coal ash ponds across the state. He mentioned the consensus within the environmental community from the beginning to establish the goal of cleaning up and relocating all ponds across the state. If advocacy groups had chosen a goal focusing on only a few ponds, communities from across the state would be left out and forced to suffer the consequences of potential future groundwater contamination and other

risks (Environmental Organization Rep. 2, personal communication, 2014). This holistic goal helped to unify many disparate groups behind one cohesive message. This singular message provided a strong voice for the direction of the bill. Having a unified message with many different voices emphasizes the importance of this issue to many groups and people throughout the state of North Carolina. That one goal helped to guide the advocacy community throughout the entire legislative process.

It is important to note that not all organizations working to reach this goal were primarily of an environmental orientation. The organizations involved had different approaches and perspectives to environmental issues but banded together through the idea of cleaning up all coal ash ponds across the state. Specifically one interviewee said, “it really reaches a wide demographic of people from various groups and backgrounds. That’s kind of the way that the movement is headed” (Environmental Organization Rep. 2, 2014). He followed up by declaring that issues affecting water quality are issues that impact a variety of people and organizations outside the environmental community, especially those in lower income communities who depend upon local fish as a source of food. This suggests that coal ash may be an issue that unjustly places those in a lower economic status at even more of a disadvantage. By connecting coal ash to the universal topic area of water, the advocacy community rhetorically linked the issue to a much broader audience. In making this connection, advocacy groups were able to further mobilize the movement by creating a potential point of entry for new participants. As an example, the movement enlisted the help of film companies to produce narrative videos on coal ash to be displayed across the state.

These companies volunteered their expertise to create videos highlighting the stories and viewpoints of citizens living around coal ash ponds within the state. The videos were used to make a connection between those living near the ash ponds and the rest of the citizens living throughout the state. While the organizations that produced these videos have no formal affiliation with environmental issues, the community utilized their areas of expertise to make a stronger case.

Even for the organizations that did have environmental affiliations, their missions and areas of expertise varied greatly. This was important, however, due to the many facets associated with coal ash. Coal ash transcends many areas of expertise from disposal to water quality to the processes that produce it in the first place. These areas were largely covered by the 13 environmental organizations that collaborated through a coalition with the informal title of NC Coal Ash coalition. This coalition had been in place for nearly two years prior to the Dan River coal ash spill (Environmental Organization Rep. 3, personal communication, 2014). Based upon information gathered through the interviews, the environmental community encompassed these major areas of expertise: law, water data collection, professional lobbying, grassroots organizing, public access to information, and interpersonal political connections. By utilizing all of these strengths, the environmental community was able to more effectively lobby for the regulation of coal ash within the state of North Carolina.

In the process of lobbying, however, the organizations had drastically different relationships with legislators. Some organizations were very well connected with the state

legislature and others had no connection at all. For this reason, it was very important to work together as a coalition to gain access to legislators. An organization's relationship with the State legislature appeared to be dependent upon two factors: organizational strategy and advocacy approach.

Organizational strategy strongly influenced the relationships that organizations had with legislators. For some organizations, their primary focus was public information outreach, which left very few resources for legislative relationship building. When prompted about their relationships with legislators, a member of one of these organizations stated, "I'd say that we have limited relationships. Again, we aren't the organization that focuses on building relationships with all of them" (Environmental Organization Rep. 5, personal communication, 2015). For these organizations, the task of working with legislators was left to other environmental groups or constituents from across the state.

For other organizations, policy work and lobbying were a high priority that received much attention throughout the legislative session. In particular, one organization employed a full-time dedicated lobbyist whose main responsibility was to build relationships with legislators. These previous relationships created an opportunity for continued dialogue during the development of the Coal Ash Management Act. This was important not only for the organization the lobbyist represented but also the environmental community as a whole. This was mentioned by another organization, whose representative said, "they really opened up the doors, literally, to speak to these legislators. So it was through them that I was invited to

the table to talk about the bill and talk about proposals and trying to get amendments even discussed” (Environmental Organization Rep. 2, personal communication, 2014).

Aside from organizational strategy, the advocacy approach of organizations also dictated their relationships with legislators. In this instance, the advocacy approach involves varied degrees of willingness to compromise when working with legislators. Organizations participating in this study spanned a spectrum from unyielding to moderate. Each of these positions possesses its own strengths but also resulted in very different relationships with legislators.

From the moderate position, there was an understanding that the demand for all or nothing, in this case cleaning all 32 ponds in 13 counties immediately, was not necessarily a politically feasible choice. Demanding this immediate outcome might further alienate the environmental agenda. A representative of one moderate organization believed it was important to be “able to present an option that still advocates for those communities but is also truly viable for management of coal ash in NC.” She went on to say that “I think we’ve hit that middle ground where we are both advocates and we’re also pragmatic about real solutions” (Environmental Organization Rep. 3, personal communication, 2014). By taking this approach, the organization believed it had built a very strong relationship with the state legislature.

On the opposite end of the spectrum are groups that took an unyielding approach when lobbying state legislators. According to Short (1991) who draws from Bowers and Ochs (1971), these organizations participate in what he calls “agitative rhetoric” (p.172).

