Theorizing the role of power in policy change within the Advocacy Coalition
Framework through the Deep Dredge project in Biscayne Bay, Florida

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Abstract

The Advocacy Coalition Framework of Sabatier, Weible, and Jenkins-Smith is a highly recognized and utilized framework in the analysis of the policy process, originally developed in the 1980s to deal with various shortcomings in contemporary theories. It places its main emphasis on explaining policy change. Despite its extensive utilization and applicability across political systems, geographical areas, and policy topics, some scholars feel that the framework-defined paths that lead to policy change (external shocks, policy-oriented learning, internal events, negotiated agreements) are not fully developed and are missing causal processes that actually link them to change. The concepts of resources, strategies, and power are likewise underdeveloped, and although power itself is highly controversial in the social sciences, the existing literature suggests a relation between these concepts, and which could contribute to a better explanation of policy change within ACF.

Objective. The objective of this research is to contribute to the continuing refinement of the Advocacy Coalition Framework of Sabatier, Weible, and Jenkins-Smith by elaborating on the causal processes within policy change through the conceptualization and operationalization of the concept of power. This is done by creating a framework for the concept of power and applying it to a single case study in order to test and refine its utility. The framework is primarily derived from work by Sewell (2005), Avelino and Rotmans (2009, 2011), and Sabatier and Weible (2007), and elaborates a typology of resources as sources of power, strategies as a condition of power, and explores power types, dynamics, and relations amongst competing coalitions.

Method. The paper applies the framework to a single case study of policy change regarding Biscayne Bay management in Miami, Florida, especially as it relates to a recent project to dredge the Miami Harbor so that it can accommodate Super Post-Panamax ships, a case that shows a high-fit with ACF, and which would be interesting from a power perspective. The case study method is chosen because it allows for intense and in-depth data generation appropriate for testing and refining the power framework. Interviews, document analysis, and survey are used to collect data, create a timeline of events, and identify coalition resources, strategies, and thereby power. Policy change is examined as the dependent variable and power, operationalized through framework elements, is the independent variable.

Results. The results find that the case study can be examined from an ACF perspective, with several events/coalition strategies falling into the four paths of policy change as defined in the framework. Using ACF in its current status, however, fails to connect these paths to the actually policy change. For example, the external shock of regime change at the state level, identified as a condition for policy change in ACF, cannot be directly linked to policy change in Biscayne Bay management. However, examining these events/strategies more closely from a power perspective identifies the intervening causal processes that link the events/strategies to policy change, and gives better explanatory capacity to ACF.
Taking these results into consideration, a better inclusion of the concept of power within advocacy coalition framework can contribute to the continuing refinement and explanatory capacity of the theory.

Conclusion and discussion. The power framework developed for this research conceptualized and operationalized power in a way that it could better be applied to a theory of policy process, and further refined the paths of policy change within ACF. It allowed the researcher to continue to develop the concepts of resources, strategies, and power within the existing framework and better connect them to each other. A critical inclusion of power in ACF can allow the framework to go beyond a superficial examination of policy change, addressing a primary complaint of ACF scholars,

and allow researchers utilizing the framework to identify the causal processes that lead to policy change.

A main concern encountered during the research was a bias of the interviews and survey since all respondents came from one coalition. Despite the overall success of the power framework in this case study, it can be refined through additional application, especially focusing on the operationalization of resources for consistency and better comparability.

Acknowledgements

This research project gave me the opportunity to explore in-depth a case that was personally important to me. Having grown up in Miami and knowing first-hand the economic, cultural, and societal importance of Biscayne Bay, it was interesting to look at the policy-change from a theoretical perspective and gain a more in-depth understanding of how and why the events played out as they did.

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1. Introduction

This chapter provides an overview of the study, including the theoretical focus on policy change within an existing framework for analysis of the policy process, called Advocacy Coalition. It gives a brief description of the framework, the limitations therein regarding policy change and background of the concept of power, in terms of resources and strategies, and how it may fill this gap. The chapter then introduces the problem statement, the objective of the research, and a brief introduction to the case study in terms of policy change and power.

1.1 Advocacy Coalition and policy change

Advocacy Coalition is a highly recognized and utilized framework in the analysis of the policy process, developed and refined by Sabatier, Jenkins-Smith, and Weible (Jenkins-Smith and Sabatier, 1994; Sabatier, 1998; Weible, 2005; Weible and Sabatier, 2005; Weible and Sabatier, 2006; Weible, 2006; Sabatier and Weible, 2007; Weible et al., 2008; Weible et al. 2009; Weible et al., 2011). Because of its breadth, Campano (2009) calls it an eclectic theory and "probably the most ambitious of the various [theoretical] frameworks designed to explain policy," (Sotirov and Memmler, 2012, pp.51), but nonetheless, "ACF places its main emphasis on explaining policy change," (Sotirov and Memmler, 2012, pp.53).

As of their 2007 "Innovations and Clarifications", Weible and Sabatier found that there were over 100 publications using ACF. Because it has such a broad range of elements in relation to the policy process, the framework has been widely used, with a geographic scope of all inhabited continents, analyzing both pluralistic and authoritarian regimes. It has an extensive substantive scope covering cases related to social, economic, health, and environmental/energy policy and utilizing various research methods including interviews, content analysis, questionnaires, and observation (Weible et al., 2009). Within these policy domains, researchers have focused on a wide array of framework hypothesis ranging from issues related to coalition formation, coordination, and behavior, to policy-oriented learning across belief systems and when they are likely to occur, to policy change and when policy core attributes of a governmental system are likely or unlikely to be changed, for example (Jenkins-Smith and Sabatier, 1994).

The advocacy coalition framework was originally developed because of a growing dissatisfaction by policy scholars with the contemporary and widely used concepts of the policy process, collectively called stages heuristics. Stages heuristics breaks the policy process into distinct sub-process based on function and time. They are problem identification/agenda setting, policy formulation and adoption, policy implementation, and policy evaluation and reformulation. These stages are not well integrated, however, and the concept lacks a causal model because it fails to identify linkages between stages and the forces that drive the policy process from one stage to the next. This also means that there was not a clear basis for hypothesis testing across stages, so the model as a whole could not be confirmed, altered, or elaborated (Jenkins-Smith and Sabatier, 1994).

The development of the ACF represented an effort to develop a coherent understanding of all the major factors and processes affecting the overall policy process, including the causal mechanisms therein, as an alternative to stages heuristics, using the best features of 'top-down' and 'bottom up' approaches to policy implementation, and incorporating technical information as playing a prominent role in the policy process (Sabatier, 1998). To do this, the framework looks at policy making over long periods of time, in terms of policy subsystems as the primary unit of analysis, within which a variety of actors are organized into advocacy coalitions based on shared beliefs about a policy, and which actively try to influence, or change, that policy. A specific focus of the framework is policy change and distinguishes between instances of major and minor change. Major policy change comes as a result of changes in policy core beliefs, which are subsystem wide and often resistant to

change. Minor changes are changes in secondary aspects of a policy subsystem, at the bottom of the belief system and narrow in scope (Sabatier and Weible, 2007).

Policy change is a specific part of the policy process whereby policy undergoes a significant, measureable transition from the prevailing paradigm to a new one. The ACF defines policy change as change in the policy core aspects of a governmental program (Nohrstedt, 2005) and outlines four paths by which major policy can change: policy oriented learning, internal and external shocks, and negotiated agreement paths (Sabatier and Weible, 2007). These paths have not been fully developed, however, and external shocks in particular are considered to be necessary but insufficient conditions for major policy change. As they exist in the current framework, they are more a descriptive tool within the framework, rather than satisfying the ACF goal of providing a causal model for policy change, or in other words, identifying forces that generate activity and actually drive the policy process (Jenkins-Smith and Sabatier, 1994). Nohrstedt (2011) argues that in order to further the theoretical progress of this framework, ways by which policy change actually happen require additional clarification.

Sotirov and Memmler (2012) explain that external shocks can alter power balance and affect the ability of a coalition to change or maintain policies. Sewell (2005) states that a coalition that dominates a subsystem is able to have the most substantial effect on changes within that subsystem, and that coalitions with the most *power* are the dominant coalitions. He defines power as having the *ability* to affect the content of political choices, and suggests reinterpreting political resources as the *means* by which a coalition has this ability, or in other words, resources as the source of political power. Thus, the ability of a coalition to affect policy change is dependent upon its relative power in a subsystem, which is a function of the resources it has at its disposal.

Here then lies an opportunity within ACF to further clarify policy change. One of the main facets of the framework is that coalitions contain both policy beliefs and resources. Most research using ACF has focused on the beliefs aspect, with nearly no attention being paid to resources (Sabatier and Weible, 2007), even though framework authors state that coalitions are constantly seeking to exploit resources strategically in order to change existing policy (Sabatier & Jenkins-Smith, 1999). Although the authors of the framework suggest a typology of political resources and recognize that power and resources have a place in the framework in a general sense (Sabatier and Weible, 2007), there have not been many studies dealing with these concepts and precisely *how* they fit within the framework. In fact, they are explicitly mentioned by the authors as opportunities for future research: "What is the role of power, resources… and functional interdependence in coalition membership, behavior, stability, and strategies?" (Sabatier and Weible, 2007, pp.209).

Several studies point out that ACF fails to provide convincing theoretical arguments explaining the factors that influence policy change (Mintrom and Vergari, 1996; Nohrstedt, 2008; Nohrstedt and Weible, 2010; Weimer, 2008) and that more work is needed in this area (Nohrstedt, 2011). Even despite its major revisions since its development, Sabatier (1998) recognizes this. Mintrom and Vergari state that the ACF has neglected the conditions under which major policy change occurs:

> "[The ACF] directs our attention to thinking about the ways that belief structures arise and adjust over time to bring stability to a policy subsystem… [But] it does not direct our attention to exploring the processes that determine when [major, i.e. policy core] policy change will actually take place. Clearly, not all exogenous shocks and not all instances of policy learning translate into policy change. We need to better understand why particular policy changes materialize," (Sabatier, 1998, pp.118).

Likewise, in one of the most recent publications taking stock of the theory, Weible, Sabatier, and McQueen (2009, pp.128) state that, "there is much to learn about the intervening steps between external perturbations and major policy change."

In essence, the ACF has endured as a useful and dynamic tool in policy analysis since its inception. However, it still has various gaps that need to be examined, including §§one of the

fundamental areas of the policy process—that of policy change. If ACF is to maintain its utility in policy analysis, it has to continue its pursuit of revision, precision, and explanatory capacity. Given the existing research and suggestions by framework authors, conceptualizing power in terms of subsystem coalitions within ACF might be one way to expand its explanatory capacity.

1.2 Background of the concept of power

The concepts of resources and power are themselves problematic in the social sciences. While resources can be conceptualized relatively easily, a satisfactory manner in which to operationalize and aggregate the types has not been thoroughly explored, a reason the authors cite for its underutilization in the framework (Sabatier and Weible, 2007). Even though power is recognized as a being an important element of the policy process, it is highly controversial with diverse definitions, so here too, minimal attention to conceptualization or operationalization has been paid. Foucault (1980) analyzes power in terms of structures and Giddens frames it as a debate between structure and agency (Haugaard, 2002); Dahl (2002), and Bachrach, and Baratz (1962) frame it as pluralism vs elitists; Mann describes it as authoritative vs diffused power (Stewart, 2001); Haugaard (2002) frames it as consensual vs conflictual power; and Arendt (1958) describes the debate as violence vs power. The few authors who have included power in their work regarding ACF suggest more research needs to be done (Albright, 2011; Nohrstedt, 2011; and Ingold, 2011).

Avelino and Rotmans (2011) propose a framework that marries the concepts of resources, power types, dynamics, and relations, which they argue deals with power in a more encompassing manner than previously, including matter of time, change, and long-term dynamics, while being relevant for interdisciplinary and interparadigmatic research requirements. In their framework they identify four ways in which power is exercised, what resources these entail, how they are mobilized, and various relations of power, all of which are important to understand change.

In order to contribute to the theoretical progress of the ACF, this study will develop a model of power derived from Avelino and Rotmans (2009) and others and apply it to a case study in order to better conceptualize power, and how the resources and strategies of coalitions can lead to policy change. Avelino and Rotmans are used a departure point because their application of power to transition studies already shares many similarities with ACF (see section 2.6.1), and because it was developed for the specific context of interdisciplinary research on sustainable development, making it particularly applicable to the case study.

1.3 Research Questions

This research is divided into one central research question and 3 sub-questions.

1. How can the concept of power be used to elaborate the causal mechanisms of policy change within the Advocacy Coalition Framework?
   a. What are the explanatory limitations to the process of policy change within ACF?
   b. How can the concept of power be conceptualized and operationalized in the context of policy process analysis?
   c. How can this power framework increase the explanatory capacity of the process of policy change within ACF?

1.4 Research Objective

The objective of this thesis is to contribute to the continuing refinement of the Advocacy Coalition Framework of Sabatier, Weible, and Jenkins-Smith by elaborating on the causal processes within policy change through the conceptualization and operationalization of the concept of power. This will be done by creating a framework for the concept of power and applying it to a single case study in order to test and refine its utility. The case study is major policy change in the Biscayne Bay management policy subsystem, via a large-scale dredging project known as Deep Dredge.

The proposed research is theory oriented. It intends to contribute to the "development" of ACF as there is a gap in the construction of the theory regarding the explanatory capacity of the causal mechanisms of policy change. The intent therefore is to help develop new, or partially explored, theories and views (Verschuren and Doorewaard, 2010). It will generate both descriptive and explanatory knowledge. The research will provide a clear overview of the advocacy coalition framework with specific attention to the paths of policy change and will describe the limitations therein (thus elaborating on the groundwork of why power needs to be developed as an additional explanatory factor). The research will then provide a conceptual model of power for ACF based on literature and apply it to a case study. With these results, it will aim to explain the causal links between power and policy change as they fit within the advocacy coalition framework.

The external goal is to contribute to the advocacy coalition framework, while the internal goal is to develop a conceptual model of power that includes operationalization, which can explain the role power plays in policy change (Verschuren and Doorewaard, 2010). Heintz and Jenkins Smith (1988) elaborate that change occurs as a result of factors external to the system, like elections and economic conditions, but that change also comes as a result of policy learning through the ability of key issues to be analyzed by coalitions, in what domain debates over issues take place, and the conflict over policy beliefs. More recently, Sabatier and Weible (2007) have recognized the overemphasis placed on policy beliefs in framework research to the detriment of the conceptualization and development of power therein, in part because operationalization has proven to be extremely difficult. Nonetheless, they suggest a typology of political resources and express that a better understanding of power would allow the framework to make policy change and coalition activities and more comprehensive. They "encourage researchers interested in the ACF to explore the behavioral and policy ramifications of its assumptions and to test, apply, and expand its hypotheses," (Sabatier and Weible, 2007, pp.203-204, 209-2010).

A single case study itself is a modest contribution, and additional empirical applications will be necessary to augment the model. However, a single case can provide contingent generalization of particular causal paths, and it is therefore expected that the study will provide explanatory value to ACF, thereby feeding into cumulative development. Furthermore, because this research is intended to contribute to the development of a theory, it is necessary to do a thorough investigation of all the aspects of the phenomenon involved which will allow for more meaningful elaboration and emphasis on complexity and soundness, minimize uncertainty—focus on depth (Verschuren and Doorewaard, 2010). Therefore a case study approach has been chosen, i.e. to get a very comprehensive look at the role power plays in policy change. Verschuren and Doorewaard (2010 pp.178) explain that a case study is appropriate when the objective is to "gain a profound and full insight into one or several objects or processes that are confined in time and space," and allows for intensive data generation and in depth analysis, allows for qualitative and quantitative data collection, and allows the researcher to use a variety of methods and to work with a variety of sources, providing triangulation, which can help eliminate chance, thereby strengthening conclusions. Practically, case study is appropriate for first time researchers because of manageability and significant results are easier to obtain despite lack of experience (Verschuren and Doorewaard, 2010).

Issues of power are highly contested in the social sciences. Researchers debate the definition of power and even what the core problem of power in the debate is. Various researchers have contributed to the literature, but its use in policy analysis and especially the realm of sustainable development has been thin because of an inadequate conceptualization of power and research that deals with its various aspects in a narrow way. According to Sabatier and Weible (2007), the difficulty in operationalizing power has prevented its inclusion in ACF as a main variable. Using Avelino and Rotmans as a departure point, this research will be able to contribute to the debate on power conceptualization and operationalization, how and where power fits into the advocacy coalition framework, and its effect on policy change. It will be part of the continuing refinement of the

advocacy coalition framework, making it more robust, precise, and increasing its explanatory capacity.

1.5 Policy change and Deep Dredge case study

In order to test the power framework's effectiveness in elaborating the explanatory capacity of policy change within ACF, a case study regarding management policy change within Biscayne Bay in Miami, Florida has been chosen. The case itself has a high level of fit with the advocacy coalition framework. Management policy has a history that dates back to the 1970s with policy change beginning around 2005/2006 marking a shift from policy that regarded environmental concerns as more important than, or at least equal to, economic concerns to policy that placed economic concerns ahead of environmental ones. The policy change is illustrated by a large-scale dredging project to deepen PortMiami, scientific and technical information play in important role regarding coral reef and ecosystem interactions and technical dredging techniques, and there are two clear advocacy coalitions opposing each other based on beliefs about management in Biscayne Bay.

External events like recession and change in political party at the state level play a role in policy change but are insufficient in explaining it. Internal events also shocked the system, policy learning occurred within coalitions, but across them, and lawsuits were negotiated to settlements, despite the fact that one coalition had been satisfied with the original policy, and only because alternatives would have been too financially costly. The redistribution of resources, like formal authority to influence policy and greater human and monetary resources, via regime change is likely to give more insight into the causal processes that actually lead to policy change via the four ACF paths (see section 3.2 for more detail).

2. Theoretical Framework

In this chapter, the Advocacy Coalition Framework will be elaborated upon, including its development and the foundational stones upon which it is built. Then the framework limitations, as they relate to policy change, resources, and strategies, will be discussed, as well as how researchers view the future of the framework, including a workshop in 2011 specifically designed to look at these issues. Next, the paper will take an in-depth look at how power is discussed and conceptualized in the exiting literature, and use these concepts to build a framework for power analysis within ACF, which provides an explanatory model of resources and strategies in relation to policy change.

2.1 ACF Introduction

The Advocacy Coalition Framework was originally developed by Sabatier and Jenkins-Smith in the 1980s as a lens through which to look at the policy process with the specific goal of providing a coherent understanding of the major factors and processes affecting it, like coalition composition, behavior, numbers, collective action and networks; stability or change of belief systems; venue shopping; policy brokers; political institutions; and external events and resources, to name a few (Sotirov and Memmler, 2012). Although the main focus is on policy change, because so many elements of the policy process as a whole are included in the framework—thereby giving researchers the opportunity to focus on so many different subjects—it has been called the most ambitious of the theoretical frameworks of policy development and change by several authors, including Capano (2009), John (2003), Schlager (2007), and Sotirov and Memmler (2012).

ACF was developed as an alternative to the research that existed at the time regarding policy implementation because of the perceived shortcomings therein. Some researchers continued to use the 'top-down' approach of early studies, which started with a policy decision and looked at which legally-mandated objectives were achieved from it and why (Sabatier, 1986). This "textbook" approach, collectively known as stages heuristics, had made contributions to concepts about the policy process (Jenkins-Smith and Sabatier, 1994), but tended to conclude that governments were not very effective at implementing their programs (Sabatier, 1986) and had outlived most of its usefulness. Stages heuristics broke the policy process into functionally and temporally distinct sub-processes making it rather simplistic, lacked integrated concepts and empirically falsifiable theories, and was descriptively inaccurate, all of which limited its explanatory capacity (Jenkins-Smith and Sabatier, 1994).

Others began using a 'bottom-up approach', which starts with an analysis of multiple actors interacting on a specific issue, identifies their goals, strategies, activities, and contacts, and uses this information to identify the local, regional, and national actors that are involved in the planning, financing, and implementation of various governmental and non-governmental programs. This approach has its limitations as well. It tends to ignore policy stages and over emphasize the influence of periphery actors. Because it focuses on goals and strategies, it takes for granted the distribution of resources amongst actors without considering why they have them or the efforts of other actors to influence the rules of the game, along with having other limitations. Overall, these approaches were motivated by specific and differing concerns relating to policy implementation, rather than the aim of having an holistic understanding of the policy process (Sabatier, 1986).