This confrontational rhetoric seeks to challenge the political system in a way that exposes imbalances of power. Short (1991) goes on to state that “agitative rhetoric” serves as a touchstone for measuring...individual level of commitment to the movement and how far they will go to purify the system” (p. 175). In the case of the Coal Ash Management Act, organizations who took this position were unsatisfied with any result other than the immediate removal, clean up, and relocation of all coal ash ponds throughout the state. A representative from an environmental group with this perspective stated that “you can’t be an environmental advocate and be afraid to tell the truth and be afraid to rub some people the wrong way. Not ruffle a few feathers. You got to speak the truth and speak what’s right” (Environmental Organization Rep. 2, personal communication, 2014). While this unyielding approach allowed the organization to wholeheartedly stick to its mission, it did however affect its relationship with state legislators. According to this same organization, legislators did not want to meet with them or heed their advice. As described above, however, they were able to obtain access to meetings based upon relationships that other organizations had established.

Despite these very different organizational strategies and approaches, the combined effect led to a much more powerful argument. This situation again can be seen in direct relation to Bowers and Ochs’ (1971) analysis of the relationship between moderate and more extreme organizations. Short (1991) states “agitation and confrontation draw public attention to many concerns of the larger environmental movement” (p. 183). In this case, the more radical approaches helped to draw public attention outside of the movement by directly

challenging those within the state legislature. This confrontation was covered by local and state news media, creating a narrative to draw in a larger audience (Environmental Organization Rep. 2, personal communication, 2014). This larger attention to the issue increased the pressure for action.

The unyielding approach also helped to establish the legitimacy of other more moderate organizations within the state. This observation was noted by Short (1991) when he stated, “the moderate image of one group may be the result of the agitation of another group” (p. 185). This contrast between the different approaches can enable the credibility and public legitimacy of moderate organizations (Short, 1991). It appears as if this was the case in this study, as the more unyielding organizations helped to pave the way for the demands of the moderate organizations. These demands were met through stringent timelines established in the Coal Ash Management Act. Logistically, however, the moderate organizations helped the more unyielding organizations arrange meetings with legislators based on their stronger relationships. It becomes evident, then, that the relationship between moderate and unyielding organizations is somewhat reciprocal. The more unyielding organizations help to improve the relationships between moderate organizations and legislators while the moderate organizations use this relationship to assist the more unyielding organizations in setting up meetings.

These experiences help us to address the research question related to how advocacy organizations articulated a shared goal for coal ash in the state of North Carolina. In this case study, the advocacy community from the outset established a goal for the Coal Ash

Management Act to force the cleanup and relocation of every ash pond from across the state. In order to address this goal, groups from all over North Carolina banded together utilizing their many different skill sets and areas of expertise. While each of these organizations had its own missions and visions, the cohesive goal of coal ash cleanup led to their collaboration behind a single unified movement. The strength of this movement stemmed from each organization's ability to cover a different topic area related to coal ash. Law, grassroots organizing, and water data collection were just a few of the areas that came together in advocacy for the comprehensive goal of coal ash cleanup.

External Expert Support

During the legislative process, advocacy groups demonstrated a reliance on all three forms of public expertise described earlier. In terms of external expert support, environmental groups provided information to legislators in the form of scientific and technical data through contracted scientists and legal experts. One interviewee stated that “[legislators] need enough technical information to understand what their choices really are, realistically what their choices are and what the implications are” (Consultant 1, personal communication, 2014). One organization, whose role was primarily lobbying, brought in “consultants like hydrologists and former regulators of the Department of Environment and Natural Resources who really had some in-depth understanding of hydrology and water resources laws and also NC statutes as far as waste management and water resources” (Environmental Organization Rep. 1, personal communication, 2014). Specifically, these experts served to fill the role that the NC Department of Environment and Natural Resources

(DENR) usually plays during the process of creating environmental legislation. In this case, some of the parties involved noted that DENR seemed to be unusually removed from the process of providing data, advice, and guidance for the bill. One participant speculated this absence could have been related to the U.S. Justice Department's federal criminal investigation into the activities of DENR following the Dan River spill (Environmental Organization Rep. 1, personal communication, 2014). In particular, the Justice Department was launching an investigation into DENR's relationship with Duke Energy. The federal agency had subpoenaed documents related to the correspondence with Duke Energy dating back to January 2010 (Blythe, 2014). Perhaps, for these reasons, it appeared that DENR took a hands-off approach throughout the legislative process.

According to one participant who was familiar with DENR, the agency's typical role in drafting environmental legislation is to provide "technical advice on both the law and sometimes the science or the engineering behind the laws and rules" (Consultant 1, personal communication, 2014). This advice helps situate the bill within the landscape of regulations and rules across the state. However, in this case some participants observed that the agency remained out of the picture except for the beginning and end of the process. One legislator stated, "it was uncomfortable that the environmental agency was not involved much and then right towards the end, they jumped back into it, frankly, giving me too little too late" (Legislator 1, personal communication, 2014).