ACF was developed to incorporate both 'top down' and 'bottom up' approaches to policy implementation and deal with their shortcomings. In order to do this, ACF relies on some basic premises: the role of learning within policy change requires a time perspective of ten years or more to understand, in order not to underestimate the influence of policy analysis; the most effective way to think of policy change is by focusing on policy subsystems; there must be an intergovernmental dimension to analysis; policies can be understood in terms of belief systems of actors, who actively try to translate these into policy, and form advocacy coalitions within these subsystems to do so;

science and technical information play a main role in policy; and ACF uses a model of the individual from social psychology (Weible et al., 2008).

Since 1988 Advocacy Coalition has become one of the leading frameworks in public policy analysis. According to Capano (2009), ACF is among the most prominent theoretical approaches of the policy process, and Sotirov and Memmler (2012) cite several authors who, in additional to one other theory, consider it to be the most promising and progressive scientific research program, perceiving it to be the most elaborate and most useful theoretical lens for viewing the policy process. Because of its popularity and increasing scope, the framework has undergone major revisions and additions over the years. By 2007 there had been over 100 publications using the framework from researchers all over the world on a variety of subjects ranging from drug policy to environmental policy (Sabatier and Weible, 2007). Per the paper published by framework creators Sabatier and Weible in 2007, "The Advocacy Coalition: Innovations and Clarifications", the current version of the framework is based largely on conceptions from circa 1999, with three important revisions outlined in the 2007 paper.

2.2 Foundational stones of ACF

ACF is built upon three foundations. They are, a macro-level assumption that in a policy subsystem most decisions are made by specialists but are influenced by a broader political and socioeconomic system, a belief that for analytical purposes, in order to best deal with the many actors involved in the process, they should be grouped into advocacy coalitions; and on the micro-level, the "model of the individual" is derived heavily from social psychology. These three foundational stones affect belief and policy change via two the two original paths of policy-oriented learning and external perturbations, and two additional paths of internal events and negotiated agreements (Sabatier and Weible, 2007).

2.2.1 Macro-level assumptions

Under the macro-level assumption, ACF recognizes that in modern society policymaking is a complex process and that in order for participants to be influential in this process, they must specialize in the given policy area of consideration and are those who regularly go about trying to influence the process. In ACF, policy participants include the traditional "iron triangle" legislators, agency officials, and interest group leaders, but because it considers a larger socioeconomic and political system, and because of the importance placed on scientific and technical information, this group extends to include researchers, journalists, and judicial officials who seek to influence the policy subsystem. It is also assumed that these participants hold strong beliefs and seek to have them translated into policy (Weible et al., 2009).

Because ACF looks into policy change over a decade or more, it is important to distinguish between mature policy systems and those that are nascent. Mature systems are characterized by participants who are a semi-autonomous community, share expertise in the policy domain, and seek to influence policy in that domain over an extended time period; and by agencies, interest groups, and research institutions that have had sub-units that specialize in the topic over a long period of time. It is assumed that beliefs are stable over a period of time, due to the configuration and specialization of participants, thereby making the framework applicable to mature systems. Nascent subsystems, on the other hand, most often refer to situations in developing countries where there is political instability and a lack of trained professionals. Furthermore, the scope of the policy subsystem must be clearly identified, done by focusing on the substantive and geographic scope of the institutions through which interaction takes place (Sabatier and Weible, 2007).

2.2.2 Meso-level assumptions

On the meso-level, ACF assumes that in a given policy subsystem, actors can be grouped into two to five advocacy coalitions, each having actors from various governmental and private organizations, but which share a strong set of beliefs, actively seek to influence policy in the subsystem before their opponents can, and engage in nontrivial, coordinated activity over time, though this may be through informal networks. This means they look for allies, share resources, strategize, and out of fear of losing to the opponent, are willing to cooperate with those who share similar core policy beliefs (Sabatier and Weible, 2007).

2.2.3 Micro-level assumptions

The micro-level assumption is based on the model of the individual. In a framework based on rational choice, participants are assumed to act from a point of self-interest, pursuing relatively simple material interests, in a predictable, rational manner. In ACF however, there is flexibility to consider altruistic behavior and normative beliefs. The framework emphasizes that actors possess and view the world through perceptual filters that influence their preexisting beliefs, making them difficult to change (Sabatier and Weible, 2007). These three foundational stones lay the groundwork for the advocacy coalition framework.

Within these foundations, there is a heavy emphasis on beliefs as the causal driver for political behavior, and most research regarding ACF theory has been about policy beliefs. The three-tired system assumes that the broadest and most stable beliefs of a coalition are normative in nature and apply across many subsystems, like conservative or liberal beliefs. These are known as the deep core beliefs and are the most difficult to change. In the middle lie policy core beliefs, which apply to the entire breadth of a policy subsystem, and their specificity for a given policy makes them responsible for shaping coalitions. They too are resistant to change, but can be adjusted given new information or experiences. Secondary beliefs, the final tier, are related to how specific policies are implemented, are more substantively and geographically narrow in scope, and are the most likely to change over time (Sabatier and Weible, 2007). Major policy change is related to changes in policy core beliefs and can be conceptualized as a series of many events, rather than a single one (Weible et al., 2009).

In between these tiers is a normative belief layer called policy core policy preferences which projects an image of how a policy subsystem ought to be. They are subsystem wide in scope, very salient, and can sources of cleavage within a coalition. They can be translated into secondary belief preferences that deal with specific policy instruments or proposals (Sabatier and Weible, 1999). Sotirov and Memmler (2012) think that Sabatier and Jenkins-Smith use policy core policy preferences to deliberately blur the distinction between the two lower levels of belief systems, in order to soften the idea that abstract beliefs must constrain more specific ones.

2.2.4 Paths to policy change

Up until 1999, the authors identified two critical paths to belief and thereby policy change: policy oriented learning and external perturbations. In order for a policy to change, there must be either some degree of change in beliefs by policy participants (minor change), or a replacement of the dominant coalition by an erstwhile minority coalition (which means a change in policy core attributes and major policy change). In fact, the framework states that the policy core attributes of a program will not change as long as the dominant coalition that instituted that program remains in power (Sotirov and Memmler, 2012). The framework now includes two additional paths, internal shock and negotiated agreement (Weible et al., 2009).

Policy oriented learning is a process of policy change by which new information or experience changes thought or behavioral intentions in terms of revising policy. Because deep core and policy beliefs are difficult to change, even in light of new information, policy-oriented learning usually works on secondary beliefs and works over a longer time scale (Weible et al., 2008).

External shocks or perturbations include changes in socioeconomic conditions, regime change, outputs from other subsystems, or disaster. The framework postulates that shocks are a necessary condition for change, but cannot sufficiently explain them. They can shift attention, agendas, public focus, and decision makers, and are most important in redistributing resources and

opening and closing venues, which in turn can help explain the replacement of a majority by a minority coalition (Weible et al., 2008).

Internal shocks are events that happen within a policy subsystem and can draw attention to a problem, thereby also being important in redistributing critical resources or attracting new resources. This can tip the balance of power and change the relation of coalitions to one another in terms of dominant and minority. When monumental failures are brought to light via internal shock, policy core beliefs can be confirmed in minority coalitions and doubt increased in dominant coalitions. Internal shocks can directly challenge policy core beliefs of dominant coalitions, which can lead to major policy change (Weible et al., 2008).

The last path by which major policy change happens is negotiated agreements. This describes situations in which coalitions have been fighting for a decade or more and come to an *agreement* that represents a departure from the status quo. Specific features of negotiated agreements are that coalitions are unsatisfied with the status quo, there is a focus on empirical issues, an emphasis on building trust, and a lack of alternative venues (Weible et al., 2008).

2.3 Limitations within ACF

Sabatier and Weible (2007) cite the capacity to continually revise and modify the framework according to new research as strength of the framework as this allows it to better reflect the knowledge being produced in relation to the theory. Over time, revisions have been made to different aspects of the advocacy framework, while other areas remain underexplored. In various papers, authors and other researchers discuss a variety of limitations of the framework, but for the purposes of this study, it is interesting to look at those specifically relating to policy change, resources, power, and strategies.

2.3.1 Policy change

A particular weakness within ACF scholarship is an explanation of policy change within the policy process because questions remain about the causal mechanisms that link events to policy change. A 2009 review of the ACF literature published by Weible, et al. looked at peer-reviewed articles, books, and book chapters from 1987 to 2006 that used the framework in some way: "applied the framework, or components of the framework, in generating and testing hypotheses, structuring the analysis, or guiding causal or descriptive inference," (Weible et al., 2009, p. 124-125). A total of 80 applications of the framework were reviewed. Several studies look at changes in policy subsystems in relation to external perturbations. Within the framework, external shocks are considered necessary, but not adequate in explaining major policy change. The studies found that not all external shocks lead to major policy change. Sometimes they lead to changes in coalition structure or minor policy change instead. The paper suggests that questions still remain linking external events to policy change because they cannot be understood in isolation from internal events, there is still much to learn about the intervening steps, and that external events can affect internal subsystem effects like changes in coalition membership, strategies, beliefs, and minor policy change (Weible et al. 2009).

Likewise, learning is linked to policy change, but here too questions remain about what facilitates this process. ACF states that especially in high-conflict situations, learning within coalitions reinforces beliefs and that cross-learning is more likely to occur with secondary beliefs on tractable issues when technical resources are available. However, studies have shown that learning can occur across coalition at the policy core level and that tractable issues do not always lead to cross-coalition learning. Many studies look at the connection between learning and policy change, some finding a strong connection, others none at all. What is lacking is a way to explain this connection, or lack thereof (Weible et al., 2009). Up until this point, ACF has done a good job of elaborating the paths *through* which policy can change, or *how* it changes, but not *why* this actually happens, or *why* one coalition is able to dominate a subsystem.

2.3.2 Resources

Another area that is lacking in adequate elaboration is that of resources. Coalitions have always been depicted as having both policy beliefs and resources. In Figure 1, the 2007 flow diagram of the framework shows policy beliefs and resources, apparently equally, influencing strategies, which in turn influence decisions by governmental authorities within a policy subsystem. However, most research has tended to focus on belief systems, with little attention being paid to the resource aspect. Resources also appear as affecting strategies and as a factor of external events, but there is not a clear underlying conceptualization that ties these elements to policy change (Sabatier and Weible, 2007).

At the end of their 2007 update to the framework, the Sabatier and Weible literally state that an exciting opportunity for future research includes "the role of power, resources… in coalition membership, behavior, stability, and strategies," (Sabatier and Weible, 2007, p.209). They also conceptualize a typology of coalition resources derived from Kelman (1987), Sewell (2005), and Weible (2006), although they recognize that operationalization is still very difficult— mainly done through network data and qualitative data. The resources include formal and legal authority to make policy decisions, public opinion, information, mobilizable troops, financial resources, and skillful leadership (Sabatier and Weible, 2007).

In ACF, those in formal position of legal authority can be members of a coalition, and dominant coalitions have more members in such positions than do minority coalitions. They will often take measures to put members in such positions or undertake lobbying campaigns to sway officials. Public opinion can be a major resource for coalitions, as this might result in the election of coalitions members or supporters to legislature or other beneficial positions. A strategy of coalitions is often to try to gain public support. The third resource is information. Coalitions strategically use information to sway public opinion, solidify members, argue against opponents, and convince decision-makers. Members of a collation may distort information to their benefit, information about problem severity and causes, and the costs and benefits of a policy decision. Mobilizable troops include coalition supporters in the public that can be used to participate in demonstrations, electoral, fund-raising, and other activities. Especially when finances are tight, a coalition may exploit such troops as an inexpensive resource. Finances are another important, as money can be used to purchase other resources like funding research and think-tanks, officials, and media campaigns. Lastly, skillful leadership can be an important resource, as effective leaders can create an attractive vision for a coalition, exploit other resources most efficiently, and attract new resources (Sabatier and Weible, 2007).

In the 2009 review, resources are looked at only in a few studies. Instead, they mostly have to do with other aspects of the framework like coalition coordination, the role of science and information, connecting ACF with other theories, and ACF concepts that are routinely ignored by researchers. Two studies that look at cross-learning among coalitions do this in relation to secondary beliefs when technical resources are available; four other studies describe how policy process is driven by actor's beliefs, but also by their resource dependence. The authors of the review conclude that resource dependence in the framework is an area that deserves theoretical and empirical attention (Weible et al., 2009).

In the 2014 update of *Theories of the Policy Process* by Weible and Sabatier, they again emphasize the need for ongoing research in regard to resources. "Resources are an important contribution for providing the theoretical leverage for understanding the capacity for a coalition to make strategic decisions and to engage in various activities to influence policy subsystems," (Jenkins-Smith et al., 2014, p.198). Efforts to identify a typology of political resources, incorporating their conceptualization from 2007, are encouraged, including studies on mobilization and exploitation, the conditions that make resources important, strategies, relative importance of resources, redistribution of resources, and operationalization (Jenkins-Smith et al., 2014).

RELATIVELY STABLE PARAMETERS

1. Basic attributes of the problem area (good)
2. Basic distribution of natural resources
3. Fundamental sociocultural values and social structure
4. Basic constitutional structure (rules)

LONG-TERM COALITION OPPORTUNITY STRUCTURES

1. Overlapping societal cleavages
2. Degree of consensus needed for major policy change

EXTERNAL (SYSTEM) EVENTS

1. Changes in socio-economic conditions
2. Changes in public opinion
3. Changes in systemic governing coalition
4. Policy decisions and impacts from other sub-systems

SHORT-TERM CONSTRAINTS AND RESOURCES OF SUBSYSTEM ACTORS

POLICY SUBSYSTEM

Coalition A
a. Policy beliefs
b. Resources

Policy brokers

Coalition B
a. Policy beliefs
b. Resources

Strategy regarding guidance instruments

Strategy regarding guidance instruments

Decisions by governmental authorities

Institutional rules, resource allocations, and appointments

Policy outputs

Policy impacts

2007 Advocacy Coalition Framework Flow Diagram

Figure 1. 2007 Advocacy Coalition Framework Flow Diagram
(Weible et al., 2009)

2.3.3 Power and strategies

ACF states that external events can alter the power balance between coalitions, and thus their ability to maintain or change policy, but never discusses the concept of power in any more depth than this (Sabatier and Jenkins-Smith, 1999; Sabatier and Weible, 2007; Sotirov and Memmler, 2012). In the 2009 review, eight studies include power, but only in the context of policy core attributes of a governmental system corresponding to the dominant coalition, or the one that is in power, and that they will not change while it remains in power (Weible et al., 2009). How power itself interacts with policy change remains unexplored within the framework.

In his 2005 dissertation, Sewell examines the political processes through which the Framework Convention on Climate Change was negotiated, using ACF as a theoretical lens at coalition behavior in the policy process at international, national, and subnational levels, and the nature of coordination within and between these levels. As part of the study, he looks at political coalition resources and constraints as sources of political power, and how this reinterpretation can help to understand interactions within the system, and thus the process of policy change. He suggests that the resources a coalition has at its disposal determines the relative power that coalition has within a subsystem. Further, the dominant coalition, or the one with the most power, is able to have the most substantial effect on policy change. Sewell connects these concepts of policy change via power and resources, and lays the groundwork for further elaboration of the framework in this direction. He uses the typology of resources for ACF developed by Kelman, but does not elaborate on their conceptualization.

Likewise, the term "strategies" is used in ACF to refer to the behavior of coalitions. Figure 1 shows that coalition beliefs and resources affect strategies, which in turn influence decisions by governmental authorities. Coordination within a coalition has been studied as a type of strategy;

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coalition interests can be strategic; and resource can be used strategically, like putting coalition members in positions of power or spending time garnering public support (Sabatier and Weible, 2007). However, the term itself is not defined, and the concept is not explored in terms of what constitutes a strategy, or what role they directly play in policy change. According to Weible et al. (2008, pp.6), "The ACF is unclear in its depiction of... strategies." Schlager (1995) states that one way for ACF to more fully realized its potential for policy analysis is by admitting into the framework types of strategies that coalitions are likely to undertake in order to pursue their policy goals.

2.3.4 Findings from the ACF workshop

In 2011, a workshop in California used eight recent applications of the framework to continue testing and developing theories by looking at the changes of the framework, the current theoretical and methodological challenges, and new lines of inquiry. It highlighted strengths and weaknesses, and developed future considerations for the framework to help advance understanding of the policy process. Three papers, Albright (2011), Nohrstedt (2011), and Ingold (2011), build on the 2007 categorization of resources, exploring how changes in the distribution of resources contribute to policy change. Nohrstedt and Ingold measure resources differently and Nohrstedt makes the claim that resources can be arranged in regard to how useful there are. Although these studies represent efforts to address gaps in the research in policy change, they are each different approaches and focus on different issues relating to resources; they are studies of single policy subsystems, so require more testing to determine their utility and explanatory capacity; and they also raise other considerations, like how resources compare in different political systems, how they function in various contexts and timing, how coalitions capitalize on new resources to achieve greater influence, and others (Weible et al., 2011). However, they can be used in aggregate to further refine how to approach the gap in the literature.

Albright (2011) cites the three major mechanisms by which the ACF explains policy change as linked to shocks in the system (redistribution of resources, skillful exploitation by a minority coalition, and change in the dominant coalition's belief system through learning). She says, however, that the necessary and sufficient conditions that explain a minority's successful exploitation have not been empirically tested. To contribute to the framework, she therefore puts forth a formal hypothesis to help develop a fully articulated theory to explain these causal mechanisms, and tests this through use of case study of flood policy in Hungary, conducting interviews and analyzing documents to acquire data.

Nohrstedt (2011) too points out the weaknesses in the ACF, that it does not provide a good theoretical argument of how factors influencing policy change process are causally related. More research is needed to understand relative importance of the underlying variables that explain policy change, and what causal mechanisms, or steps, connect these variables to policy change. In his study, he determines that in order to contribute greater theoretically clarity, propositions need to be derived from ACF and then empirically tested. The propositions he derives focus on membership structure, redistribution of political resources, and strategic use of resources to realize policy goals (Nohrstedt, 2011), based on the basic argument from Sabatier and Jenkins-Smith (1999) that "coalitions constantly seek to exploit these resources strategically in order to change existing policies," (Nohrstedt, 2011, p.463). To carry out the analysis, he creates a systematic documentation of his case study subsystem, documents advocacy coalitions on the basis of clusters of organizations espousing similar beliefs about policy over time, and then conducts an analysis of the validity of explanatory variables offered by ACF, using official documents and news media coverage (Nohrstedt, 2011).

Ingold (2011) uses network structure to look at how coalitions are formed and maintained within ACF, particularly interesting when focusing on the identification of coalitions within a subsystem and policy output explanation. She hypothesizes that in conflict situations "coalitions tend to alter the power balance within the subsystem by accumulating resources to influence the policy..."

based on Nohrstedt (2011). To test this, she deduces alterations in resources in a policy subsystem through two measures, "reputational power" and "centrality measures". Reputational power refers to a subjective impression of power distribution among the elite of a subsystem based on survey. Ingold argues that this is a good proxy to measure resource accumulation, as actors and coalitions that are more successful in gathering resources have the tendency to be more visible, and will thereby receive a higher reputational power from other participants in the subsystem (Ingold, 2011).

2.4 Lessons from the literature

ACF was designed to address the limitations of 'top-down' and 'bottom-up' approaches to the policy process and to specifically provide a causal theory of policy change. It was meant to provide falsifiable theories, expand explanatory capacity, and consider the why of resource distribution among actors and how they used them to influence the rules of the game (Sabatier, 1986). While the framework did address many issues in policy analysis, evidenced by its widespread use and praise (Weible and Sabatier, 2007; Capano, 2009; Sotirov and Memmler, 2012), there remain gaps in other areas.

The four paths of policy change are considered to be causal mechanisms (Sotirov and Memmler, 2012), but researchers still miss the causal processes that lead to change after these paths (Sabatier and Jenkins-Smith, 1993; Weible et al., 2009; Nohrstedt, 2005). Sotirov and Memmler (2012) call the ACF hypothesis that external factors are necessary but not sufficient for policy change dissatisfying. The specific links between external events and policy outputs have not been explored in ACF literature in a satisfactory way (Sotirov and Memmler, 2012). Nohrstedt (2011, pp.464) suggests that in order to become more precise, ACF should "specify elements of the framework that are particularly relevant when focusing on major policy change as the dependent variable and should also offer general working assumptions about the relationships among those elements."

Various authors mentioned in chapter 2 have put forth work relating to the concepts of power, resources, and strategies, explored their relationships to each other, and some have even done studies that show a direct relation to policy change. Nonetheless, a coherent conceptual model combining and systematically looking at these concepts in the context of ACF has yet to be produced.

2.5 Literature based discussion of power

The typology of resources used in ACF hinges upon 6 distinct categories, skillful leadership, financial resources, mobilizable troops, information, public opinion, and access to legal authority, and is derived from Sewell via Kelman and Weible (Sabatier and Weible, 2007). This typology and the concepts elaborated upon therein overlap with interpretations of power in literature, many of which, like those of Weber, Mills, Wright, and Dahl, examine power in some way as a 'capacity' or 'potential' of actors, determined by resources (Sewell, 2005) and in fact, resources are considered a main element within power. For example, various researchers have utilized the concept of power ranging from "actor specific resources used in the pursuit of self-interests to power as 'the capacity of a social system to mobilize resources to realize collective goals'," (Avelino and Rotmans, 2011, p.796). However, especially in the context of sustainability—because both concepts themselves are highly contested, along with related ethical and epistemological concerns—it has been a challenge for researchers to conceptualize and analyze power. This echoes difficulties cited by ACF researchers relating to resources. In a general sense they claim that not enough attention has been paid to power issues. This is in part because there are not only many definitions of power, but these definitions are also highly diverse (Avelino and Rotmans, 2011).

One distinction in the debate on power can be made in terms of instrumental, structuralist, and discursive views. Instrumental can be seen as power in terms of actor-specific resources used in the pursuit of self-interest and is discussed by Weber, who defines it in terms of opportunity to "carry out one's will even against resistance," (Avelino and Rotmans, 2009, p.546). The structuralist view of power says that the behavior of decision-makers is predetermined by material structures and institutional processes. The discursive view puts an emphasis on dominance of ideas frames, norms,

discourses, perspectives, within which the nature of discourse can be seen as structural or agent-based. This distinction is studied by Foucault and Habermas (Heiskala, 2001).

In another branch of the debate, Haugaard considers power and structural constraint at opposite ends of a spectrum, looking at power as it relates to agency (Haugaard, 2002). Foucault argues that power is something exercised by structures through actors, acting as the vehicles for it. What he means by this is a subject for debate itself, analyzed by such authors as Aladjam, Garcia, Heiskala, Infinitio, Thompson, and Borch (Avelino and Rotmans, 2009). Giddens (2002) describes power in terms of structure and agency, power being the capacity of agents to use structures to achieve an objective.

A third form of the debate, is that power is a struggle between elites, who can possess power over society, explained by Dahl (2002), or that power is a struggle between plural interest groups., as explained by Bachrach and Baratz (1962). This discussion involves those who emphasize that some elites can influence decision-making and agenda-setting outside the open political system, while others argue that power comes from a broad decision-making process. A third element of power may be that some groups can influence other groups, thereby negating the need to keep issues off an agenda, because they simply do not enter people's minds. This is similar to Mann's conception of power as authoritative, through conscious commands, or as diffused, through unconscious, decentralized power (Stewart, 2001).

Another way Haugaard (2002) looks at power is whether it is consensual or conflictual. Consensual power, also known as collective, refers to actors working together to enhance their power and achieve collective goals, while conflictual power is distributive, whereby one actor gains power at the expense of another actor. Some authors consider violence as an important type of power, whereas others see it as an opposite of power because it can destroy power and cannot create it. In this sense, power as oppression or domination without violence is an essential characteristic (Avelino and Rotmans, 2009).

Sewell suggests looking at political power as derived from political resources and constraints, and that a coalition has power within a subsystem based on access to various resources. He defines power in political terms as having the ability to affect the content of political choices. The extent and effectiveness of various strategies a coalition may employ to influence policy and achieve their objectives is defined by that coalition's sources of power—thus determining how they may dominate a subsystem. Further, some sources of power are more effective than others (Sewell, 2005).

In his research he uses a typology of power resources for ACF developed by Kelman. *Formal authority* to make decisions is a key resource, as actors possessing this authority can make sure to support policy that reflects their beliefs and veto those that do not. This includes authority on procedural and administrative issues, as this is power to block decisions and prevent issues from being discussed, and authority to make "non-decisions". *Contingent inducement* is another form of power. That is, the ability to offer inducements, as normative, economic, or coercive, as reward or punishment. *Persuasiveness* refers to the ability of actors to influence others to their position through argument and information. The power of *deference* is the ability of an actor to affect some change simply through reputation or name recognition. Another source of power is *strategic skill*, a plan to maximize success within a set of institutional arrangements and resources, and knowing when to use other sources of power (Sewell, 2005).

The manifold and wide ranging interpretations of power in the literature make it problematic in the social sciences, not to mention that most analyses describe it with high levels of abstraction and focus on subtleties in the terminology, rather than in a way most people can understand. Additionally, it has thus far been mostly dealt with in terms of stability in systems, rather than change. Because of these many challenges, it has remained under conceptualized or ignored (Avelino and Rotmans, 2009).

2.6 Conceptualizing power

2.6.1 Transition studies
Despite the many interpretations and debates on power, what is particularly lacking is a conceptual framework that can be used to conceptualize and study power in policy transitions, or changes rather than stability, which still includes the various dimensions of power.

Transition studies refer to a field of research that deals with societal systems as complex systems, which adapt and change over a long period of time, at the level of sectors or regions. A transition is defined as when a societal system moves from one dynamic state of equilibrium to another, through phases made of both fast and slow dynamics, resulting in a non-linear pattern. These phases divide transition whereby change occurs at different levels within the system. It is also necessary to look at the system from a holistic perspective and consider both human and non-human aspects, including not only social, cultural, institutional or political aspects, but also economic, ecological, and technological factors (Avelino and Rotmans, 2009).

In transition studies, power-laden conceptualization comes in to play most during the multi-level interaction between regimes, among others. A regime is the most dominant configuration of actors, structures, and practices, which dominates the social system and defends the status quo. For transition to occur, this regime must either be transformed or replaced by a new regime. Because a regime is defined in terms of the status quo, when a transition takes place and a new regime comes to dominate the system, it means there is a change in the status quo; and because status quo relates to the structures and practices of a societal system (Avelino and Rotmans, 2009), a change in status quo can be seen in terms of change in policy.

In doing research for public policy, one challenge is controlling for researcher-imposed bias, a chief source of which is when a researcher relies on one theory. Weible et al. (2008) find that ACF is particularly well adept at complimenting other theories, an approach that can highlight the strengths and limitations in any particular theory, provide better insights, and guard against theory-driven bias. In this research then, while ACF is the main theory being used, using the concept of power from transition studies can provide a more effective theoretical structure.

2.6.2 Power according to Avelino and Rotmans
Avelino and Rotmans (2009) specifically apply the concept of power in transition studies by distinguishing and defining seven aspects of power: meaning and definition, (re)sources, exercise of power, dynamics of power, relations of power, conditions of power, and knowledge and power. This application means that it already shares similarities with ACF. The sources of power that Avelino and Rotmans (2009, 2011) discuss are (tangible) things, or concepts that overlap with many of the resources in the typology included in the 2007 ACF update (Weible and Sabatier, 2007); and their concept of the exercise of power as the mobilization of resources is similar to ideas Jenkins-Smith et al. (2014) propose in relation to resources playing a role in strategic decisions, and the mobilization and exploitation of these resources through strategies. Both theories look at how systems change over time, with regimes, or coalitions, being a configuration of actors. In transition studies, for transition to occur, the regime must be transformed or replaced by a new one. Likewise, in ACF, for policy change to occur there has to be a change in beliefs (a transformation), or a replacement of the dominant coalition by another (Weible et al., 2009). Additionally, because their conceptualization of power within transition studies was developed for the specific context of interdisciplinary research on sustainable development (Avelino and Rotmans, 2011), it will be particularly applicable to the case study.

Meaning and definition of power
Power can be defined as a social medium, or as the ability of actors to mobilize resources to achieve a certain goal, which can be either for the common interest or for self-interest. It is specifically an ability, capacity, or dispositional property, and has to do with the capacity to effect outcomes. It has both a possessive and an exercising aspect. One can 'have' or 'own' the capacity to mobilize

resources, and can exercise this in terms of actually mobilizing these resources. The definition also includes a distinction between power 'to' (act) and a power 'over' (control). The capacity to, and thus the mobilization of resources is an 'act', containing a certain level of 'control' over the resources, which can also include other actors (Avelino and Rotmans, 2009).

(Re)sources of Power
Resources can be defined as persons, assets, materials, or capital, including human, mental, monetary, artifactual, and natural resources. Human resources refer to 'manpower' or human leverage, like personnel, members, voters, clients, supporters, fans, etc. Mental include information, concepts, ideas, and beliefs. Monetary resources are funds, cash, and financial stock. Artifactual resources include apparatuses, products, construction, and infrastructure, but can also include song, dance, paintings, photography, or a movie. Natural resources refer to raw materials, physical space, and organic life (Avelino and Rotmans, 2009).

The resources themselves have no inherent hierarchy, and each can be a source of power to a greater or lesser extent. They are also interrelated, and in order to mobilize one type, one may need access to mobilize another. One type may be more influential in a particular context than another. However, the most powerful actors often operate at the intersection of economic, military, and political circles, mobilizing a wide variety of resources. These resources can all be owned, and are power neutral—only becoming power-laden when mobilized by actors to achieve certain goals (Avelino and Rotmans, 2009).

Exercise of Power
Power is defined as the ability to mobilize resources, and as such, the exercise of power can be distinguished as the different ways resources can be mobilized and at which levels. Avelino and Rotmans (2009) distinguish five types of power: innovative, destructive, constitutive, transformative, and systematic. By describing power in this way, they provide the vocabulary with which to discuss the mobilization of resources in the context of and how it relates to influencing policy change.

Innovative power is marked by the ability of actors to create or discover new resources. It is also marked by giving visibility to the new tool or idea, which gives it power and plurality of the new resource, the involvement of at least two individuals. Destructive power is the capacity to destroy existing resources. This can involve violence or physical force, like the militant or industrial actions, but is not necessarily so. It can also be the abolition of an ideology. Destructive power must also be a visible act (Avelino and Rotmans, 2009). Innovative and destructive power both refer to power on the resource level, the former being constructive, while the latter is destructive.

Constitutive power is the ability to establish, institute, or enact the distribution of resources. This is done through institutions and structures, though it is a power exercised by actors. Institutions refer to laws, norms, paradigms, and tradition. Transformative power is the ability to transform resources. This can be done by changing how resources are distributed, or replacing old resources with new resources. In order to accomplish this, new institutions and structures must be developed, however that aspect is specifically constitutive power, while what follows is transformative. Systemic power is defined as the collective interpretation of power, or the combined capacity of actors to mobilize resources to further a societal system. The collective mobilization is not necessarily consensual or deliberate, but rather just has to contribute to the survival of a societal system. Constitutive and transformative power describe types of resource distribution, constitutive being constructive, and transformative destructive (Avelino and Rotmans, 2009).

Dynamics of Power
These various types of power can all be used to disrupt or break the hold of another type of power—called antagonistic, or conversely to strengthen and enable another type of power—called synergetic, and all types of power can interact in either way with any other. Depending on the perspective used in a particular case, a coalition may use a type of power in a 'resisting' or in a 'dominant' way. For example, coalition actors may resist transformative power through the exercise of constitutive power, and if they are successful, then they are dominant in exercising this constitutive power (Avelino and Rotmans, 2009).

Using these dynamics, resisting and preventing or enabling and enforcing, one can conceptualize the strategies actors use in terms of power, which often include different combinations of power exercise. Avelino and Rotmans, further label the exercise of power types at the same time as a *power plenum*, which thereby describes a situation in which actors are mobilized for the survival of a system, or *systemic power*. On the opposite end, when something prevents the exercise of systemic power, there is a situation known as a *power vacuum*, or a void of power (Avelino and Rotmans, 2009).

Relations of power
There are three ways to looks at relations of power. Because power includes resources and the ability to mobilize them, an actor may have power *over* a resource, for example by having the ability to mobilize people. Actors may also have *more* power than others, through the ability to mobilize *more resources* than another actor, or *more ability* to mobilize resources than another actor. A third type of power relation is that actors may have the ability to mobilize *different* resources than other actors. A coalition may be very strong in the exercising one type of power, while weak in exercising another. Authors of the framework develop this further by looking at balanced and imbalanced relationships in each type of power relation. Balanced power relations means actors are mutually dependent, in cooperation as far as goals, or synergetic. On the other hand, when there is imbalance, there is power dependency of one actor on another, and they are in competition and antagonistic toward one another (Avelino and Rotmans, 2009).

Conditions of power
As Avelino and Rotmans have defined power as the ability to mobilize resources, then in order for power to be exercised, four conditions must be considered: access to resources, strategies to mobilize them, skills to apply these strategies, and the willingness to do so. Access means, the awareness of what resources exist, where and how they can be found or created, and who owns them, or who will own them. Strategies are the methods used to mobilize these resources. Skills are the proficiencies necessary to carry out strategies. Willingness refers to the extent that an actor pursues the attainment of resources, develops strategies, and acquires skills. However, these conditions can both complement or replace one another, while at times, one may be necessary to gain another. Avelino and Rotmans use the example of access to large funds replacing the need to have legal training oneself (Avelino and Rotmans, 2009).

Knowledge and power
In social theory, the relation between knowledge and power is a contested relationship. Theorists, like Barnes and Bourdieu see knowledge as significant in how it can perform. That is, creating and communicating knowledge is also important in how it affects actors to mobilize other resources. In other words, knowledge about resources is necessary to know which ones to mobilize and how. Therefore, having knowledge is a meta-condition in order to exercise power. Avelino and Rotmans define it as the mobilization of mental resources, like information, concepts, ideas, and beliefs, in order to achieve a certain goal. This may be a more useful definition when applying power to policy dynamics, as having exercised power would then de-facto mean actors possess the appropriate knowledge to do so (Avelino and Rotmans, 2009, p.558). It is also important to clarify, as ACF considers science and technical information to play a significant role in policy.

2.7 Power framework: Using power to elaborate the causal process of policy change in ACF

The framework for this research uses the definition of "power as the capacity of actors to mobilize resources to achieve a certain goal," (Avelino and Rotmans, 2011, p.798). Rather than trying to create an all-encompassing theory that applies in each situation, Avelino and Rotmans (2011) propose a framework that they argue deals with power in a more encompassing manner than previously, including matter of time, change, and long-term dynamics, while being relevant for interdisciplinary and interparadigmatic research requirements. They identify four ways in which power is exercised, what resources these entail, how they are mobilized, and various relations of power, all of which are important to understand change (Avelino and Rotmans, 2011).

Drawing on this framework, which delineates the concepts of power types, dynamics, and relations, and combining it with other applicable studies, this research will be able to contribute to the debate on power conceptualization and operationalization, how and where power fits into the advocacy coalition framework, and its effect on policy change. Power dynamics and power relations can be used to understand how the ambition to transform policy interacts with prevailing policy, where actors are positioned, and their relations to other actors, which will help address the gap in literature.

2.7.1 Resources: Sources of power

A conceptualization of power must begin with a discussion of the sources of power, or the resources from which power can be derived. Resources are particularly things that can be owned, rather than phenomena, and can be divided into five categories. There are mental resources including [scientific and technical] information (Sabatier and Weible, 2007) concepts, ideas, and beliefs or public opinion (Sabatier and Weible, 2007); human resources including human leverage (positions of power like elected officials or organizational heads (Sabatier and Weible, 2007; Sewell, 2005)), personnel, members, and voters, or in other words, mobilizable troops (Sabatier and Weible, 2007), and skills like legal training, rhetoric, or acting, which are specific and unique to coalition actors and used to influence policy change (Avelino and Rotmans, 2009). [Skills are resources of actors that are *not* obtained by actors mobilizing monetary resources to acquire them.] Additional resources are artifactual resources including apparatuses, products, construction, infrastructure, and various forms of art, like songs, dance, written word, and film; natural resources including raw materials, physical space, time, organic life; and monetary resources (Sabatier and Weible, 2007) including funds, cash, and financial stock (Avelino and Rotmans, 2011). Figure 2 breaks down the typology of actor resources.

Resources

Human — Human leverage (positions of power), Mobilizable troops, Skills

Mental — Information, Concepts, Ideas, Beliefs, Public opinion

Artifactual — Apparatuses, Products, Constructions, Infrastructure, Art

Natural — Raw materials, Physical Space, Time, Organic Life

Monetary — Funds, Cash, Financial Stock
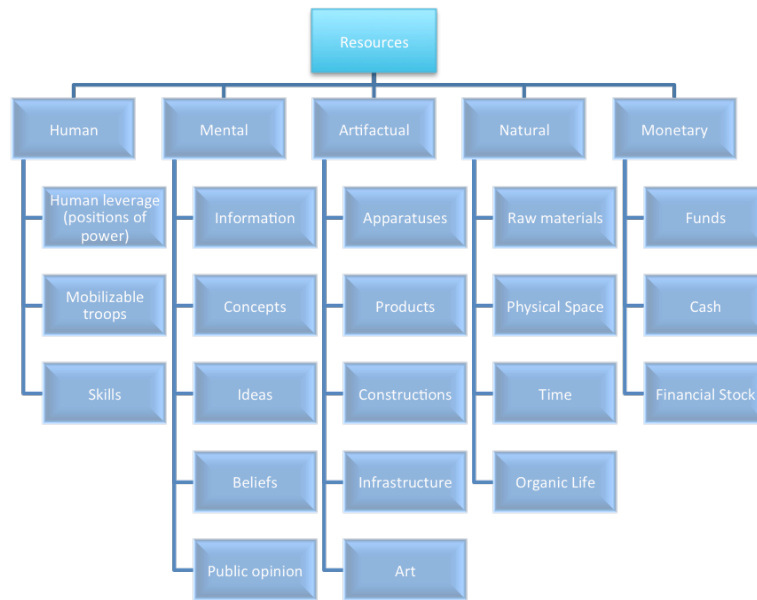
Figure 2. Resources

2.7.2 Conditions of power: Strategies

Beyond identifying resources available to actors and coalitions— since resources themselves are power-neutral and only become power-laden when mobilized (Avelino and Rotmans, 2011)—to conceptualize power in ACF in relation to policy change, the exercise of power has to be considered, or how the various resources are mobilized. The framework uses two conditions to do this, strategies and willingness or skillful leadership.

Strategies in this sense include the various methods to mobilize resources, like formalization of rules and enacting legislation, or conversely, veto power and inaction (Sabatier and Weible, 2007; Sewell, 2005), various methods of information dissemination, also in the sense of propaganda, publishing material like press releases and through other formal outlets, lobbying, networking, protesting, voting, prohibition, experimenting, and other methods (Avelino and Rotmans, 2009). It also includes forms of power as described in Sewell (2005). Contingent inducements can either be used as rewards or punishment and include normative inducements, like bestowing esteem or prestige, or even friendship, loyalty, and trust; economic inducements like bribes or rewards; and coercive inducements, meaning threats to career or life, and can include physical force. Deference is the strategic use of coalition members to affect a desired outcome simply through reputation or name recognition. Persuasiveness refers to any of these strategies that are intended to influence others, especially the public, to a certain positions through the use of argumentation and information.

In the course of the research, an additional power strategy was noticed, that of concession, or pacification, or when one coalition strategically makes concessions to the other side/sides in order to continue with other efforts to influence policy.

2.7.3 Conditions of power: Willingness/Skillful leadership

The second condition for the exercise of power refers to the willingness of actors to mobilize resources, gain resources, develop strategies, and acquire skills (Avelino and Rotmans, 2009). This concept overlaps with that of strategic and skillful leadership in ACF (Sabatier and Weible, 2007) and Kelman (Sewell, 2005). That is, the presence of actors in a coalition who deliberately (and successfully) make efficient use of resources, know how to maximize benefits and minimize costs, and know when and how to use strategies (Sewell, 2005). This condition looks at power in a coalition in a holistic manner, taking into account all the resources and strategies that may be connected to a

particular actor, and so is discussed separately of them. Figure 3 shows the conditions for power and the breakdown of the various actor strategies.