For this reason, it appeared to be important for environmental organizations to provide credentialed expertise to legislators in charge of creating this new coal ash

management policy. A representative from an organization that provided contracted expertise highlighted this importance, saying that “[DENR] really took a backseat on this case which meant that the expertise we had to offer was used more than it would be normally” (Environmental Organization Rep. 1, personal communication, 2014). The expertise provided to these legislators included technological background, scientific evidence, and knowledge of regulatory statutes. This type of advocacy is especially important when working with legislators who are more aligned with technical information. One legislator in particular stated:

I deal with logic, I deal with fact. We had [other representatives] that deal with emotion. The emotion of it all...”this is devastating, all of a sudden all of the rivers and lakes are going to be polluted tomorrow.” I was dealing with the reality that that was simply not true and knowing what we had to do to fix the problem was going to be a herculean effort and cost a lot of money and we needed to be very careful with it. (Legislator 2, personal communication, 2014)

For this legislator, it was especially important to be provided with information stemming from traditional forms of expertise. This narrow reliance on technical expertise, however, may have led this legislator to miss out on other aspects of the issue stemming from public insight and knowledge. It appeared that his scope was very limited to economic and scientific data. While that may have been the case for this legislator in particular, it did not apply to all policymakers who were involved in this piece of legislation.

These experiences help us to address the second research question posed by this study. This question was concerned with identifying the ways in which legislators utilized external expert support in creating this piece of legislation. The data collected indicated that legislators relied on this external expertise to fill the role normally covered by the NC Department of Environment and Natural Resources. The external experts offered to these legislators by advocacy groups helped to provide legal and scientific expertise necessary to draft a bill covering a topic of this magnitude and complexity. While the data in this study indicated the ways in which environmental advocacy organizations utilized external expert support, it was unclear how Duke Energy was also employing this form of public expertise.

Public Expertise that Pertains to and Derives from Local Knowledge

To account for the values, beliefs, and experiences of citizens impacted by coal ash impoundments, advocacy organizations relied heavily on public expertise deriving from local knowledge. This form of public expertise was particularly evident in organizations experienced in grassroots organizing. These organizations realized that constituents were a major driving force for legislation. For that reason, a salient strategy for these advocacy groups involved making connections between constituents and legislators. A consultant for the environmental community mentioned that legislators “may not feel like they have to make Sierra Club or Environmental Defense or anybody else happy as an organization but they tend to listen differently to their own constituents” (Consultant 1, personal communication, 2014). This was especially the case for legislators who had coal ash ponds within their districts. Legislator 2 emphasized this point, stating:

Yea, I have an ash pond in my district....We tried to talk with them when I was in my district, talk with folks at home, talk with folks across NC to determine what they thought...There's some nuggets in everybody that you talk to. You can pull something out that you can use to help make your job easier or a better decision. So we had to sit down and listen, make ourselves listen and determine what those nuggets were and people were...people especially in the immediate area were somewhat concerned (Legislator 2, personal communication, 2014)

Comments like this made it evident that constituents living within the immediate vicinity of ash ponds were well received and also played an important role in the process of creating the Coal Ash Management Act.

To help facilitate this connection, environmental organizations worked together to mobilize citizens through a grassroots effort. This mobilization occurred on both an internal and external basis. Internally, this mobilization helped citizens become better advocates and foster connections among themselves. On an external level, citizens were mobilized through physical transport to legislator's offices, protests, and participation in traditional and new media channels. On each of these levels, a variety of organizations participated as another aspect of articulation.

As part of the internal mobilization, one group helped to facilitate connections among local populations vulnerable to the hazards posed by coal ash ponds. This work included events such as a "paddle and picnic" where citizens close to an ash pond on Belews Creek in North Carolina could come together, enjoy the recreational uses of the nearby river, and

discuss the impacts of the coal ash pond on the local bodies of water. These events allowed the community to come together to articulate their beliefs and values related to coal ash in their communities. This opportunity also allowed the community to take their discussions out of the abstract and bring them into the site of production. In this case, they were able to discuss coal ash pollution at the geographic location where it was taking place. This allowed the community to create a place-based argument grounded in actual lived experiences. The “paddle and picnic” flyer shown in Figure 2 offers evidence of these place-based discussions. In particular, this flyer demonstrates themes of family, community, patriotism, and diversity. The theme of family is demonstrated through both text and the image of the two parents and child. Community is conveyed through the text in the main body, which states “our community must stand together & defend our right to a healthy environment.” Patriotism is evident through the use of red, white and blue as the main color scheme and also the phrase on the poster stating clean water is the American way. Finally, diversity is portrayed through the depiction of individuals in the left image. Each of these themes is utilized as a way to connect with different segments of the local community.

The same organization that hosted the “paddle and picnic” also hosted an event that was catered more specifically to the citizens impacted by the spill on the Dan River. At this event, a variety of organizations and citizens showed up to help support a community suffering from the repercussions of a massive spill of toxic materials into their local waterway. This event provided a platform for these citizens to come together and express their ideas related to the future of coal ash and coal ash clean up in the state. These sorts of

events have led citizens to begin organizing on their own through the creation of Facebook pages such as “Residents for Coal Ash Clean Up” (Environmental Organization Rep. 3, personal communication, 2014).² On platforms such as these, local community members are able to share their experiences, values, and beliefs through texts or other forms of multimedia. In this realm, citizens are free to express their local knowledge to anyone who is willing to listen.