In their conceptualization of power exercise via conditions, Avelino and Rotmans (2009) include access and skills. However, when applying the framework to a case study and using the actual instances of power exploitation for analysis, the occurrence of such events de facto means actors had access to resources and the skills with which to mobilize them. It would also prove difficult to determine and explore access and skills that were lacking or that actors were unaware of. It is also beyond the scope of this research to analyze counterfactuals for how coalitions may have influenced policy if they possessed other resources and mobilized them differently. That is perhaps a subject for further research.
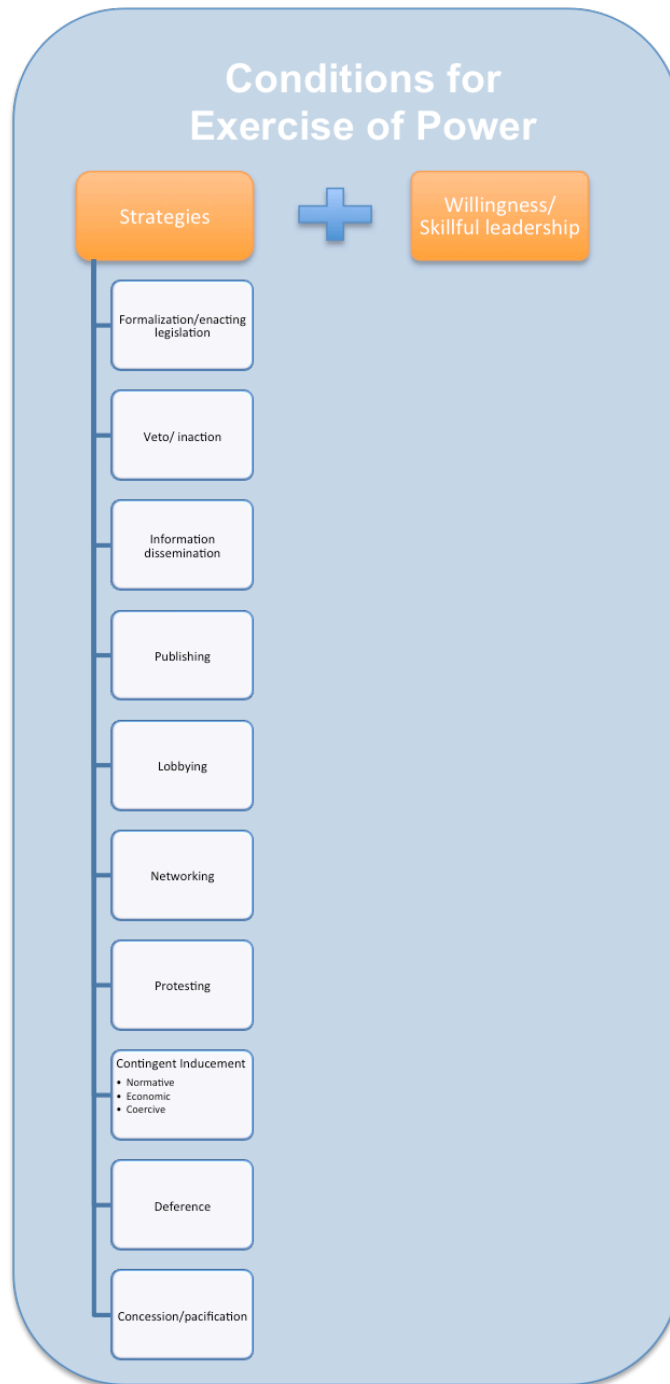
Figure 3. Exercise of Power

2.7.4 Power dynamics and relations

The third part of the framework includes looking at power dynamics and power relations as defined by Avelino and Rotmans (2009) to empirically analyze how the actions of actors and coalitions interact with the prevailing paradigm and institutions, how they position themselves, and how the relations between actors affect their capacity to influence policy. The power dynamics model looks at how different types of powers either disrupt (antagonistic) or enable one another (synergetic). The manifestations of power dynamics include power over, more/less power, and different power among actors (Avelino and Rotmans, 2011).

Figure 4 shows how the different elements of power fit together in an analysis. First, coalition resources are defined, and the power relation can be compared among coalitions in terms of whether a resource is more, less, different or represents coalition power over something. Because resources are only power laden when they are mobilized, they can only be discussed in terms of relations. Then, coalition strategies can be defined and looked at critically in terms of what types they are and what dynamic they contribute to the overall efforts at influencing policy change, and through the successful or unsuccessful mobilization of resources if they represent more, less, different, or power over for that coalition. Lastly, willingness is examined by determining if and which actors within each coalition have a higher connection to resources and strategies than others. More power within the coalition is represented by an actor that is connected to more successful strategies.
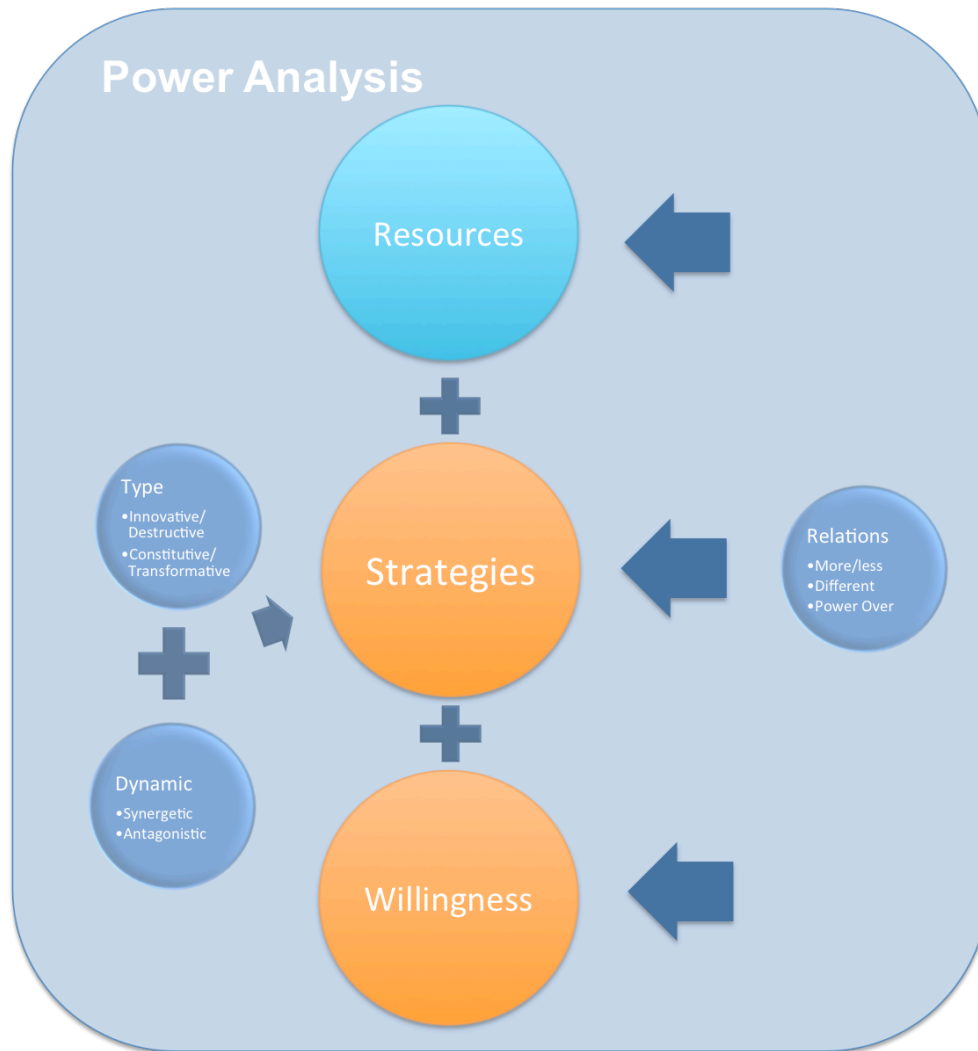
Figure 4. Analysis of Power

2.7.5 Power analysis within four paths to policy change

The advocacy coalition framework has four paths *through* which policy change can happen. It also explains that in a policy subsystem coalitions have beliefs and resources, which influence their strategies in order to affect decisions in that subsystem. In his 2005 paper on Swedish nuclear policy, Nohrstedt (2005) says that external events and policy change initiatives are more complex than just a stimuli-response sequence. External events can affect policy change in many different ways, but which can vary from one case to another. He says, "researchers need to pay more attention to the nature of the relationship," (Weible et al., 2008, pp.1047).

Based on the literature, this power framework expands that concept to all of the paths of policy change and hypothesizes that looking critically at power will give a better understanding of this 'relationship'. It elaborates ACF through a conceptualization of resources, strategies, and the power dynamics of opposing coalitions to show *why* coalitions are able to effect policy change. It can be considered in combination with the four paths, whereby within these paths and because of the redistribution of resources these paths cause, actors make strategic choices based on their resources, in order to leverage their power to influence policy change. As discussed by John (2003), Nohrstedt (2005), and Albright (2011), the causal mechanisms underpinning this model of policy change requires further clarification, and the elaboration of coalition power will give more insight into this

matter. The four paths are descriptive, whereas, the inclusion of power will give them more explanatory capacity.

Figure 5 is a visual representation of how the power model fits within these paths. Specific strategies can be defined in terms of the different paths, while the resources mobilized within these strategies, and the willingness of actors, overlaps among the paths. The four paths are defined as causal mechanisms (Sotirov and Memmler, 2012), while the power analysis will provide insight into the causal processes.
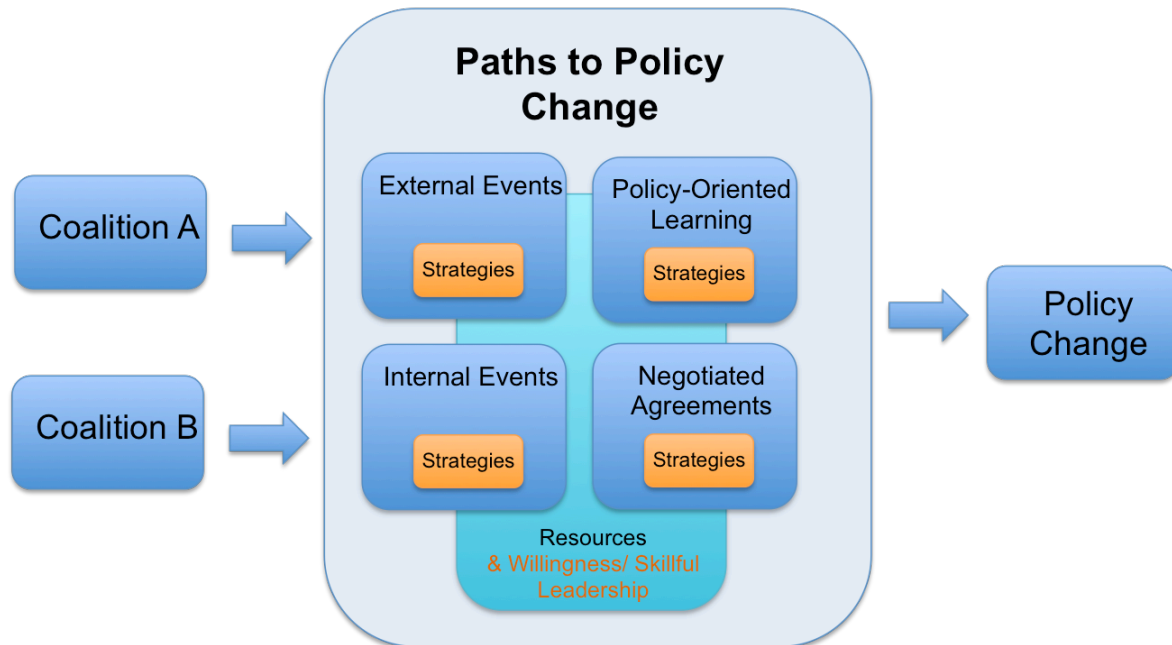
Figure 5. Power within ACF

2.8 Hypothesis

The extent to which a coalition dominates a subsystem and thereby effects policy change depends on the relative power that coalition possess within a subsystem, which can be analyzed through the comparison of resources and skillful exploitation of these resources amongst competing advocacy coalitions, thereby determining the more effective power dynamic of one coalition over others. Power as a causal mechanism can elaborate the existing four paths of policy change in ACF to give them greater explanatory value.

Based on the hypothesis of this study, the coalitions that have more resources, but especially those that exploit them more effectively through strategies that encourage synergetic power within the coalition, and disrupt the power of a competing coalition will be the coalition that is effective in realizing their policy objectives. Thus, sources of power are important factors in determining the extent to which a coalition dominates a subsystem (Sewell, 2005).

3. Method

This chapter justifies the use of the case study methodology and of the selection of the particular case study. It then explores the methods used for data collection and interpretation and how the variables are operationalized. The chapter ends with an outline of research.

3.1 Methodology: Case study justification

This study has been designed as theory-oriented research in order to explore a gap in the advocacy coalition framework in regard to the concept of power and further develop this theory of the policy process. To develop this theory, intense data generation is required, making the single case study approach an appropriate methodology.

Case study is a good research choice in order to undertake an study that is concerned with depth rather than breadth, when there is a small domain and number of research units, and when it is appropriate to have a variety of qualitative research methods in order to generate an intensive amount of data. This allows for the comparison of data and the interpretation of results for theory development. Case study is also a good methodology when there is a strategic sample involved and the researcher is guided by a conceptual design or information that he intends to extract from the research units, rather than looking for chance (Verschuren and Doorewaard, 2010).

In order to get the in-depth data that is necessary to develop the framework, various and intensive methods for generating data will be used. A case study is an appropriate choice to generate this type of profound insight because a variety of methods can be used, such as interviews, survey, and content analysis of textual and other visual material. Working with several sources will allow for the triangulation of data and triangulation of sources. This eliminates chance, strengthening the value of the data and making it more applicable to the development of the theory (Verschuren and Doorewaard, 2010).

This research is designed to elaborate on the concept of power and how it can be used for greater explanatory capacity within ACF, specifically how it increases the explanatory capacity of the paths to policy change. The study will be used to gain an overall picture, or holistic view of the data in order to refine and elaborate the framework that is being developed. A case study approach is appropriate for this, to allow the researcher to obtain as much in-depth knowledge as possible by focusing on various subjects within one case study. Development of the power framework requires the researcher to generate and interpret data in regards to specific framework concepts. One of the goals is to gain a profound and full insight into several objects (coalitions resources) and processes (coalition strategies), which are confined in time and space (in a specific policy subsystem and timeframe). In order to do this, data collection must be done in a qualitative and unstructured way. This is also important because of the nature of the data being collected, which in many instances is not comparable 1:1. It is data that needs to be interpreted by the researched in order to compare the differences among coalitions.

Another beneficial quality of the case study would be to represent a distinct and wide difference in the power of opposing coalitions. This would give the results more clarity than otherwise, and the fewer the coalitions in the case study, the more in depth data collection can be done in relation to framework elements.

3.2 Case study selection

Policy change regarding Biscayne Bay in Miami, Florida has been chosen to assess the explanatory power of ACF, in which the missing element of power and power dynamics are likely to play a major role in giving better explanatory capacity of the causal processes of policy change than the existing causal mechanisms in ACF. The case is technologically complex, politically controversial, and has obvious characteristics that fit ACF like major policy change, easily identifiable sides of the debate, and substantial goal conflict. These characteristics are said to make ACF particularly useful in a variety of political settings (Sabatier & Jenkins-Smith, 1999). The case selection therefore follows a "most-likely logic" where one could expect a high level of fit between empirical observations and the assumptions of the ACF (Nohrstedt, 2011). Whereas policy regarding the Bay had historically been balanced between economic and environmental concerns (Alleman, 1995; Metropolitan Dade County

Board of County Commissioners, 1986; Fagenson, 2014; "Homestead", 2000; The 2014 Florida Statutes, 2015), a project to deepen PortMiami and Miami Harbor, located within Biscayne Bay, represents a shift in policy. The coalition advocating Bay conservation argued that construction could not and would not be done according to balanced economic and environmental considerations, but would focus on exploiting maximum economic benefit of a port expansion to the detriment of the Biscayne Bay ecosystem (Interview Porter, 2015; Interview Mesa, 2015; "Deep Dredge arouses", 2011). Major environmental damage and permit violations during the construction show that policy did indeed change in the predicted manner (Staletovich, 2014; Coral and Dredging Impacts in Miami", 2015). The change in policy core beliefs of the policy subsystem from balanced environmental and economic concerns to more emphasis placed on economic concerns represents a *major* policy change.

The advocacy coalition perspective considers four paths to policy change: policy oriented learning, internal and external shocks, and negotiated agreement paths (Sabatier and Weible, 2007). Externally in this case there was recession (Zumbrun, 2008), change in public opinion favoring economic policy ("Environment", 2015), and change in political party at the state level ("Rick Scott", 2012). However, external perturbations are necessary but not adequate in explaining policy change (Sabatier and Weible, 1998; Nohrstedt 2005). There were also instances related to policy learning, but which reinforced coalitions own beliefs—like damage being done despite the environmental regulation in the permit (Interview Kipnis, 2015)—instead of representing cross coalition learning. Negotiated agreements represented by lawsuits were important aspects of the case study, but these came about because of permit violations, or in other words, law breaking, not directly because of a stalemate (Interview Olle, Pappas, 2015). All four paths exist in the case study, but examining them as such leaves a gap of how they actually caused policy change.

Between the two opposing coalitions, however, there is a clear and significant difference in the access to resources and the success of their strategies to influence policy, and breaking down the paths in this way can link them policy change (chapter 5). For example, as a result of regime change, the coalition supporting port expansion—to the detriment of the Bay—was comprised of elected officials with decision-making authority at various levels of government who actively supported laws that assisted the policy change (Interview Olle, Pappas; 2015; Miller, M.E., 2012b). The large budgets of these actor organizations provided them the opportunity to acquire technical information that helped settle the lawsuits in their favor (see Table 10), and to be able to violate the project permit without crippling consequences (Interview Kipnis, 2015; Interview Olle, Pappas, 2015). In sharp contrast, the opposing coalition—those advocating greater conservation controls on the project— was comprised mostly of individuals working pro-bono and environmental organizations with little to no funding (see tables 3, 9). When all of the paths are looked at in this critical manner, it is expected that the policy change will be relevant to and derive more clarity from a power perspective.

3.3 Methods

The case study examines a change in policy regarding the management of Biscayne Bay. To test the hypothesis, key organizations, institutions, and individuals involved in the Deep Dredge project were identified. A rough search was done online for news articles and press releases to identify major players. These were contacted, and in preliminary discussions asked to suggest other players in the policy subsystem. Participants in the study were then selected based on their involvement in the development of the project, and through snowball technique referrals from other participants. The document analysis and interviews were used to compile a timeline of events relevant to the case study.

Semi-structured interviews were conducted with key individuals and individuals from the various key organizations. The questions were designed to ascertain policy beliefs, resources available, utilized, and lacking or difficult to procure. Interviewees were also asked about their strategies to influence the outcome of the project, what they thought the effect was, and what strategies and resources they would have liked to have.

The interviews were also used to help define the policy subsystem empirically. Weible and Sabatier (2006) suggest identifying the appropriate subsystem scope by conducting interviews and asking policy participants to themselves identify the territorial and substantive boundary of the issue, and the major interest and governmental agencies involved. In order to operationalize policy beliefs they ask participants to comment on the seriousness of the problem, their perception of the problems and solutions, and use their narrative response, verbatim, to identify policy core beliefs.

Participants that were interviewed include Dan Kipnis, James Porter, Colin Foord, Blanca Mesa, Dennis Olle, and Gary Pappas, with additional correspondence with Rachel Silverstein, Laura Reynolds, and Nick Ducassi. The interviewees were key individuals in the Pro-Bay coalition, representing important individual actors that undertook strategies on their own or as representatives of environmental groups. At the time of the research, actors from the opposing coalitions were involved in litigation in state court regarding permit violations of the Deep Dredge project. Because the actors in the Pro-Port expansion coalition are governmental organizations, it was impossible to conduct interviews because of their policy to not discuss "substantive matters with the public concerning a pending lawsuit," (personal correspondence, DEP, U.S. Army Corps of Engineers). Other actors in this coalition included politicians, some of who were no longer in office at the time of the interviews, or who had schedules that did not allow them to participate in interviews, or who declined interviews because of the politically sensitive nature of the project. However, this was not seen as a major setback in the research, as 1) for such governmental organizations, most information on operating budgets and personnel, and other such resources is a matter of public record, and 2) the difference in resources between the two coalitions was so great that outdated, imprecise, or estimated information about such resources would not change the comparison analysis.

Ingold (2011) states that alterations in resource distribution within a subsystem have a crucial impact on decision-making and policy change, specifically focusing on formal legal authority for decision-making, public opinion, information, supporters, financial resources, and skillful leadership. She deduces alterations in resources by investigating power structures within a subsystem by the "reputational approach" measure. This approach uses the subjective impression of power distribution among the elite given by participants of a survey. This is a good proxy to measure resource accumulation because those actors and coalitions that are more successful in gathering resources and executing strategies successfully tend to be more visible in the policy subsystem, and thereby receive higher reputational power from survey participants.

To determine reputational power in the Deep Dredge project, all actors and organizations involved in the project were contacted and asked to participate in a survey. They were presented with a list of all project participants and were asked to indicate which, in their view, were 1) very important (as many as they desired, without limit) and 2) the three most important participants, with the ability to write in any other actors. Where as the research states that Biscayne Bay policy changed from environmental and economic interests being in equilibrium prior to the Deep Dredge Project and then changed to being in favor of economic interests, it is expected that the reputational measure will show significantly more resources accumulated in the Pro-Port expansion coalition, or that policy subsystems participants, overwhelmingly identify Pro-Port expansion actors as important. In terms of the survey, here too the problem was encountered that most participants came from the Pro-Bay conservation coalition.

Although this raises issues of the reliability of the data, because the responses were so overwhelmingly one-sided, and because other data also show most resources accumulated in one coalition, the results are still presented for consideration. In addition to the interviews, desk research was conducted of news articles, press releases, organizational publications regarding yearly operations, and policy documents to identify resources and strategies of coalition actors, and to substantiate claims by interviewees. Phone calls to various organizations were made to fill in missing information.

In order to examined claims by Pro-Bay conservation actors that local newspapers supported the Deep Dredge project, an analysis of articles from 2011-2014 of the three main local newspapers was conducted. Three search terms were used to identify articles about the project ("PortMiami", "Port of Miami", and "Deep Dredge"), which were read to determine bias qualitatively. Each article was then

searched with 20 common terms used in Pro-Bay articles and by Pro-Bay actors, and 20 common terms used in Pro-Port articles and by Pro-Port actors to substantiate the determined bias. This analysis was used to determine whether these news outlets could be considered to be resources of a given coalition.

The information collected through documents analysis, survey, and interviews was also used to create a table that explored willingness/skillful leadership. All of the coalition actors were considered in relation to which resources and strategies they had a connection to, receiving a point for each connection. Actors who are consistently connected with more resources and strategies than other actors are considered to possess willingness within that coalition. Power between the coalitions can then be determined by looking at which instances of willingness were connected to successful strategies, which would mean that coalition had more power in terms of willingness.

When the search of coalition resources and strategies was exhausted—when no new information came to light and known elements were repeated by other sources—they were categorized according to the typology of the power framework. This allowed a comparison of resources to determine resource distribution between the coalitions, and to analyze the power relations and dynamics of the coalition strategies, thereby determining the dominant coalition and the manner by which they were able to influence policy.

3.4 Operationalization of variables

In this study, the dependent variable is 'Policy Change'. The independent variable is 'Power' as it relates to the concepts in the power framework, and is possessed by the various coalitions. Power is looked at in terms of 'Reputational Power', 'Resources' and 'Conditions of Power', which includes 'Strategies' and 'Willingness/ Skillful Leadership'.

3.4.1 Dependent variable

Policy Change: In order to operationalize policy change, the study looks at the policy core beliefs of the coalition actors. Weible and Sabatier (2006) take these beliefs directly from the actors themselves. In this study, they are derived from actor interviews and documents published by coalition actors. Policy change can then be defined through the reflection of policy core beliefs from one phase to another, where the policy guiding Bay management changes, in correlation to a different policy core belief dominating the policy subsystem.

3.4.2 Independent variables

Power- Reputational: Reputational power is operationalized through data generated from a survey of coalition actors in order to determine the most influential actors in the subsystem and then the Top 3 most influential. For most influential, each survey participant could choose as many actors as they wanted, each vote getting one point. For Top 3, the top actor received 3 points, second received 2, and third received 1. For each metric, the reputational power of each actor was defined as a percentage of the total votes cast for that metric.

During the course of the research, no actors in the Pro-Port coalition could be contacted to participate, and in the Pro-Bay coalition all the primary actors participated, but most secondary actors could not be reached, so the sample size was small and came only from one coalition. Reputational power is nonetheless still discussed because it is used as a proxy to represent distribution of power, which is then supported by actual investigation into coalition resources and strategies. Also, in further research regarding this topic it can still be a useful tool to look at power distribution, and especially the perceptions thereof.

Power- Resources

In the power framework, resources are divided into five categories. Various resources are identified and categorized based on this typology and then defined either in relation to a number if appropriate, or by a descriptive method where appropriate. They are further defined between coalitions either as

'more' or 'less' than the resource of another coalition, or 'different' and more or less if that resource was unique to a coalition, and based on whether it was used in a successful strategy.

Human resources in terms of mobilizable troops are looked at in terms of number of people, human leverage in terms of possessing positions of formal authority or not, and skills in terms of any non-purchased skills that were mobilized for a strategy, like legal skills.

Mental resources are operationalized by looking at the possession of information by a coalition supporting its beliefs. Comparison is based on the quality of the information, or where it came from, i.e. generated by experts, and how it was used in strategies, being successful meaning that the information of one coalition was 'more' power than the information used by the other.

Artifactual and natural resources—and mental resources overall—are more difficult to operationalize in terms of comparison because of the range of different resources that these categories exist as. For this study, the resources will be operationalized by the identification of specific artifactual and natural resources possessed by coalitions, relevant to this case, comparing whether the opposing coalition had such items, and then measuring them in terms of their impact. For example, the impact of news articles will be measured based on the circulation of that newspaper. Public opinion can be measured through the use of polls, or could theoretically be determined by doing a survey of the population. However, in this case study, public opinion had no direct role, so such a survey was not conducted.

Monetary resources are operationalized by looking at the operational budgets of the various actors, or other monies that were involved in the various strategies to influence policy change.

Conditions of Power- Strategies:
Strategies are operationalized qualitatively by determining specific actions, according to the different types, whereby actors mobilized resources, designed to influence policy or in order to obtain more resources in order to influence policy.

Conditions of Power- Willingness/Skillful Leadership: Power between coalitions is operationalized by looking at which instances of willingness were connected to more resources and successful strategies, which would mean that coalition had more power in terms of willingness.

The strategies are all looked at in terms of what types they were, and what power dynamics and relations they created. Considering which coalition had access to more resources, and then by using these three tools, and considering the dynamic that the condition of willingness provides, it can be determined which coalition leveraged greater power in the policy subsystem.

3.5 Outline of study

The study begins with an examination of the Deep Dredge project in Biscayne Bay. First, the timeline of events is presented, detailing important events in the two phases marked by a change in management policy. The timeline begins in the 1960s-70s when major development would have severe environmental impacts on Biscayne Bay, so its protection was written into state law. The inclusion of this phase gives a backdrop to the policy change. The second phase begins with events that put the Deep Dredge project into motion and concludes at the end of 2014, since the project is supposed to be completed by 2015, and because the research itself was done in 2015. The study then explores the case in terms of the advocacy coalition framework to ensure its fit with the framework, and lay the groundwork for incorporating a new tool to better explain policy change.

The results of the case study were then translated to provide evidence in support of the hypothesis in an analysis that looks at power distribution amongst coalitions. First an examination of reputational power is given to determine the distribution of resources, and provide empirical evidence that resources were concentrated in one coalition. The resources are then looked at in detail as they correspond to the typology of the framework. This is necessary to understand why some strategies succeeded over others. Next, policy change is explained according to the four paths,

and how coalition strategies via resource mobilization fit therein, represent coalition power, and provide more explanatory capacity. Lastly, skillful leadership within the two coalitions is explored. The chapter is wrapped up with a summary of the power distribution in the policy subsystem. The study ends with a conclusion and discussion exploring whether the power framework was able to give better insight into the causal process of policy change in ACF, the limitations of the study, and suggestions for future research.

4. Biscayne Bay management policy subsystem: Case study

The dredging of Biscayne Bay in Miami-Dade County, nicknamed Deep Dredge, is a project to deepen PortMiami in the Miami Harbor, from approximately 42 feet to 50-52 feet, to coincide with the opening of the expanded Panama Canal, so that it will be able to accommodate the larger Super Post Panamax ships that will come through the canal.

In this chapter, a timeline of important events in the policy change will be given, followed by an examination of the case study in terms of ACF.

4.1 Timeline of management policy in Biscayne Bay

The history of Biscayne Bay can be divided into two phases based on a change in interests regarding management policy. Biscayne Bay has always been an important ecological feature of South Florida, playing a central role commercially and ecologically since the area began to be populated ("The Birth of Biscayne National Park", 2015; Miller, L., 2008). Since its establishment in 1974 (Phase I), the Biscayne Bay Aquatic Preserves (BBAP) has benefitted from local, state, and federal consideration based in legislation for the maintenance of its "aesthetic" and "biological values" in its "natural form," even while undergoing changes to increase its economic potential ("Rule Chapter 18-18", 2015; The Florida Statutes, 2015). Construction projects were undertaken within the scope of strict environmental protection and monitoring ("Miami Harbor Deepening", 2013). In 2006, however, a new chapter in management policy for the Bay begins with the Deep Dredge project (Phase II), during which this balance is changes and economic interests supersede those of the environment.

4.1.1 Phase I: Environmental and economic policy balance

The 1960s was a time of major development pressure in South Florida. A seaport was proposed along the mainland shores of Biscayne Bay, which would include an oil refinery necessitating a 40 foot dredge project cutting through coral reef, and the state electric company announced plans for two oil-fired plants and two nuclear reactors, whose discharge would kill marine life in Biscayne Bay. Despite local resident and politician support for job creation, a group of environmentalists led by president of the local Izaak Walton League, Miami Herald reporter Juanita Greene, Art Marshall, other Herald editors, Florida Congressman Dante Fascell, Florida Governor Claude R. Kirk, Jr., and lobbying efforts of Herbert Hoover, Jr. were able to stop the seaport project and provision that the plants would have closed-loop discharge systems. This support, political power, and funding from Hoover led to the creation of the Biscayne Bay National Monument and inclusion of Bay area in national and state park systems ("The Birth of Biscayne National Park", 2015; Miller, L., 2008; Interview Mesa, 2015).

In 1974 the Biscayne Bay Aquatic Preserve is designated and its boundaries established by the Florida Legislature, Chapter 258.397 of the Florida Statutes "to be preserved in an essentially natural condition so that its biological and aesthetic values may endure for the enjoyment of future generations," (The Florida Statutes, 2015). The Legislative intent for establishing this aquatic preserve is stated in Section 258.36, F.S.: "It is the intent of the Legislature that the state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value, as hereinafter described, be set aside forever as aquatic preserves or sanctuaries for the benefit of future generations," (The Florida Statutes, 2015). Its boundaries, management authorities, and rules are established in Florida Administrative Code Chapter 18-18. In 1975, a second preserve is established, the Biscayne Bay - Cape Florida to Monroe County Line Aquatic Preserve (Biscayne Bay Aquatic Preserves, 2012a). Figure 6 shows the boundaries of the BBAP.
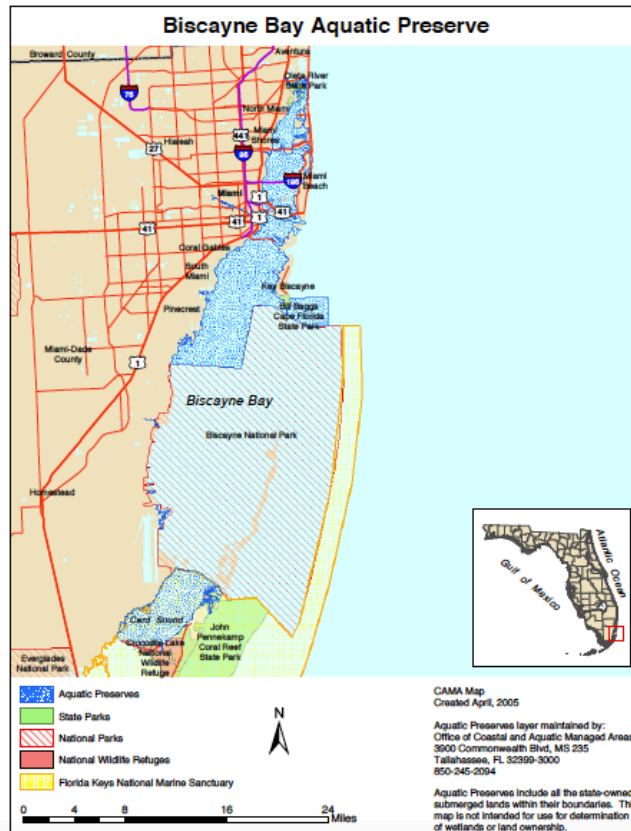
Figure 6. Biscayne Bay Aquatic Preserve
(Biscayne Bay Aquatic Preserve, 2012a)

In 1981, the Biscayne Bay Management Committee was created to counteract the substantial loss of Bay resources. The Committee's goal was to oversee restoration projects that provided aesthetic, recreational and ecological value to the Bay. The restoration plan succeeded in returning the Bay to a more ecologically stable condition (Biscayne Bay Aquatic Preserves, 2012a). In 1986 the Environmental Resource Management Department and Metropolitan Dade County Planning Department create a new and updated Biscayne Bay Aquatic Preserve Management Plan (Metropolitan Dade County Board of County Commissioners, 1986). And in 1991, Florida Department of Natural Resources (1991), Division of State Lands creates a management plan for the Biscayne Bay Aquatic Preserve Card Sound. In 1995, the Planning Department of the South Florida Water Management District creates the Surface Water Improvements and Management Plan for Biscayne Bay (Alleman, 1995).

In the late 1990s, South Florida business and civic leaders wanted to convert the hurricane-damaged, unused Air Force Base in Homestead, just to the south of Miami-Dade, into a commercial airport in order to restore the local economy and relieve congestion at nearby Miami International Airport. Local activists and the not-for-profit, donor funded Environmental & Land-Use Law Center became involved arguing that the airport would harm the fragile ecosystem of nearby Biscayne Bay. A preliminary environmental analysis by the Air Force said this could be done while reducing impact on the environment. The Interior Department and EPA disagreed with the assessment, and eventually the project was abandoned, despite local political will ("Homestead", 2000; Interview Mesa, 2015).

In 1990, in order to meet the increasing demands of the passenger and commercial shipping, Congress approves the deepening of the Port to 42 feet. Phase I of the PortMiami project was

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completed in 1993, with the deepening of the entrance channel and turning basin. Phase II is initiated, but the project goes unfinished due to the hardness of rock and the inability to complete construction in accordance with environmental standards ("Miami Harbor Deepening", 2013). In 1999 during maintenance dredging of Biscayne Bay, a contractor illegally takes three acres of seagrass from an adjacent state aquatic preserve, prime habitat of the endangered West Indian manatee, confirming environmentalist beliefs of the fragility of the Bay in relation to large scale projects ("Deep Dredge arouses", 2011).

In 1999 the Port approaches the Jacksonville District CoE to complete Phase II construction and initiates a Study Authorization for the deepening of the Bay. In 2004, a General Reevaluation Report is completed for the deepening project. It includes details of a baseline resource survey, draft plans, history of plan modifications, results of studies and meetings with important management departments, community meeting announcements and results, and an Environmental Impact Statement and Mitigation Plan, over a period beginning in 1999. The report states that as a result of the coordination process, modifications were made to the plan to reduce impact, avoid construction in an entire reef area, and include greater mitigation and restoration efforts (US Army Corps of Engineers, 2004a, 2004b).

In 2005 a Chiefs Report is approved for the project and construction of Phase II begins in June ("Miami Harbor Deepening", 2013). A new blasting technique is used called cap blasting, intended to reduce impact on surrounding species. During construction, however, a hydraulic cutting rig and leaky scow hauling rock to an offshore dump site combine to produce plumes of milky silt, which are carried across seagrass beds and coral reefs. The turbidity of the water and its negative impact on marine species causes the project to be continually shut down. Blasting only lasts a total of two months, but the construction timeframe is spread out in order to minimize damage, and is not completed until July 2006 (Fagenson, 2014).

From these various instances of continuous management plan updates and construction projects that are stopped, delayed, or not approved because of environmental concerns, it is apparent that economic and environmental concerns are equally considered in management policy.

4.1.2 Phase II: Economic interests outweigh Environmental concerns

For the previous three decades, and especially with the publication of the 2004 Study Authorization, it is apparent that much consideration is given to the environmental well being of the Bay ecosystem, and interested parties are included and collaborated with in the planning processes. However, by 2006 and especially as the Deep Dredge project gets underway in 2011, this policy toward Biscayne Bay changes, as evidenced by environmental mitigation and restoration plans that will not be followed as stated, coordination efforts becoming legal battles, and environmental concerns becoming secondary to economic interests of the project:

In May 2006, a Record of Decision for Phase III is signed by John Woodley, Jr., Assistant Secretary of the Army Civil Works.

> "The recommended plan is not the environmentally preferable plan, but is the one that delivers substantial benefits in a cost effective manner... Based on the review of these evaluations, I find that the benefits gained by implementation of the recommended plan far outweigh any adverse impacts and the overall public interest will best be served. This Record of Decision completed the National Environmental Policy Act process," (Army- Civil Works, 2006).

Just prior to this in April of 2006, then Panamanian President Martin Torrijos formally proposes the expansion of the Panama Canal, saying it will transform Panama into a first world country. In October, a national referendum approves the proposal by a 76.8 majority, with the Cabinet and National Assembly following suit. In 2007, expansion of the Panama Canal formally begins. This perturbation from an external subsystem will exacerbate the necessity for Phase III, deepening to -52 ft, to be implemented, shifting the agenda and focus so that PortMiami has the capability of becoming

a destination for the Super Post-Panamax ships (Sabatier and Weible, 2007). Figure 7 shows the proposed dredge sites.
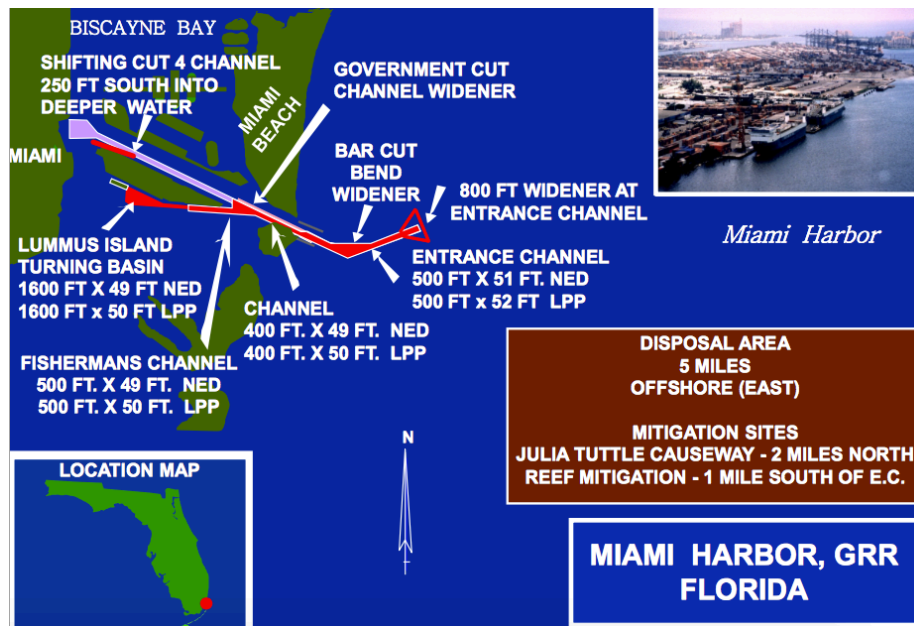
Figure 7. Dredge Site
("Fact Sheet: Miami Harbor", 2014)

In 2008 the CoE receives Project Approval for the Phase III deepening project, and in 2009 they sign a design agreement for the specifications of the construction. The year 2008 also saw a substantial change in the socioeconomic conditions in the United States when the real estate bubble popped and the country went into recession (Sabatier and Weible, 2007). Miami was one of the more hard-hit cities since housing was the main driver of its economic boom leading up to that period. According to Forbes, unemployment in Miami rose to 6.4%, putting a total of 184,000 people on the unemployment rolls (Zumbrun, 2008).