From there, this mobilization was adapted to audiences outside of the citizens and communities surrounding coal ash ponds across the state. The reliance on local knowledge and citizen engagement then became directed towards legislative members and audiences who otherwise would not have had a stake in the issue. One specific example of external mobilization was the coordination of a coal ash lobby day. Through this event, a variety of organizations designated a specific day during the legislative session on which citizens would participate in lobbying legislators for strong coal ash management policies (Environmental Organization Rep. 2, personal communication, 2014). Each of the groups involved in organizing the event helped physically transport citizens from across the state to the legislative building in Raleigh. Once there, citizens were able to speak directly with legislative members and staff by walking into their offices. This provided the opportunity for citizens to engage in face-to-face discussions regarding coal ash and local bodies of water.

Another environmental group, however, chose to facilitate this connection between legislators and citizens in an entirely different manner. Many of the organization’s members were wealthier and avid campaign contributors to state representatives. This advocacy

² See Residents for Coal Ash Clean Up Facebook Page: <https://www.facebook.com/nocoalash>

organization encouraged its members to use these economic ties to communicate with legislators about coal ash and watershed issues. These economic contributions helped local citizens communicate on a more personal level with legislators (Environmental Organization Rep. 4, personal communication, 2015). It could be argued that these economic connections provided greater legitimacy for citizens in the eyes of legislators.

Aside from the legislative audience, environmental organizations also helped citizens near coal ash ponds raise awareness about the dangers of these ponds to citizens all across the state. This came in the form of workshops demonstrating techniques for writing letters to the editors or protests across the state (Environmental Organization Rep. 3, personal communication, 2014). By utilizing these types of advocacy, citizens of the state were able to engage with and project their voices through traditional forms of media such as local television news or newspapers. Even further, advocacy groups helped local citizens share their perspectives through the use of new media as well. As an example, one organization worked with film companies to produce a video about the citizens living near coal fired power plants and ash impoundments. In these videos the citizens provide the narrative and relay information about the health costs associated with living near these sites. One citizen in particular stated:

I was diagnosed with stage three brain cancer and that was in 2010. I've lived in Walnut Cove, in the Stokes County area...for twenty some years, never expecting to become sick at age 35 and given an expiration date of three to four months. Now I'm

in remission but the unfortunate thing is even though I've put that behind me, I'm starting to make a connection. Something is not right. (Appalachian Voices, 2014)

These media messages helped to carry the issue throughout the state and to populations that may not have otherwise been involved in the issue.

These data help address the third research question presented by this study. This question was concerned with the way advocacy organizations employed local knowledge as a strategy to argue for stronger coal ash regulations. In this case, it was apparent that advocacy organizations aimed to provide a platform for citizens to express and disseminate their knowledge and opinions. Specifically, these organizations worked within communities to connect citizens to one another. These connections helped citizens to identify and articulate the values and knowledge present within their own communities. From there, the advocacy organizations helped to create connections between citizens and lawmakers through a coal ash lobby day. Finally, organizations helped to empower and encourage citizens to utilize traditional and new forms of media as another platform for expression.

Locally Achieved Technical and Scientific Authority

Aside from providing a platform for citizens to convey their local knowledge, advocacy organizations were also a source of cultivation of scientific and technical expertise for citizens and policymakers. When it came to aiding local citizens, organizations were providing trainings and workshops to help these citizens become more effective advocates. This was exemplified when a representative from a grassroots organization said “basically what we do is we arm them with all the information that they would need to speak up for

themselves” (Environmental Organization Rep. 3, personal communication, 2014). This includes providing them with scientific data and effective strategies to relay this information to legislators. In some cases, training was conducted through in-person workshops and events but in other cases it was disseminated online. One of the organizations interviewed in this study claimed responsibility for helping to distribute the scientific data about the coal ash ponds through an interactive website called Southeastcoalash.org, illustrated in Figure 3. This tool is described by a representative of the organization as a “comprehensive website using the data we have from the EPA and from other sources and all the information that we can get our hands on to engage the public and make it easy to understand what the coal ash impacts are near them on a regular basis” (Environmental Organization Rep. 5, personal communication, 2015). Essentially this website allows anyone access to information about coal ash ponds across the southeast that can be rather difficult to find or is not typically available to public audiences. This type of information can help to empower citizens when making public statements about the risks associated with coal ash. This can help curb some of the communication boundaries that exist between legislators and local citizens.

Aside from providing scientific and technical data directly to the local community, these advocacy organizations were also providing information to legislators. In one case, an organization concerned with the well-being of a local river was providing surface water data to legislators. This organization was an extension of the local community, therefore its expertise derived from within the community. It is important to note that the surface water data were collected by the organization itself and specific to a river in the local community.

The surface water data were used to convey the fact that coal ash ponds were indeed leaking contaminants into nearby sources of water.

These examples, combined with the previous sections, demonstrate the advocacy community's reliance on all three forms of public expertise to create a more comprehensive argument for new methods of coal ash management in NC. Each of three these forms possess strengths that may be more effective in certain situations than others. By including all three in the decision making process we can promote democratic politics, provide legitimation for decisions, and enhance the "relevance and validity of technical analysis" (Kinsella, 2004, p. 88).

Discussion: Articulating the Future of Coal Ash

It became clear through this research that many organizations, while addressing local issues and missions, positioned their struggle within a larger framework to articulate their dissatisfaction with the industrial processes of the largest electric utility provider in the United States. Each of the organizations involved in advocating for stronger coal ash regulations did not have a sole focus on issues surrounding coal ash itself. In fact, for most organizations, coal ash was just a smaller piece of the puzzle leading to an organization's vision for the future. However, the issue of coal ash did pose a significant hazard to what each of the organizations valued, whether that was a specific body of water or a community within the state.