In 2011, Republican Rick Scott is elected governor of Florida. Scott stands in contrast to the previous governor, Charlie Crist, who despite being a Republican at the time, supported policies that set him to the left of his party (Krishnaiyer, 2014). His record as governor shows him supporting more business-friendly policies, while reducing the scope of environmental policy ("Rick Scott", 2012). Bill Johnson had been lobbying Washington heavily to secure federal funding for the project, and turns to the new governor for support (Mazzei, 2010). Rick Scott promises the federal share of the project out of State money ("PortMiami Deep Dredge", 2013).

In 2011, public dissent about the final phase of the deepening project of the Bay begins. Fisher Island (a private residential island along the proposed dredge area) Community Association President Irwin Potash expresses his displeasure to reporters, stating that previous construction had damaged the island's seawall. He had had problems with Port officials and CoE for years and stated that the association would "probably file suit," (Miller, M.E., 2011b).

Jennifer Villatoro creates an online petition of Mayor Carlos Gimenez, Port Director Bill Johnson, State Representative David Richardson, and Governor Rick Scott on Change.org, also linking to MWK website for financial contributions. The petition receives 298 supporters (Villatoro, 2012). Petitions on the website are measured on scales starting at an increment of 10,000 signatures. Change.org gives several examples of successful petitions, all of which received in excess of 10,000 signatures. For example, a petition regarding chemicals in Gatorade received over 206 thousand signatures; a

petition to get unsafe rental cars off the road received 162 thousand, and a campaign regarding corrective rape in South Africa received 171 thousand ("How an online petition works", 2015).

Blanca Mesa of the Sierra Club, a long time environmental activist in South Florida, learns of Deep Dredge. She reaches out to other groups to form a coalition in opposition and does extensive research on the past dredge projects and the damage this one might do (Interview Mesa, 2015). In July, major environmental and civic groups ask the DEP to slow down the environmental permitting process. They are concerned that seagrass beds, coral reefs and water quality will be impacted by construction and state that secondary, cumulative environmental impacts of construction had not been properly explored or assessed. They send a 12-page letter to Michael Carothers, Florida Department of Environmental Protection, Bureau of Beaches and Coastal Systems (Garcia, 2011).

> "There should be no shortcuts in either the costs that will be incurred to ensure best management practices or employing the least environmentally harmful methods available...The full of amount of highest quality mitigation is required to protect our existing resources as well. Quality mitigation should restore habitats to extent possible to keep intact resources healthy, effectively resolving anticipated issues, as well as account for any likely yet unanticipated secondary impacts," (Garcia, 2011).

This, however, does not slow down the process. In October MWK issues a notice of intent to sue Miami-Dade County and in November MWK, Tropical Audubon Society, and Captain Dan Kipnis sue the DEP to have the dredging stopped (Miller, M.E., 2011a). The suit is successful in delaying the project for months, possibly years, as a Tallahassee judge is scheduled to hear arguments for and against the project in August 2012. A reporter quotes Port Director Johnson describing the suit as a delay tactic, but still expecting the project to be completed on time (Miller, M.E., 2012a).

In September 2011, Colin Foord gives a TEDx Talk about the unique staghorn and hybrid corals found in Biscayne Bay. He explains the importance of collecting these corals before dredging begins as current aquaculture and reef rehabilitation techniques could allow scientists to grow these hardy corals in nurseries and use them in Florida's coral reef restoration efforts ("TEDxMIA", 2011).

In December of 2011 the CoE publishes an Environmental Impact Fact Sheet detailing the importance of Bay, the environmental concerns, and the precautions they will take (US Army Corps of Engineers, 2011). A few months later, in February and March of 2012 the Florida Legislature passes three bills, CS/CS/HB 373: Environmental Permits, CS/CS/CS/SB 716: Environmental Regulation; CS/CS/HB 503 Environmental Regulation, which create, amend, and revise numerous provisions relating to development and construction permitting, application and procedural requirements, and programmatic and regional general permits. The amendments mean local government may not require as a condition of processing or issuing a development permit that an applicant obtain a permit or approval from any state or federal agency. This forces the administrative challenge created by the suit to be moved up by months, meaning conservation plaintiffs are given thirty days from the filing of the suit to mount a case (Miller, M.E., 2012b). The lawsuit is then settled out of court in return for $1.3 million for the Biscayne Bay Environmental Enhancement Trust Fund and a re-written permit that includes some expansion of seagrass and coral mitigation projects, like the relocation of some corals and the creation of nine acres of artificial reefs (Harper, 2014).

In February of 2012, opponents of Deep Dredge created and uploaded a video on YouTube detailing their perceived impacts the project would have on Biscayne Bay. They describe the conflict as such: "For the moment, Biscayne Bay coexists with the Port of Miami, but Deep Dredge may prove to be too much." As of March 2015 it has 11,500 views (*Battle for Biscayne Bay,* 2012).

In April of 2012, months before work starts on the dredging, state officials already note violations of how work is monitored, problems that persist until 2014 ("Coral and Dredging Impacts in Miami", 2015).

In July, the White House Administration announces that seven nationally and regionally significant infrastructure projects will be expedited to help modernize and expand five major ports in the United States as part of the *We Can't Wait Initiative*. President Obama executed a Presidential Executive Order in March, charging the Office of Management and Budget to identify important projects to help American businesses and modernize infrastructure. The White House Blog (2012) states that president's administration committed to completing all federal reviews for the Deep Dredge project by August of 2012, with deepening of the Federal navigation channel expected to be done by the end of 2012—it states that a progressive partnership between PortMiami and the State of Florida providing the requisite funding, had advanced the project by years. Local officials propagate the president's recognition of the port expansion as an infrastructure improvement of "national significance" and that federal agencies overseeing the project would ensure its expedition. Port Director Johnson uses the opportunity to emphasize that the project was made possible by advance state financing of the federal share of the project, by Governor Scott and State Legislature, and expresses hope that recognition means the White House will include the project in the 2014 federal budget (DredgingToday, 2012b).

In August 2012, the Port and CoE sign the construction agreement allowing the project to go out for bid; in October CoE announces the contract solicitation is underway; and in November the CoE unveils details about the dredging project (DredgingToday, 2012a).

In March 2013, President Obama visits PortMiami to see construction of the tunnel that will connect the interstate highway system directly to the port, making traffic more safe, quick, and rerouting 1.5 million trucks away from downtown each year (The White House, 2013). The tunnel was an important component of Port expansion because traffic, especially trucks, was considered detrimental to economic growth of the downtown area, and it was expected that the increased capacity of the expanded Port would increase the volume of trucks through downtown (Lincoff, 2014). The President's address at the Port describes the importance of job creation that goes along with such projects, and again emphasizes the need to upgrade national infrastructure to remain competitive in the global economy (The White House, 2013).

In May the CoE announces that the contract has been awarded to the Great Lakes Dock and Dredge Company LLC. The environmental precautions that will be taken are repeated by the contractor, DEP and PortMiami, and CoE, including promises of collaboration, the use of divers in adjacent areas to monitor natural resources, and the commitment to protecting the surrounding environment (DredgingToday, 2013a). In the same month, Maersk Line, the leading container shipping company in the world, added PortMiami to its Transpacific 7 Service, becoming the ports largest regular container service ("Maersk Transpacific", 2013).

In August, Tetra Tech, Inc is awarded a $20 million dollar contract with the Great Lakes Dredge & Dock Company, LLC to provide environmental management services and quality control oversight for the transplantation of seagrasses, relocation of corals, and monitoring of existing seagrass beds, coral reefs and sediment during dredging activities. They will also be responsible for subcontracting and managing the construction of new artificial reefs and seagrass beds created from the dredged material (DredgingToday, 2013b). Four new Super Post-Panamax cranes arrive in PortMiami from Shanghai, China in September, bringing the total count of such cranes to six ("Four New Super", 2013).

In October 2013, the environmental contractor undertakes a survey to find the 31 staghorn coral colonies that were reported to be in the indirect impact area, which NOAA had said would need to be moved in order for the project to be approved in 2011. Even before the survey is complete, 243 colonies are found. That month, because of gridlock in Congress, the United States government is shut down, but the CoE does not want to delay dredging. NOAA directs them to move colonies that are within 40-50 feet of the channel, monitor the rest, and reinitiate consultation about the newly discovered colonies. CoE moves 38 colonies but does not monitor the rest or reinitiate consultation with NOAA, and the survey remains incomplete as per the time of the research ("Coral and Dredging

Impacts in Miami", 2015).

Dredging begins in November of 2013. Before the project starts, Colin Foord and other researchers are given two weeks to gather as much live coral as possible from the area slated to be dredged. Foord says his group gathered more than 2,000 corals and transferred them to nearby laboratories (Fagenson, 2014). Governor Scott visits the dredging area in December ("Governor Scott Tours", 2013).

Captain Dan Kipnis says that in February 2014 he hears from fishing friends that there are plumes of silt making it hard to see fish. He checks online dredge data, which says the project is operating clean, but compares the data with Google images. The times of the pictures and the data do not coincide. In June he flies his seaplane over the dredge area, and in July charters a boat to go out to the location. Kipnis says he watched a private contractor take turbidity readings outside the plume, and when the boat captain took his own sample, readings were twice the legal limit. Other fishermen and dive companies also say the murky water is affecting their activities (Miller, M.E.,2014).

In April, landsatellite images show massive turbidity plumes in the Bay caused by dewatering—letting water and fine sediments leak—to reduce load of transport barges on the way to permitted offshore dumpsites. This is despite a 2011 Material Disposal Site Management and Monitoring Plan from CoE, that not only made the disposal site 2.4 time larger than originally planned, but also specified as a condition of the permit that no material may leak from vessels, or operations must cease until problems are corrected (CoE, 2011). In July, Miami-Dade County DERM reports widespread sedimentation and coral morality. DEP divers come to Miami and report the same thing at >200m from the dredge site. They also report that mitigation boulders for artificial reefs had been placed on top of living coral, and that turbidity monitoring had been done incorrectly. Minutes from the monthly inter-agency coordination meeting in February reveal that CoE was aware that sediment measurement blocks were not functioning properly. They were sufficiently elevated from the bottom that water movement cleaned material, rather than allowing it to settle for monitoring purposes. Instead of changing to another measurement method, sediment accumulation is reported as 0, putting the project in compliance with the permit ("Coral and Dredging Impacts in Miami", 2015).

After reports about heavy sedimentation continue to come in in July, MWK repeatedly alert CoE and NOAA of the issue. There is no change in monitoring behavior or methods, so MWK files a 60-day notice to sue for permit and Endangered Species Act violation (Environmental groups", 2014). In August, the DEP also warns the CoE that it is violating state permits, churning up too much sediment, and gives them two weeks to respond (Staletovich, 2014).

NOAA requires that the CoE begins monitoring the staghorn colonies it was already supposed to be monitoring, and issues emergency recommendations for the CoE to relocate the corals immediately. They refuse, and in September MWK and a group of conservation advocates, including Dan Kipnis, Coral Morphologic, Miami-Dade Reef Guard Association, Sierra Club Miami Group, and Tropical Audubon Society, file suit in federal court for ESA violation, asking for an emergency injunction hearing, set for the end of October. Just a few days before the hearing, the CoE strikes a deal to pay NOAA over $400,000 to have NOAA divers to relocate the staghorn corals found in the survey within 2 weeks. It agrees to allow the CoE to continue dredging during relocation. When NOAA divers arrive at location, they find the dredge working directly on top of the reef, making access impossible. They repeatedly ask CoE to stop dredging so they can access the coral, but CoE refuses. In a survey from October 2014, NOAA reports widespread sedimentation, coral mortality further than 200m from the channel, and unauthorized take of coral ("Coral and Dredging Impacts in Miami", 2015).

Although the scope of the project ends in 2014, reports in the beginning of 2015 have confirmed that sedimentation is ongoing, coral is being buried and relocated colonies have heavy and severe mortality. Environmentalists think it will be almost impossible for reef corals to recover because the requisite conditions are lacking. Although offshore dredging has been finished near the reefs since December, no full sediment survey has been done as the CoE says it still has one day left of dredging

and wants to wait until they are completely finished before conducting the study. In February 2015, NOAA said that the more time passes before the survey is done, the harder it will become to connect damage to sedimentation ("Coral and Dredging Impacts in Miami", 2015).

The events from 2006 on show a change in the management policy. The Deep Dredge project was supposed to be undertaken according to environmental standards. In reality however, monitoring and other standards were made less strict compared to previous projects; monitoring systems gave incorrect data because they were not working and were not subsequently fixed; monitoring of other areas was not undertaken; surveys of endangered corals were highly inaccurate; and coral relocation efforts were hindered, among other permit violations.

4.2 Deep Dredge in terms of ACF

The case study of the Deep Dredge project in Biscayne Bay was chosen because of its high degree of fit with the advocacy coalition framework and because of the high probability that power played a large role in the policy change, e.g. more human leverage (elected officials) and monetary resources (large budgets) within the Pro-Port expansion coalition allowing for greater policy influence. Before exploring coalition resources and strategies, the case study will first be elaborated through ACF. A summary is shown in table form in Figure 8.

Summary of ACF Application to Biscayne Bay	
ACF Component	**Case Study**
Policy Subsystem:	
Territorial Scope	Biscayne Bay, subsequently affected ecosystem
Policy Participants	Pro-Port and Pro-Bay actors
Substantive Scope	Biscayne Bay management policy
Relatively Stable Parameters:	
Basic attribute of problem area	Unique bay ecosystem
Fundamental cultural values and social structure	Utilization of the Bay and environmental considerations therein
Basic constitutional structure	Biscayne Bay Aquatic Preserves, state-managed land
Advocacy Coalitions:	
	Pro-Port expansion
	Pro-Bay conservation
Policy Change/ Belief Systems:	
Policy Core Beliefs	Exploitation of Biscayne Bay for economic, natural, recreational, research uses
Secondary Beliefs	Specific policy proposals regarding construction; environmental mitigation and monitoring programs that should be adhered to
Mechanisms of Policy Change:	
External Shocks	Socioeconomic recession, change in public opinion and focus of country, regime change; Panama Canal expansion; new legislation
Policy Oriented Learning	Previous dredge projects; importance of Bay ecosystem
Internal Events	approval of dredging permit; litigation
Negotiated Agreements	lawsuit settlement
Power Distribution	Pro-Port: more resources and more effective strategic mobilization of resources, more power in Pro-Port

Figure 8. ACF Summary

4.2.1 Policy subsystem
A policy subsystem is defined by the territorial boundary, the policy participants, and the substantive topic (Weible and Sabatier, 2006).

Territorial scope
The Deep Dredge subsystem is defined by the territorial boundary (Weible and Sabatier, 2006) of Biscayne Bay. It spans Miami-Dade and Monroe counties, is composed of a national park and two state aquatic preserves. The first, Biscayne Bay Aquatic Preserve was established in 1974 and runs the length of Biscayne Bay from the headwaters of the Oleta River down to Card Sound near Key Largo, comprises approximately 64,600 submerged acres. The second, named the Biscayne Bay-Cape Florida to Monroe County Line, was established in 1975 and has about 4,100 acres. Much of the

submerged lands and islands originally included within the boundaries are now within either Biscayne National Park or within the larger Biscayne Bay Aquatic Preserve. Together, the two preserves are known as the Biscayne Bay Aquatic Preserve (BBAP) (Biscayne Bay Aquatic Preserves). PortMiami and the dredge area are located within Biscayne Bay Aquatic Preserve, but due to ecosystem dynamics, the impacts of dredging may span throughout the entire Bay, including material disposal site, where turbidity and sedimentation have an impact when ships are en route.

Policy participants
The policy participants (Weible and Sabatier, 2006) run from local to federal organizations, grassroots to elected officials. Under the macro-level assumption, these participants specialize in issues relevant to the Bay management subsystem, including conservation efforts, legal issues, and port construction knowledge, and actively seek to influence policy in this subsystem.

The Deep Dredge project is supported by elected officials and governing bodies from local to state to federal level, as well other associated organizations, referred to as Pro-Port. Miami Mayor Tomas Regalado (City of Miami), Miami-Dade County Mayor Carlos Gimenez (Miami-Dade County), Port Director Bill Johnson, Miami-Dade County Commission Chairwoman Rebeca Sosa, Commission Vice-Chairwoman Lynda Bell, and Governor Rick Scott have all been vocal advocates of the project. It has been called a "major milestone" and "important economic catalyst" the importance of which "cannot be overstated," a project that will make Florida an "even more powerful player in the global marketplace," ("Port Miami Deep Dredge", 2013).
  The Florida Legislature has come out in support of Deep Dredge, passing various bills that allowed the project to proceed amidst lawsuits against it. Former House Representative Carlos Lopez-Cantera sponsored the bill that caused the first lawsuit to be sped up (Miller, M.E., 2012b). Together the Florida Legislature and Governor Rick Scott comprise the State of Florida.
  President Obama has also supported the project, making it part of his *We Can't Wait* initiative as one of seven nationally and regionally significant infrastructure projects to be expedited to help modernize and expand five major ports in the United States. He is quoted as saying, "One way to help American businesses grow and hire is to modernize our infrastructure," (The White House, 2012).
  The U.S. Army Corps of Engineers (CoE), a federal public engineering, design, and construction management agency under the Department of Defense, is managing the project. They awarded the project to the Great Lakes Dredge and Dock Company LLC ("Port Miami Deep Dredge", 2013), the largest company of its kind and which has a history of dredging in Miami dating back to the 1970s (DredgingToday, 2013a). PortMiami itself is also part of the Pro-Port coalition.
  Although tasked with management of the BBAP, including overseeing potentially negative activities and responsibility for collaboration and mitigation efforts and permit enforcement, the actions of The Florida Department of Environmental Protection (DEP) during the scope of this research place it in the economic coalition—especially in the eyes of the Pro-Bay coalition. For example, in 2012 the DEP issued an Environmental Resource Permit for the expansion of the canal, including a variance to regulations allowing greater degradation of water quality in the preserve. It has also failed to enforce various contracted environmental protections and monitoring activities, allowing construction to proceed uninterrupted, leading members of the Conservation coalition to file suit during the scope of the project in order to effect compliance ("Coral and Dredging Impacts in Miami", 2015; Interview Kipnis, Porter, Olle and Pappas, 2015).

Influencing policy against the Deep Dredge project is a number of environmental and civic groups and individuals, but with most of the advocacy work undertaken by core members. They will be referred to as Pro-Bay. The core members include Miami Waterkeeper (MWK), lead initially by Alexis Segal, Executive Director, and currently by Rachel Silverstein, Executive Director, The Tropical Audubon Society, led by Laura Reynolds, Executive Director, Sierra Club Miami Group, represented by Blanca Mesa, Colin Foord, Captain Dan Kipnis, Michael Miller, Nick Ducassi, and lawyers James Porter, and Dennis Olle and Gary Pappas of Carlton Fields lawfirm. The secondary members include the National Parks and Conservation Association (NPCA), Friends of Biscayne Bay, Izaak Walton

League, Environmental Coalition of Miami and Miami Beaches, Miami-Dade Reef Guard, Surfrider Miami, Urban Environment League, Urban Paradise Guild, and Clean Water Action.