By coming together as a collective body, the advocacy community was able to utilize the varying areas of expertise from each organization to tackle an issue that transcends many disciplines. The breadth of the subject became apparent when each of the participants was asked who they believed possessed expertise in regards to coal ash. Their answers often consisted of many people across many disciplines throughout the entire state. The disciplines relevant to this topic ranged from legal to scientific to the practical knowledge of grassroots organizations. At this point in time it would be very difficult to pinpoint any single, comprehensive source of expertise on coal ash. This gap could be partly due to the fact that until recently, the topic has been rather invisible to the community outside the walls of Duke Energy. Through this research the necessity for wider discussions surrounding coal ash

became apparent, to increase knowledge about a relatively unknown but consequential subject.

By coming together as a collective body, and by linking with broader constituencies, the environmental community was able to develop a much stronger advocacy effort engaging with a corporation with deep ties to the state government. A recurring theme throughout this research was the upper hand dealt to Duke Energy by government. From the perspective of some interviewees, Duke controlled the conversation surrounding the bill by offering an initial proposal during the conceptual stages. However, the collective body of environmental organizations stood as a unified voice to regain a say in the subject. Despite having a seat at the table, some in the environmental field felt their suggestions fell on deaf ears. The final piece of legislation matched Duke's original proposal to only clean up four ash ponds across the state. The status of the other ponds in the state is dependent upon further studies from the Department of Environment and Natural Resources. The environmental community, however, was successful in working to implement tough timelines for transitioning away from conventional forms of coal ash disposal and storage.

Following the legislative process, the state of coal ash in North Carolina has been surrounded by a series of controversies, challenges, and lawsuits. The first issue to surface following the legislative process was the ongoing internal struggle between state legislators and the governor's office. Following passage by both the State General Assembly and senate, Governor Pat McCrory, himself a former Duke Energy employee, refused to sign the bill due to his apprehension regarding the process for appointing members to the newly created Coal

Ash Commission. In his opinion, it was within his executive authority to oversee and appoint all members to the commission (Jarvis, 2014). However, the bill became law without the governor's signature. Outside the realm of the State General Assembly, the U.S.

Environmental Protection Agency issued its own rules on coal ash in December 2014. Since these rules hailed from the federal level, their impact would dictate the approaches to coal ash in North Carolina and the entire nation. However, these rules proved to be weaker than expected by straying from the classification of coal ash as a hazardous waste as many environmental groups had hoped for. Instead, the rules established guidelines outlining structural standards for ponds and conveying the responsibility of utilities to prevent leaks (Huetteman, 2014). These rules did little to progress the cleanup of coal ash ponds within the state of North Carolina.

Most recently, federal prosecutors filed nine criminal charges against the utility provider Duke Energy in February 2015. These charges are expected to result in over \$100 million in fines for violating the Clean Water Act. To date, these fines will be the second largest ever to be charged under the Clean Water Act (Henderson & Blythe, 2015). Duke Energy has agreed to pay these fines pending final approval of the agreement by the U.S. District Court for the Eastern District of North Carolina (Duke Energy, 2015b).³ The charges largely stem from a series of violations occurring at a variety of plants across the state. In one case, Duke Energy was caught illegally pumping nearly 61 million gallons of coal ash into a nearby river at its Cape Fear plant in March 2014. Aside from the federal penalties, environmental groups and the state of North Carolina have a series of pending lawsuits

³ Duke Energy agreement to pay fines: <http://www.duke-energy.com/news/releases/2015022002.asp>

against Duke Energy as well (Henderson & Blythe, 2015). All of these aspects demonstrate the complicated nature of coal ash across the state. Despite these developments, this project focuses primarily on the interactions that took place between legislators and advocacy organizations in the process of developing a statewide coal ash policy.

While many of the environmental organizations expressed their dissatisfaction with certain aspects of the final version of the Coal Ash Management Act, they were pleased that it established tough timelines for the removal of coal ash from the selected ponds. The environmental community did believe that these swift timelines were a result of their tireless advocacy work. Aside from that, there was also a sense of satisfaction from both the legislators and advocacy groups stemming from the fact that the bill was the first of its kind in the nation. This created a set of rules on the books on which the state could improve later. This piece of legislation also demonstrated that North Carolina was not content with the current state of coal ash and the hazards it poses to the citizens of the region.

Conclusion

The data collected through this inductive study raised a series of research questions, which we were able to investigate by incorporating a theoretical framework related to risk, articulation, and public expertise. The first research question focused on the approaches to risk analysis state legislators integrated into the creation of the Coal Ash Management Act. It was apparent through the data that legislators incorporated all three versions of risk classification presented in the theoretical framework: an actuarial approach to technical risk analysis, an economic approach, and a psychological approach. Each of these approaches was dependent upon the individual legislator's personal inclination towards information deriving from local or technical sources. One legislator mentioned his desire to base his decision related to coal ash on the technical information associated with dam structural stability and the economic cost of ash cleanup. The other legislator appeared to rely more heavily on public perceptions of coal ash provided by advocacy groups from across the state.