Miami Waterkeeper is a grassroots not-for-profit organization founded in 2011 dedicated to the protection, conservation and improvement of the water quality in the Biscayne Bay watershed. It is a member of the Waterkeeper Alliance, an internationally recognized, citizen's alliance led by Robert F. Kennedy Jr., working for clean water around the world. MWK achieves its goals through community outreach, education, and legal advocacy (Miami Waterkeeper, 2015). The Tropical Audubon Society (TAS) is a non-profit organization located in Miami, Florida established in 1947, Their mission is to conserve and restore South Florida's ecosystems, focusing on birds, other wildlife and their habitats for the benefit of humanity and the earth's biological diversity, by striving to activate grassroots action, educate the public on the environment and create action to achieve conservation objectives in South Florida (Tropical Audubon Society, 2015). Sierra Club Miami Group is part of the largest grassroots environmental movement in the US, with 2,500 members in Miami Dade and Monroe Counties. Their mission is to protect the natural places in South Florida, teach others to understand and respect the fragile environment in which they live, and to practice and promote the responsible use of South Florida's ecosystem's and resources (Sierra Club: Miami Group, 2015).

Blanca Mesa is a member of Sierra Club and a long time environmental activist in Miami, especially focusing on issues that affect BBAP. Colin Foord is a marine biologist and co-founder of Coral Morphologic, a science-art endeavor, studying hybrid Fused Staghorn coral and responsible for 'Miami Coral Rescue', which involves the careful transplantation of hundreds of corals that have colonized Government Cut channel (Coral Morphologic). In 2011 he did a TEDx Miami talk about the importance of these coral to science and reef restoration. Captain Dan Kipnis is a retired fishing captain in Biscayne Bay, a vocal opponent of Deep Dredge, and a participant in multiple legal actions against the Army Corps projects. Michael Miller is a write for the Miami New Times online news publication, and has written many articles about the dredge project.

Substantive Scope
The substantive topic (Weible and Sabatier, 2006) involves a shift in policy regarding Bay management. The time scale spans several decades, from the 1960s, when major development in South Florida led to the establishment of the Aquatic Preserve in 2974, until 2014—because the research takes place in 2015—focusing from 2006 onward, when policy change began. At this time plans were implemented for major dredging and construction in order to expand Miami Harbor and enable PortMiami to be the port of call for larger ships.

Economic Considerations
The Deep Dredge project would deepen the existing channel in Miami Harbor from the starting depth of -42 feet to between -50 and -52 feet in preparation for the Panama Canal expansion, to coincide with the opening in 2016 (the original completion dates for both were in 2015). The expansion project would allow PortMiami to accommodate the new, larger Post-Panamax vessels that will be traversing the Canal and will be the only U.S. port south of Norfolk, Virginia that can accommodate the new vessels. As the closest U.S. port to Panama, PortMiami expects to benefit from increased Asian trade—these mega ships previously calling only on ports on the west coast of the United States. It will be one of only four Atlantic ports at a depth of -50 plus feet when the Canal opens. Port officials estimate an economic impact of $34 billion, as well as the creation of 33,000 jobs ("Deep Dredge", 2012).

Environmental Considerations
The permit approved by the DEP for the CoE to undertake the Deep Dredge Project has certain provisions for the protection of the Bay environment, and in press the CoE states its commitment to ensuring that environmental resources are protected and properly monitored. Pro-Bay coalition members argue that the provisions in the permit do not go far enough in protecting the environment and pursue the CoE for damages, saying that even these provisions are not being complied with.

ACF was designed for application to mature policy subsystems, which are characterized by participants who are a semi-autonomous community, share expertise in the policy domain, and seek to influence policy in that domain over an extended time period; and by agencies, interest groups, and research institutions that have had sub-units that specialize in the topic over a long period of time (Sabatier and Weible, 2007). Management policy in Biscayne Bay dates back to the 1970s, with this policy change starting around 2006, so in this sense it is a mature system. However, the configuration of actors is interesting to note, since previously the coalitions were not as active or as well defined, and did not contain the same composition as they do in response to Deep Dredge.

The DEP is a state regulatory body that is charged with approving or rejecting development projects according to their compliance with state environmental law. Dan Kipnis and Blanca Mesa have long histories of environmental activism, and James Porter, Dennis Olle, Gary Pappas, Colin Foord, Alexis Segal, and Rachel Silverstein all have scientific or technical backgrounds in environmental law and marine science, though none had been directly involved in advocacy regarding Biscayne Bay dredging. However, this was unnecessary because there was no need while the state regulatory body was rejecting and monitoring projects that damaged the Bay.

In the absence of large-scale projects that would damage the Bay and not be properly regulated according to law, there was no need for an active advocacy coalition in this direction. The current configuration of actors is a response to the external shock of regime change (Weible et al., 2009) changing the relationship the DEP had to such a project (see section 5.3.1). Whereas prior to Deep Dredge, when the DEP would have been responsible for advocating for environmental concerns, in the absence of any actor in this coalition during the project, other players had to actively take part in the subsystem on that side of management policy.

4.2.2 Biscayne Bay: Relatively stable parameters

The relatively stable parameters frame the policy making within a subsystem as they are stable over long periods of time and structure the nature of the problem. They include the basic attributes of the problem area, the fundamental cultural values and social structure, and the basic constitutional structure (Sabatier and Weible, 2006).

Basic attribute of the problem area

Biscayne Bay is a unique water body along the southeast Atlantic shoreline, not only because of its atypical formation, but because of the diverse biological communities that it supports including submerged aquatic, coastal wetland and intertidal, and coastal upland habitats. These vary from seagrasses, hardbottom assemblages, unconsolidated sediments, and open water communities, to mangrove and saltmarshes, riprapped shorelines, to hammocks, pinelands, and dune vegetation that provide vital protection to the Bay from the effects of upland runoff and nutrient loading (Biscayne Bay Aquatic Preserves, 2012a).

These diverse areas serve as the habitats and nursery grounds for a variety of juvenile and adult marine species, including many of Florida's threatened species like the smalltooth sawfish and Johnson's seagrass, and endangered species like the West Indian manatee, American crocodile, and Shaus swallowtail butterfly (Biscayne National Park, 2006). The rich fauna spans species that are commercially important, like snook, blue crab, stone crab, spiny lobster, penaeid shrimp, and sponges as well as most of the region's recreationally important species. There are over 512 fish and 800 invertebrate species. Home to many bird species, the Bay supports several rookeries and acts as stopover during autumn migration for many others. Biscayne Bay is home to five sea turtle species and other reptiles—southern Florida is the only place in the world where crocodiles and alligators live side by side. The mangrove and estuarine areas in general support a diverse collection of fauna that serve as important links in food webs that benefit the entire Biscayne Bay ecosystem (Biscayne Bay Aquatic Preserves, 2012a).

Biscayne National Park encompasses two-thirds of Biscayne Bay, making it one of the largest marine parks in the National Park System. It protects the third-largest coral reef system in the world and the longest stretch of mangrove forest remaining on Florida's east coast (Biscayne National Park, 2006). Although the park itself is a separate entity from the preserves, and under the jurisdiction of

the National Parks Service, it is noteworthy to mention, given the interconnectedness of species and ecosystems in Biscayne Bay.

Fundamental cultural values and social structure

Biscayne Bay is used by residents and tourists alike for a variety of recreational and commercial in-water activities including power boating, sail boating, catamaraning, canoeing, sculling, water skiing, jet skiing, hang gliding, swimming, windsurfing, snorkeling, diving, and fishing. The Bay provides for a variety of educational and research activities. Several marine science and education facilities utilize the Bay: University of Miami Rosenstiel School of Marine and Atmospheric Sciences (RSMAS), Florida International University, Barry University, the National Oceanic and Atmospheric Administration's Atlantic Oceanographic and Meteorological Laboratory and Southeast Fisheries Science Center, and the Miami Seaquarium. In addition to these institutions, several governmental agencies as well as scientists from remote locations conduct research and education programs pertaining to Biscayne Bay (Biscayne Bay Aquatic Preserves, 2012).

It is also important navigationally as part of the Intra-Coastal Waterway and home to a deepwater port, PortMiami, one of the busiest cargo ports and the busiest passenger port in the world (Biscayne Bay Aquatic Preserves, 2012a).

Basic constitutional structure

The Biscayne Bay Aquatic Preserve is primarily made up of submerged lands and the water column over such lands, as well as publicly owned islands. It is managed by the Florida Department of Environmental Protection (FDEP), Office of Coastal and Aquatic Managed Areas. DEP preserve staff partner with other agencies on various monitoring, reviewing, and research projects, including Miami-Dade County's Environmental Resource Management (DERM), the National Oceanic and Atmospheric Administration (NOAA), South Florida Water Management District (SFWMD), and the Florida Fish and Wildlife Conservation Commission (FWC) (Biscayne Bay Aquatic Preserves, 2012b).

The primary role of the BBAP in managing Bay resources is to be an informed source on ecological issues and cultural resources in and adjacent to the preserves area, and to coordinate with other management agencies. It is tasked with overseeing activities that could potentially affect the natural resources, ensuring all laws are obeyed and enforced, ensuring that accurate information is available for management planning decisions, and informing the public on natural resource issues through educational and outreach events. BBAP staff work with the DEP's Environmental Resource Permitting Program to minimize and avoid impacts to resources in the Bay (Biscayne Bay Aquatic Preserves, 2012b).

These duties are pursuant to laws governing the preserve as outlined in Florida Statute 258.397: Biscayne Bay Aquatic Preserve, and to Chapter 18-18: Biscayne Bay Aquatic Preserve of the Florida Administrative Code (Biscayne Bay Aquatic Preserves, 2012b). The Florida Statutes are the domain of the Florida Legislature, and the Florida Administrative Code is the domain of the Department of State, nominally under the authority of the Governor in the executive branch (Government of Florida, 2015).

Florida Statute 258.397: Biscayne Bay Aquatic Preserve: The Florida Statute designates and establishes areas of the Bay as an aquatic preserves and outlines its boundaries. In the first section it states the intent of the Legislature, "that Biscayne Bay be preserved in an essentially natural condition so that its biological and aesthetic values may endure for the enjoyment of future generations," (The 2014 Florida Statutes, 2015). It outlines the authority of the trustees, and the provisions under which to maintain the preserve, including sales, transfers, and leases of land; under what exceptions dredging or filling of submerged lands is permitted and provisions of their approval; rules, prohibition of waste discharge; preservation duties; and enforcement provisions. Minimum dredging or filling is only allowed when authorized for public navigation projects; for preservation of the Bay; to enhance the aesthetic and environmental quality and utility of the preserve in the public interest; to eliminate hazardous conditions to public health; and such minimum dredging as may be authorized for the creation and maintenance of marinas, piers, and docks as long as they do not adversely affect the water quality and utility of the preserve (The 2014 Florida Statutes, 2015).

Chapter 18-18: Biscayne Bay Aquatic Preserve: Chapter 18-18 of the Florida Administrative Code establishes the boundaries, management authorities, and rules of the Biscayne Bay Aquatic

Preserve (Biscayne Bay Aquatic Preserves, 2012b). The state intent is that the preserve was "established for the purpose of preserving and enhancing Biscayne Bay and all natural waterways tidally connected to the Bay in an essentially natural condition so that its biological and aesthetic values may endure for the enjoyment of future generations," ("Rule Chapter 18-18", 2015).

4.2.3 Advocacy coalitions, policy change, belief systems

Under the meso-level assumption of ACF, the policy participants can be divided into two coalitions based on their policy beliefs, a Pro-Port Expansion coalition and a Pro-Bay Conservation coalition, and they engage in coordinated, non-trivial activity with other actors in their coalition who share their policy core beliefs (section 2.2.2). They act in relation to their self-interests, based on their preexisting beliefs regarding the utility function of the Bay, as per the micro-level assumption (section 2.2.3) (Sabatier and Weible, 2007).

Policy change is a specific part of the policy process whereby policy undergoes measureable transition from the prevailing paradigm to a new one. ACF defines policy change as change in the policy core aspects of a governmental program, holds that coalitions seek to effectively translate their policy core beliefs into binding public policy (Nohrstedt, 2005), and states that public policy in a given system will closely reflect the beliefs of the dominant coalition (Sabatier and Jenkins-Smith, 1999; Sotirov and Memmler, 2012).

Within ACF, policy change refers to the 3 levels of coalition beliefs: deep core beliefs, policy core beliefs, and secondary beliefs. Deep core beliefs are normative, usually developed from childhood, span several policy subsystems, are very difficult to change, and so are not relevant in this case study. Major policy change comes about from a change in policy core beliefs, while minor policy change is a result of changes in secondary beliefs (Weible and Sabatier, 2007). Weible et al. (2008) find that major policy change is better conceptualized as a series of several cascading events, rather than a single event.

The policy core beliefs regarding the Biscayne Bay subsystem refer to management practices and can be traced back to the establishment of the BBAP, to conserve the area in its natural state, albeit with provisions for the development of various uses of the Bay, but taking into account and capping the amount of damage that could come as a result of this development. In order to operationalize the dependent variable in this case study, policy change, the policy beliefs of the subsystem coalitions have to be operationalized. Weible and Sabatier (2006) suggest operationalizing policy core and other beliefs by identifying them, which can usually be done by asking actors themselves what their beliefs are.

The policy core belief of the Pro-Bay group is that the environmental integrity of Biscayne Bay has to be conserved to strict standards and in as close to its natural state as possible (Interviews, 2015). This translates into policy core policy preferences regarding use of the Bay that is limited to recreation, research, and development projects only when they meet very high environmental standards. Throughout the Deep Dredge project this translated into shifting secondary beliefs in terms of this specific project as the project progressed. The initial secondary belief, or how policy preferences are translated into specific policy, was to reverse the approval of the permit so that the project would not take place at all. When the approval was upheld it was to change the permit as much as possible to include better environmental mitigation and monitoring practices, in order to minimize damage. This shifted further as construction took place to getting the contractors to actually abide by the permit regulations. These policy beliefs were evidenced in articles and interviews with Pro-Bay coalition members.

The policy core belief of the Pro-Port coalition is that utilizing the "fragile marine ecosystem" of Biscayne Bay as the location for an expanded Port is a means of "modernizing the nations infrastructure," which is "essential to the country's sustainment," ("Miami Harbor Deepening", 2013). Because of the recognition of the fragility of the Bay, these translate into policy core policy preferences of "the highest… environmental standards" and "environmental mitigation and monitoring operations to minimize the impact" within the context of adherence to the economic concerns regarding Port expansion (the increased jobs, business, and money spent to complete project). These translated into secondary beliefs of lessening environmental standards so that they could be more easily met, and carrying out dredging and construction according to time and

monetary sensitivity, which resulted in noncompliance with environmental mitigation and monitoring efforts, in an ultimate effort to maximize the economic potential of the Bay.

The Deep Dredge project was marked by multiple, cascading events (Weible et al., 2008) that resulted in environmental degradation that exceeded the provisions under which the BBAP was established, and exceeded even the weak environmental protections specified in the project permit (this is technical, and includes coral damage, sedimentation, siltation, which has been documented by independent scientists and the NOAA).

The advocacy coalition framework holds that public policy closely reflects the belief system of the dominant coalition (Sabatier and Jenkins-Smith, 1999; Sotirov and Memmler, 2012). This project represents policy change because before it management practices reflected the policy core beliefs of the Pro-Bay coalition, when development projects that would have damaged the Bay were either denied, or were halted during construction because they violated the environmental provisions. Deep Dredge was a transition to a new paradigm in terms of Bay management policy defined by the policy core beliefs of the Pro-Port coalition.

4.2.4 Mechanisms of Policy Change

In the Deep Dredge case study, policy change occurred via all four paths. External events, like a change in governing coalition, redistributed resources; policy-oriented learning occurred, which shifted the secondary beliefs of how management of Biscayne Bay should be put into practice; and negotiation agreements settled lawsuits, allowing the project to be completed. Nevertheless, the mechanisms of policy change will be discussed in section 5.3. In this way, the limitations to the paths of policy change can be explored while including a critical look at how power can provide more explanatory capacity for policy change within ACF by way of causal processes. A summary of power distribution discussed, chapter 5 as a whole, is given in section 5.5.

5. Explanations of policy change via power

This chapter gives an analysis of the policy change in Biscayne Bay management using the power framework. Reputational power will first give an illustration of the resource distribution. Then the resources will be analyzed in depth according to the resource typology. The following section takes a critical look at the paths of policy change in the case study, supplementing the ACF configuration of paths by looking at actor strategies and how power can increase explanatory capacity. Then the willingness in the coalitions will be analyzed. The chapter concludes with a summary of the power distribution between the coalitions.

5.1 Reputational Power

Before examining coalition resources and strategies to determine the distribution of power in this policy subsystem, it first has to be established that there was a redistribution of resources from the coalition that supported the original policy, Pro-Bay, to the coalition that supported the changed policy, Pro-Port, or at least a higher concentration of resources in the newly dominant coalition. Sabatier (1988) says that there will not be a change in the policy core attributes of a program unless there is a change in the dominant coalition that instituted the policy (Sotirov and Memmler, 2012).

Sabatier and Jenkins-Smith (1999) state that external events (section 5.3.1) can lead to a change in resource distribution, as well as coalition membership, which in turn can affect resources (Nohrstedt, 2011). In order to deduce this alteration of resources, the study investigates power structures via the "reputational approach" used by Ingold (2011). Reputational power is a proxy for resources redistribution using the outcome of a subjective impression of power distribution among coalition members by using a survey given to these actors. Ingold argues that his is a good manner of assessing resource accumulation because those actors that are the most successful in gathering various resources tend to be the ones that are the most visible and will therefore receive higher reputational power from the other policy subsystem participants.

A survey was sent out to all coalition members that could be contacted, asking them to identify the most influential actors in the policy subsystem from a list, adding any that were not included, and then to choose the top 3 most influential (see section 3.3). Figure 9 shows the results of the survey divided by actor. Only actors who received votes are included in the graph. Figure 10 aggregates the results of the study by coalition.