The second research question presented in this study asked how policymakers utilized input from external expert sources. In this specific case, legislators relied on contracted expertise to fill the role usually held by the Department of Environment and Natural Resources. In the process of drafting the coal ash management act, DENR appeared to take a more hands off approach most likely related to the ongoing investigation by the U.S. Department of Justice. Due to this issue, advocacy groups provided legislators with contracted legal, policy, and scientific expertise. These experts would be classified under

traditional forms of expertise, possessing language and knowledge beyond the voices of the communities actually impacted by these ponds.

The third research question was concerned with how advocates used local knowledge to push for stronger coal ash policies in the state. The data demonstrated that advocacy organizations utilized local knowledge through a two-part strategy of grassroots mobilization. This grassroots effort contained both an internal and external component for mobilization. Advocacy organizations used internal mobilization to bring citizens together to allow them to develop their own ideas and beliefs about the impacts of coal ash ponds within their communities. These communities even gathered at the geographic site of coal ash pollution to help situate their discussions in the real world implications and consequences. From there, advocacy organizations worked to mobilize citizens on an external basis. This was done through a Coal Ash Lobby Day in Raleigh to connect citizens to their respective legislators. Even further, advocacy organizations organized protests and encouraged local communities to speak out through traditional and new forms of media. Overall, advocacy groups created the platforms in which communities formulated their beliefs about coal ash and then delivered those beliefs externally to legislators and other citizens within the state.

The final research question presented in this study asked how the advocacy community articulated a shared goal for coal ash in the state. It was apparent that advocacy groups became interested in the issue of coal ash on their own terms related to their individual missions. This led them to create an informal group called the NC Coal Ash coalition nearly two years before the Dan River spill. Once the spill occurred, the coalition

mutually agreed that the only solution for legislation was the cleanup of every pond across the state. These groups, who otherwise would not be working together, united through the shared goal of eliminating coal ash ponds across the state. Their diversity of membership helped to draw in a much larger audience to the issue of coal ash within North Carolina. Even further, each of these groups delivered its varying forms of expertise to cover an issue that transcends many disciplines. These organizations incorporated legal, political, scientific, grassroots, and many other forms of expertise into their advocacy strategy. By combining all of these areas of expertise, the advocacy community was able to present a strong case for coal ash policies in North Carolina.

By identifying the strategies utilized in the Coal Ash Management Act advocacy process, this research can help to provide a framework for other environmental groups to implement during the process of drafting future environmental legislation. The breadth of this study, however, indicates that there is no single strategy that can be utilized when advocating for a piece of environmental legislation similar to this one. Advocacy strategy can differ depending on the topic of legislation, the legislators sponsoring the bill, the availability of public expertise, and the risks associated with the decision being made. It was found in this case that legislators relied on a series of strategies to approach the risk analysis process, employing risk analyses dependent upon technical, economic, and psychological approaches. Each of these approaches is dependent upon individual legislator preference. This information would likely only become apparent through interpersonal communication with a legislator. For that reason, it would be best to prepare advocacy strategies based upon all

three approaches to risk analysis. These advocacy strategies would most likely dictate the type of public expertise an organization would use when working with legislators.

As mentioned previously, certain forms of public expertise align better with certain legislators' approaches to risk analysis. External expert support likely would be the most welcomed form of public expertise by legislators who employ a more technical risk analysis strategy. On the other hand, public expertise pertaining to and deriving from local knowledge would be most beneficial to legislators that employ a more psychological risk analysis approach. Finally, locally achieved technical and scientific authority may help to fill the middle ground between technically and psychologically inclined legislators. Organizations should develop advocacy strategies employing all three forms of public expertise in order to best reach every population within a legislative body. Even further, utilizing all three forms of public expertise can provide a more holistic perspective on the situation and help to create a more inclusive decision-making process.

When it came to coal ash, it was obvious that there was no single source of expertise. In the course of the interviews, each respondent pointed to numerous sources of expertise due to the complicated nature of the issue. Prior to the spill, little information was known about coal ash outside of Duke Energy. For this reason, it was important that the environmental community came together to rely on each other's strengths and sources of expertise to work through this complicated issue. This provides a strong example for other organizations wishing to tackle large and complex environmental issues as well. In order to address all of

the issues associated with a topic, environmental groups would be most productive by relying on a coalition of organizations who specialize in a variety of areas related to that topic.

These conclusions were reached by using the theoretical framework to dissect and interpret the data collected in this research. In particular, Renn's (1992) classifications of risk analysis helped us to understand this situation from the perspective of the legislators creating the Coal Ash Management Act. By using these classifications, we were able to understand the type of information that was most salient to legislators when making decisions regarding risk. These insights can help us see which advocacy strategies may be the most effective when dealing with legislators.

We were also able to analyze organizational advocacy strategy through the lens of Kinsella and Mullen's (2007) conceptualizations of public expertise. These three forms of public expertise allowed us to discern the differing strategies between each of the organizations within the NC Coal Ash Coalition. Further, we were able to connect certain forms of public expertise back to Renn's (1992) classification of approaches to risk analysis. This allowed us to see that some forms of public expertise were more applicable to some legislator's approaches to risk analysis than others. Combined, these two theoretical approaches helped to demonstrate the importance of a multi-faceted strategy to environmental advocacy.

The identification of these phenomena raised further questions that cannot be answered within the scope of this study. Future studies could also observe strategies and techniques adopted by opposing advocacy efforts. In the case of this study, I was not able to

observe directly the advocacy approach of Duke Energy. This cross-comparison could have been helpful in determining differences in advocacy efforts between the environmental and corporate agenda and their interactions. Even further, future research could also analyze this framework in different contexts. By observing multiple contexts of environmental advocacy, we can further develop an advocacy framework suitable for local environmental organizations.

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APPENDICES

Appendix A
Figures

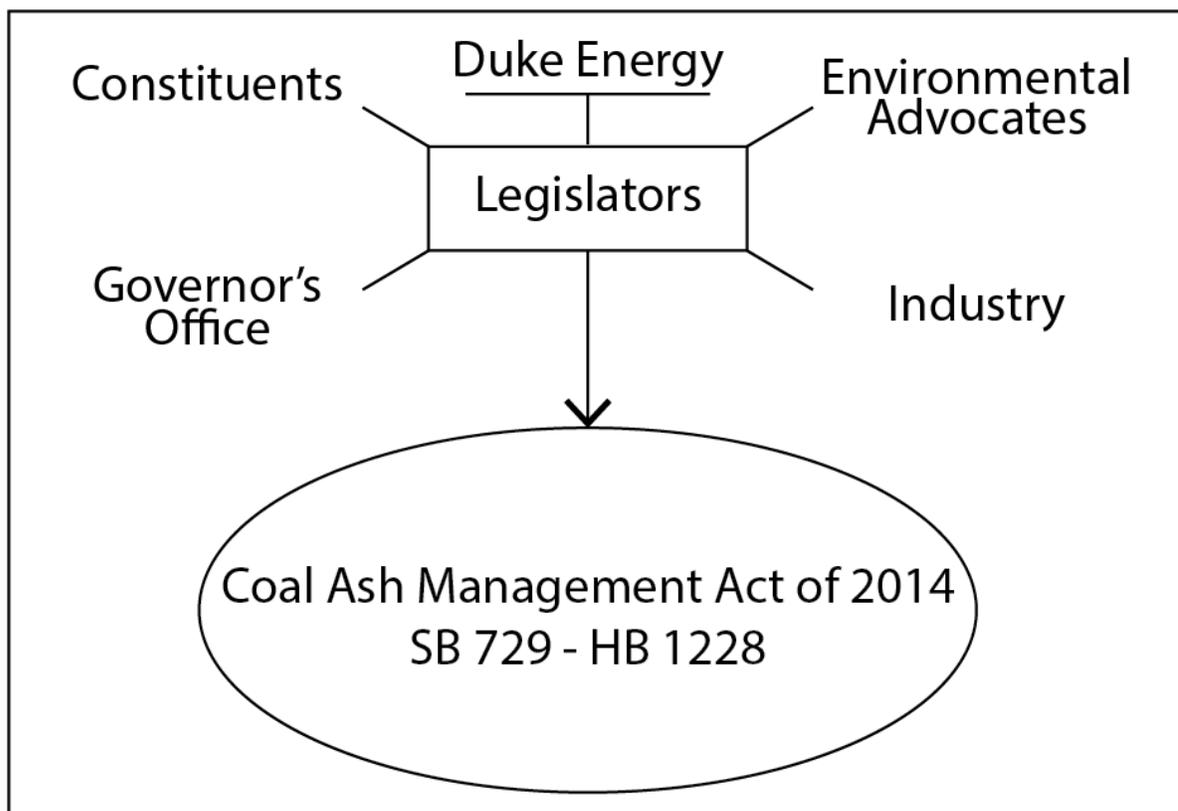


Figure 1. Actors in the Coal Ash Management Act

Appendix B
 Figures Continued

You are invited to the
May 10 Belews Creek Paddle & Picnic
 a **free** community day for clean water & protecting
 our health from coal ash pollution!

Morning Paddle
 11:30 a.m. Meet at Belews Lake
 landing on Pine Hall Rd.
 for a group boating .

Afternoon Picnic + Music
 2 - 4 p.m. Join us for a free lunch!
 Rock Hill Baptist Church
 4873 Pine Hall Rd.

The Belews Creek power plant has been polluting the Lake, Dan River,
 local groundwater and air for years. Our community must stand
 together & defend our right to a healthy environment. Enjoy our two
family friendly events and learn how you can help this cause.

Hosted by local residents against coal ash,
 NC WARN, Tarheel Paddlers Association,
 Appalachian Voices & Sierra Club

CLEAN WATER!
 It's the American Way!

I
 CLEAN
 WATER

Figure 2. "Paddle and Picnic" on Belews Creek Flyer⁴

⁴ Paddle and Picnic flyer from Appalachian Voices:
<http://www.appvoices.org/images/uploads/2014/05/Belews-Creek-flyer-1.pdf>

Appendix C Figures Continued



Figure 3. Screenshot of SoutheastCoalAsh.org⁵

⁵Screenshot of SoutheastCoalAsh.org retrieved from <http://www.southeastcoalash.org/>

Appendix D
Interview Questions for Environmental Groups

1. What is your role within your organization?
2. What would you describe as your main responsibilities?
3. What groups/audiences outside of your organization are you primarily working with?
4. What is your organization's involvement in the issue of coal ash in NC?
5. What groups (general public, other nonprofits, legislators) have you been working with when it comes to coal ash?
6. Could you describe your campaign/communication activities related to coal ash?
7. How were you communicating with the general public about coal ash?
8. What media were you using to communicate with the general public?
9. Was the communication with the general public/your stakeholders a one or two-way conversation?
 - a. If two-way, how were you receiving dialogue/info from the general public/stakeholders?
10. Did your communication strategy stay the same or alter during the entire coal ash dialogue taking place in the state?
11. What communication strategies with the general public/stakeholders did you utilize initially following the Dan River coal ash spill?
12. What communication strategies with the general public/stakeholders did you utilize during the process of drafting the coal ash management act of 2014?
13. How did the general public/stakeholders receive the information you were giving?
14. Did you encourage the general public to get involved themselves?
 - a. How did you encourage the public/stakeholders to get involved?
15. Was the general public able to participate in the drafting of the coal ash management act of 2014?
16. On a scale of 1-5, how satisfied were you in your interactions with general public/stakeholders?
 - a. Why?
17. Were you involved in the drafting of the coal ash management act of 2014?
18. What allowed you to participate/what prevented you from participating?
19. Who were the people in the legislature that you interacted with and what were their roles?
20. What were the most effective media utilized to communicate with legislators?
21. What strategies did you find most effective to portray your stance to legislators?
22. Did you feel as if your ideas and viewpoints were taken into consideration?
23. Did you feel as if you were at competition with other environmental groups to get your points across with legislators or was it a rather collaborative process?
24. What other environmental groups were you working with to portray your ideas to legislators?
25. How did you work with other environmental groups?

Appendix E
Interview Questions for Environmental Groups Continued

26. What percentage of the bill do you feel was based upon the suggestions of environmental groups?
 - a. Why that percentage?
27. From your perspective, who do you feel had the most input into the legislative process of drafting the coal ash management act?
28. Could you describe your interactions with both local and national news media?
29. What role do you feel that visual elements played in your interactions with legislators and constituents?
30. Were you collecting your own data to share with legislators and constituents?
31. Where were you receiving your information that was being shared with target audiences?
32. In the state of NC, who do you view as the experts on coal ash? How would you define expert?
33. What really began the momentum towards the drafting of the coal ash legislation?
34. On a scale of 1-5, how satisfied are you with the final result of the CAMA?
 - a. Why?
35. Were there attempts to get the general public involved?
36. Did you incorporate the concerns and ideas of the general public into your advocacy with policymakers?
37. Was this interaction typical of the interactions you have with the state legislature?
38. Could you describe you and your organization's overall relationship with the state legislature?
39. On a scale of 1-5, how satisfied were you in your interactions with legislators?
 - a. Why?

Appendix F
Interview Questions for Legislators

1. What is your position within the NC General Assembly?
2. Could you explain the responsibilities associated with your role?
3. What is your experience/background with coal ash in the state?
4. How aware were you of the coal ash issue before the Dan River Coal Ash Spill?
5. Does coal ash have any direct ties with your constituents?
6. What are your ties to the Coal Ash Management Act of 2014?
 - a. In what ways were you working with the Senate on this bill?
7. Where did you gather most of your information about coal ash?
8. What were some of the challenges the legislature faced when drafting this bill?
9. Did you reach out to groups for input on this bill or did various groups reach out to you first?
10. What type of information was most helpful to you in understanding the coal ash issue? (Technical science, visuals, personal experience?)
11. What groups provided input during the process of drafting the Coal Ash Management Act of 2014?
12. Which groups provided the most input during the process of drafting the Coal Ash Management Act of 2014?
13. How did you determine which groups you were going to base your input into the bill upon?
14. What percentage of the bill was based upon the input of environmental groups?
 - a. Why that percentage?
15. In what ways did environmental advocacy groups reach out to you for their input?
16. What were the most effective media (Social media, telephone, etc.) utilized to interact between yourself and environmental advocates?
17. Were there any barriers to interacting with environmental advocacy groups?
18. Did your position on coal ash change through interacting with various groups on this bill?
19. Were there any strategies taken to encourage public participation in the creation of this bill?
20. What do you believe are the overall strengths and weaknesses of this bill?
21. Are there plans for continued dialogue related to coal ash between yourself and advocacy groups?
22. How did this experience differ/align with past experiences of drafting legislation?
23. On a scale of 1-7, how satisfied were you in your interactions with environmental advocacy groups?
 - a. Why?
24. Do you feel that your experiences were similar to that of other representatives in drafting this bill?

Appendix G
Interview Questions for Contracted Expert

1. What is your current occupation and how does it relate to the issue of coal ash?
2. What is your background with coal ash and how did you get involved?
3. What role did you previously hold with the NC Department of Environment and Natural Resources?
4. What role does DENR play in regulating water quality and coal ash across the state?
5. How does DENR enforce these regulations?
6. Does DENR play a role in the process of drafting environmental legislation?
 - a. If so, what role?
7. What sort of information does DENR provide to legislators while drafting legislation?
8. Could you describe the nature of interactions between DENR and legislators?
9. Are you able to speak about DENR's role in helping to draft the Coal Ash Management Act of 2014?
10. Could you describe some of the key points of the Coal Ash Management Act and the changes it will lead to in NC?
11. What do you feel is the general view towards this piece of legislation since ratification?