Based on a critical look at the resources and strategies via the power framework it was expected that in answer to both questions, specific actors in the Pro-Port coalition would receive the most votes. In fact, one respondent commented that in the scheme and the scope of battle, no actors in the Pro-Bay coalition could be regarded as important/influential at all (Interview Kipnis, 2015). It must be noted that all of the respondents came from the Pro-Bay coalition and actors often view their opponents as more powerful than they are in what is known as the "devil shift" (Sabatier and Weible, 2007). However, the data collected in the course of the interviews, document analysis, and data triangulation showed that Pro-Port did indeed have access to far greater resources, so survey results to this effect will be considered.
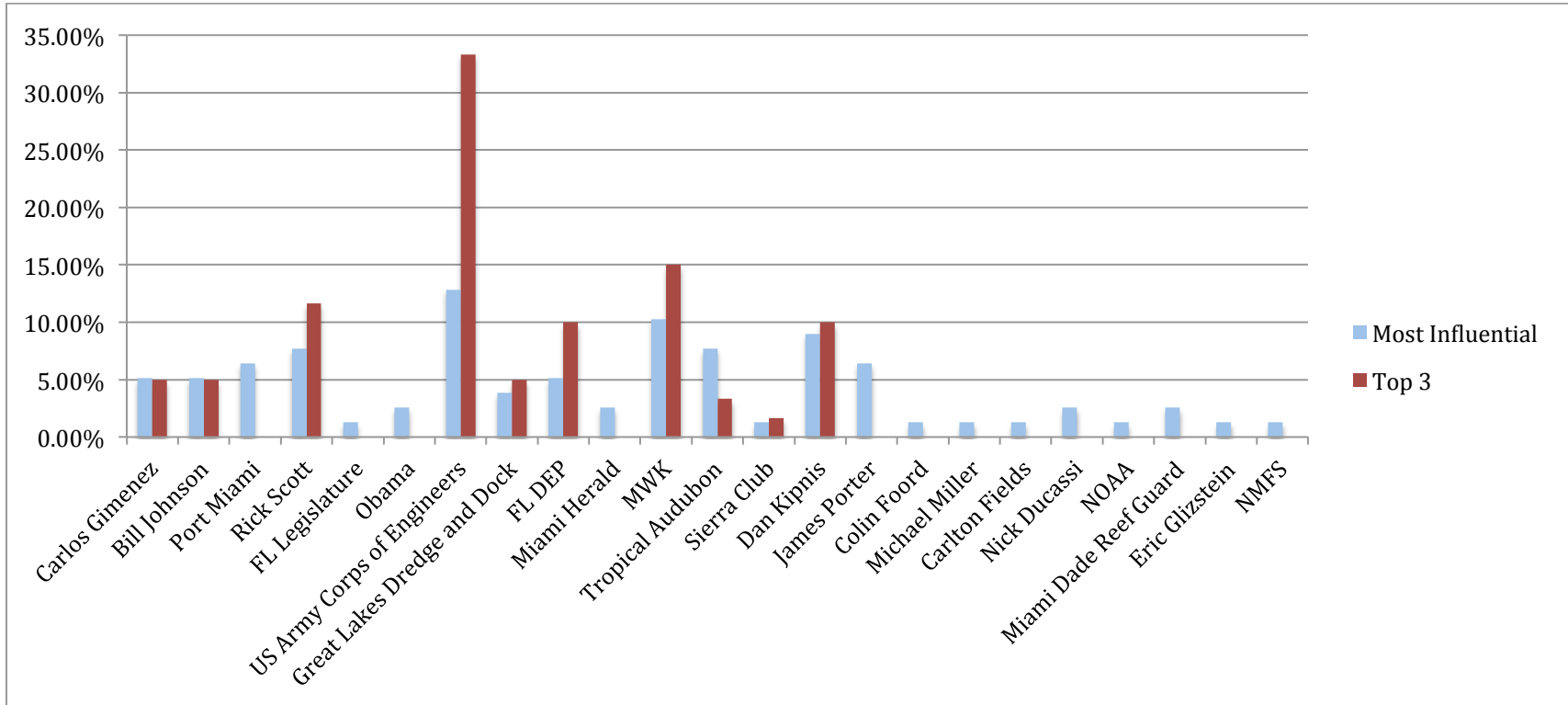
Figure 9. Coalition Reputational Power- Per Actor
(see Appendices: D.1, D.2)
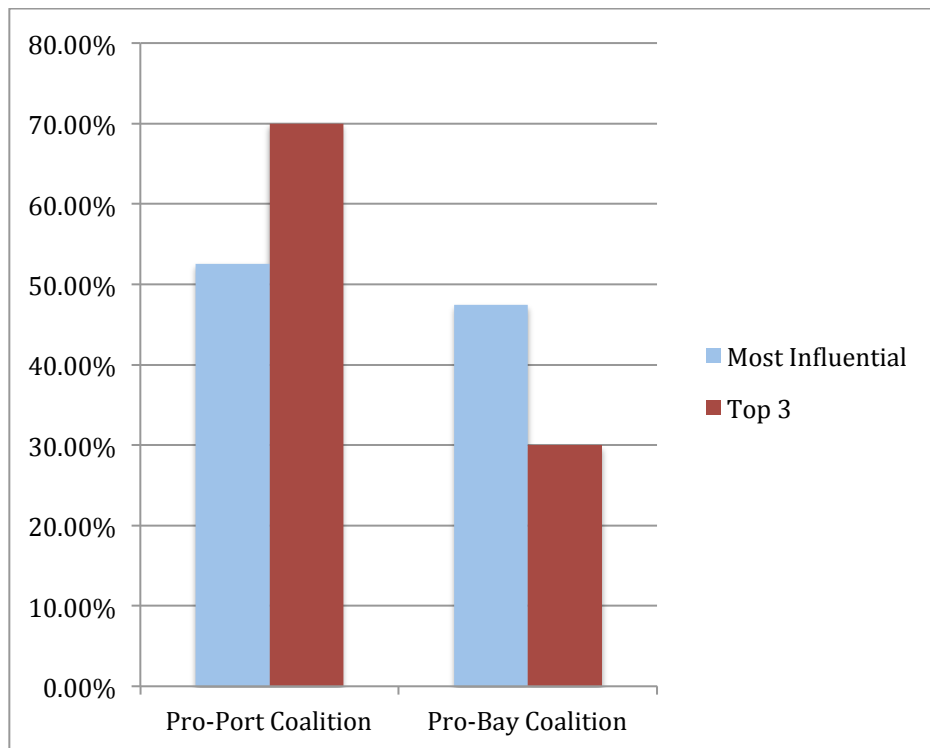
Figure 10. Coalition Reputational Power- Overall
(see Appendices: D.1, D.2)

Most Influential: Participants in the survey evaluated the general reputational power of all actors in the policy subsystem when answering the question: "Out of the following organizations/people, which were the most important/influential regarding the Deep Dredge project? Choose as many as you would like and feel free to include any other responses."
Top 3: Participants in the survey evaluated the Top 3 overall most important actors in the policy subsystem when answering the question: "Out of these organizations/people, which were the **top 3** most important/influential?"

The results of the survey confirmed that the redistribution of resources resulted in a concentration of power in the Pro-Port coalition. Of the actors considered to be the Top 3 most influential, Pro-Port actors were voted at the top 1,3, and 4th most important actors, with the coalition overall being voted at 70% for this metric. The US Army Corps of Engineers itself received a third of the vote. Having been involved in past dredging projects in PortMiami, the CoE would have already been a part of the Pro-Port coalition. As put by Dennis Olle and Gary Pappas, the CoE has been in the business of dredging for 200, they are paid to undertake dredging projects, and their main goal is to complete such projects, with less emphasis placed on other variables like environmental concerns (Interview Olle, Pappas, 2015). So events of Deep Dredge would not have redistributed their membership in this coalition—they were already a part of it—but the results of this survey show that the membership of the CoE in the Pro-Port coalition is very significant in terms of the power that coalition possesses. As discussed in section 5.3.1, external events did result in a redistribution of coalition membership in terms of Rick Scott and the DEP, and as shown in Figure 9, the membership of these actors in the Pro-Port coalition was important for the power distribution, as they were voted third and fourth most influential actors over all.

Pro-Port as a coalition was also voted as most influential over all. However, the difference between the two coalitions in this metric was not as great. When answering this question, participants, for the most part, divided their choices between the two coalitions. The actors that received the most votes in either coalition reflect the actors that were found to be most often associated with resources and strategies via the power framework, elaborated on in sections 5.2, 5.3, 5.4.

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5.2 Resources

Through document analysis, namely that of annual reports from the agencies in the Pro-Port coalition, and through interviews with the main actors in the Pro-Bay coalition, a compilation was made of resources available to the opposing coalitions. Each resource was operationalized according to its type, and to the extent that it could be, affixed with a number, for comparison between coalitions. In some cases the numbers may not exactly reflect the resources that were mobilized because such records are not kept or available. However, in almost every category the Pro-Port coalition had such significantly greater resources as to make this a non-issue in the scope of this study.

Resources themselves are neutral and only become power-laden when mobilized (Avelino and Rotmans, 2011). However, in order to better understand why some strategies are successful as compared to others, it is important to first discuss the resources from which these strategies are derived. Refer back to section 2.7.1 for the power framework typology of resources, and to 2.6.2 for resources as conceptualized by Avelino and Rotmans (2009, 2011).

5.2.1 Human

Human				
	Pro-Bay	**Power Relation**	**Pro-Port**	**Power Relation**
Human Leverage				more, different
			Obama	
			Governor Scott	
			FL Legislature	
			Bill Johnson	
			FL DEP	
			Elected Officials, local	
			Army Corps-federal	
Mobilizable Troops	**Skills**	less, different		more, power over
	Dan Kipnis		FL DEP	
	Sierra Club-Blanca Mesa / activist		US Army Corps	
	Tropical Audubon-Lauren		GLDD	
	MWK-Alexis/Rachel / tech. environ. backgrounds		TetraTech	
	Colin Foord / marine biologist		legal team	
	Nick Ducassi / videography		Port Miami	
	Michael Miller / journalism			
	lawyers / legal skills			

Figure 11. Resources: Human

Pro-Bay		
Dan Kipnis	1	
Sierra Club-Blanca Mesa	1	
Tropical Audubon-Lauren	1	
Miami Waterkeepers-Alexis/Rachel	1	
Colin Foord	3	assistant diver, intern
Nick Ducassi	2	editor
Michael Miller	1	
lawyers	6	James Porter, Dennis Olle and Gary Pappas from Carlton Fields +paralegals and tech, 3 other attorneys from small group
Total	16	

Pro-Port		
Governor Scott	1+	staff
FL Legislature	1+	Lopez-Cantera
Elected Officials, local	1+	Mayor Gimenez, staff
US Army Corps	3+	Jerry Murphy, Senior Project Manager; Laurel Reichold, Project Manager; Susan Jackson, Spokeswoman
Port Miami	247	staff in 2011
FL DEP	34507+	staff in 2011 in Beaches and coastal systems programs
Great Lakes Dredge and Dock	undetermined	
legal team	About 25	and legal staff
Total	285+	

Figure 12. Resources: Human, Mobilizable troops Pro-Bay
(see Appendices: E.1)

Figure 13. Resources: Human, Mobilizable troops Pro-Port
(see Appendices: E.1)

Figure 11 shows the human resources available to each of the coalitions and the power relation this provided them, while Figures 12 and 13 breaks down the mobilizable troops by number. The Pro-Port coalition had much greater mobilizable troops at their disposal. Because all of the actors in this group are governmental or for-profit organizations they are categorized as personnel, and as per

these formal positions, could exert effort toward their policy goal. This included Governor Scott and any of his staff, Representative Lopez-Cantera in the Florida Legislature who sponsored important bills, and Miami-Dade County officials, including the Mayor and his staff. In the FY 2011-2012, there were 247 payroll employees in 7 of 8 departments of PortMiami relating to Port expansion operations. The DEP had a total staff of 3450 in 2011. Currently, in the Beaches, Inlets, & Ports Program, which processes Environmental Resource Permitting for navigational dredging of deep-water ports, there are 7 main program administrators and environmental specialists, plus support staff at the DEP. While exact numbers could not be found for Great Lakes Dredge and Dock and Tetra Tech, with a multi-million dollar project, it can be assumed that an appropriate number of employees were discharged to work on Deep Dredge (though the numbers have not been included in the total). Likewise, for depositions, experts in dredging impacts and technology provided by Great Lakes and Tetra Tech were very crucial to their success in the two cases during this project (Interview Olle and Pappas, 2015). In addition, the Pro-Port coalition had about 25 people on the legal team, plus the resources and expertise of their law firms, representing them in these cases. The lawyers for CoE come from the Department of Justice in Washington, D.C. and have been working with the Corps for several years, know their client very well, and are very experienced in the legal issues they face (Interview Kipnis, Olle and Pappas, Silverstein, 2015). Mobilizable troops comprised of personnel (as opposed to volunteers, for example), is an important composition to note. For profit organizations whose objective it is to influence particular policy means that it is the workweek job of staff to invest in such an objective. With volunteers, on the other hand, dedication to policy influence often comes in tandem with a person's regular job, and therefore must share time/energy with it.

The Pro-Port coalition contained a number of actors in positions of formal decision-making authority. Elected officials had the authority to earmark funding for the project, funding coming from tax payer dollars that are already available and just have to be directed toward certain programs, the Florida legislature can veto and pass bills to allow for the project to happen, the DEP is responsible for approving or denying permits for such projects and enforcing the rules therein, or not. The formal position of the CoE as a federal entity means that it is not subject to state laws. This fact is what made it particularly difficult for Pro-Bay to be able to have them held responsible for damage and permit violations, and to get them to stop dredging, even when evidence of permit noncompliance was given (Interview Pappas, Olle).

On the other side, the Pro-Bay coalition was comprised of a handful of individual activists and six lawyers working pro-bono or for legal fee-reimbursement (only in the case of a win). Even in the cases of the environmental organizations being involved, any leg work that was done was undertaken by individuals, with the contribution of any specific skills they had—like extensive experience as an activist on the part of Blanca Mesa, or videography on the part of Nick Ducassi—which was utilized to influence policy.

In terms of human leverage, Pro-Port had different power than Pro-Bay, but vastly more power, in that decision-making power allows for the direct influence on policy and formalization of policy change. Pro-Port also had much greater power in terms of the mobilizable troops they had access to, and power over these mobilizable troops, whereas the troops in the Pro-Bay coalition were limited to the actors themselves. Although not all of the hundreds of people in the Pro-Port coalition may have been actively engaged in efforts related to the Deep Dredge project, it is difficult to determine an exact number, so "access to is used a proxy" and the difference between the two coalitions is so great as to make that issue insignificant. Even the skills possessed by Pro-Bay represent different, but less power because these skills only became important due to a lack of monetary funds to acquire other resources (like hiring professionals) and execute strategies.

5.2.2 Mental

Mental				
	Pro-Bay	**Power Relation**	**Pro-Port**	**Power Relation**
Scientific/ Technical Info		less		more, different
	information about past projects/scientific info on Bay ecosystem		environmental impact reports	
			technical info about dredging impacts	
	information about corals		economic impact studies	
	monitoring information		monitoring information	
Beliefs/Ideas		different		different, more
	how Bay should be used, potential effects of project		how Bay should be used, potential effects of project	
Public Opinion	Did not play a role			

Figure 14. Resources: Mental

Figure 14 gives a brief summary of the mental resources available to the two coalitions and the power relations these resources provided.

Scientific and technical information played an important role in the policy change regarding the Deep Dredge Project. A more detailed look at this information is given in Figure 15. Pro-Bay researched and possessed information about the fragility of the Biscayne Bay ecosystem, the importance of certain corals to coral restoration projects and reef health, and information about best practices for sensitive projects. However, this was limited to what could be gathered from document research by coalition actors, and in the case of coral science, knowledge that had already been produced through the work of Colin Foord and his coral research organization. Pro-Bay also collected some sedimentation and coral health data through limited monitoring expeditions during the dredging, which gave evidence that the permit was being violated and environmental regulations not adhered to.

Conversely, Pro-Port contained environmental impact assessments conducted by the DEP and expert opinions stating that although damage would be done by the project, it would not adversely affect the Bay. In their press releases and fact sheets, they provided detailed outlines about what

environmental restoration and mitigation practices they would follow and the positive effects this would have on maintaining ecosystem integrity. Great Lakes Dredge and Dock Company and Tetra Tech provided expert witnesses for case depositions regarding dredging technology and its impacts, and very technical research on mitigation efforts for such projects. Pro-Port also had information about the economic impact that the project would have on the Port and the County. During the project, coalition divers were in the water everyday collecting information and there were monitoring devices in place, whose data said that the project was being undertaken to permit specifications.

In terms of scientific and technical information, Pro-Port had more resources than Pro-Bay. Although there was information about possible damage, Pro-Port had access to far more experts who could give evidence that damage could be mitigated, that dredging techniques would have minimal impact, and they had continuous monitoring data of sedimentation whereas Pro-Bay only had information from when actors were able to go manually collect data themselves. Although Pro-Bay denies the positive economic impact of Port expansion, they did not have the resources to hire economic experts to give opposing evidence. Because so much information existed in support of Port expansion, and that it could be done environmentally, this also meant that their beliefs about the project and Bay management held more power than that of the Pro-Bay.

Other than the environmental activists in the Pro-Bay coalition, there was not any public support or opinion opposing Pro-Port. Pro-Bay tried to raise public awareness to no avail (Interview Mesa, Foord, Silverstein, Kipnis, Porter, 2015). There was no easily discernable public support on the side of Pro-Port either, and because the approval of Deep Dredge was done through formal legal authority anyway, this was also not explored.

Figure 15. Science and technical information

Science and Technical Information

Economic Information:

Despite assurances that the project would adhere to the highest environmental standards, conservation-minded individuals and organizations aligned themselves to stop, delay, and secure stricter environmental protections. The coalition possesses extensive economic and environmental concerns for the Bay, that its environmental health would be severely impacted as a result of the dredging.

According to PortMiami and other supporters of the expansion, the project will have significant economic benefits for South Florida. It is estimated that it will create 33,000 new jobs and increase cargo throughput ("Deep Dredge", 2012), doubling the cargo container traffic by the end of the decade. Florida Governor Rick Scott said Deep Dredge would increase the annual economic impact of the port to $34 billion dollars and would "ultimately create thousands of opportunities for Florida families," "creating an opportunity economy that will create careers for generations to come," ("Governor Scott Tours", 2013). These economic estimates represent technical information (Sabatier and Weible, 2007, p.208) that Pro-Port Expansion actors will leverage in support of the dredge project.

Located at the center of downtown Miami, PortMiami is the second largest revenue-producing department in Miami-Dade County after Miami International Airport. It contributes almost $27 billion annually to local and state economies, supporting 207,000 jobs in the state of Florida, directly and indirectly. The port is the busiest passenger cruise port in the world and also known for being the *Cargo Gateway of the Americas*. Citing the "ideal geographic location," PortMiami says the world's largest shipping lines call on the port, offering regular service to 100 countries and 250 ports around the world. More than $2 billion in capital improvement projects including the restoration of on-port rail and the Port Tunnel are slated in conjunction with Deep Dredge to transform Miami and the State of Florida into a global logistics hub. PortMiami calls this the "most ambitious improvement program in its history" ("Deep Dredge", 2012).

As of a press release in November 2013, the State of Florida would be contributing $112 million to the $220 million project, while Miami-Dade County would contribute $108 million. Former, but contemporary, Port Director Bill Johnson said that this project would be the first time non-federal dollars would be used to fund a project by the U.S. Army Corps of Engineers ("Port Miami Deep Dredge", 2013).

In its current state and because of its unique ecology, Biscayne Bay has a significant commercial and recreational impact on the economy. In a conservative 2003 estimate, it was found that in-water activities like boating, snorkeling, diving, and fishing bring an estimated 490,000 visitors annually, contributing $23.33 million, and supporting 426 jobs in the local economy (Biscayne National Park, 2006). Damage to the marine environment due to dredging would severely decrease the tourism based on aesthetic and biological quality.

Although the project is tabulated at $220 million, conservation advocates tally the actual total spending to upgrade all infrastructure be upwards of $2 billion. Especially on the coattails of $500 million in taxpayer money for a new baseball stadium in 2011, some worry Miami taxpayers will be stuck with another large bill, with nothing but environmental degradation to show for it. Conservationists argue that there is no guarantee that the Super Post-Panamax ships will come to Miami. Some economists speculate this possibility, as PortMiami is the most expensive port in the country, being on a peninsula at the tip of the US east coast far from major markets and manufacturing. Additionally, PortMiami does not actually run the port. It owns the land and leases it to three shipping company, meaning taxpayers are subsidizing these companies (*Battle for Biscayne Bay*, 2012). This is technical information Pro-Bay Conservation actors will leverage in support of maintaining the environmental integrity of the Bay (Sabatier and Weible, 2007).

Environmental Information

In December 2011, the US Army Corps of Engineers published an Environmental Fact Sheet stating the ecological important of the Bay and their commitment to protecting resources, "The U.S. Army Corps of Engineers and the Port of Miami are committed to working with all parties to ensure environmental resources are protected, and to monitoring prior, during and after the dredging takes place."

The factsheet enumerates the environmental impacts and restoration and mitigation efforts. The project would include seagrass beds restoration, coral relocations, and the creation of artificial reefs. Direct and indirect seagrass impact is estimated at 7.9 acres, offset by the creation of 24 acres of new seagrass bed. Blasting of hard bottom habitat is estimated to impact 7.07 acres of reef, offset by the creation of 10 acres of artificial reef, including the relocation of 1300 corals prior to construction.

Research and collaborative planning with the DEP and other agencies would be undertaken to ensure high probability of success for mitigation efforts. Additionally, the contractor would be required to hire an on-site, full-time manager to provide monitoring and environmental oversight, as well as host workshops for the community and media to present upcoming activities.

Blasting of limestone rock would be done with a method called confined blasting, in which explosives are inserted into holes in the rock and covered, confining most of the blast energy inside the rock. Studies show that this helps protect ecosystems, limits impacts to species in the area, and the fact sheet states that the method was successfully utilized in 2005 construction. There would also be an extensive monitoring program in place during blasting, and would only take place during the day. Monitoring activities would extend to direct and indirect impacts, adjacent areas, and include turbidity, sedimentation, and resource health before, during, and after the project ("Miami Harbor", 2011).

In later press, the CoE reiterates its commitment to environmental mitigation and monitoring operations to minimize the impact of the work once the contractor is announced ("Miami Harbor Deepening", 2013). The contractor also emphasizes these points, stating it will implement procedures to ensure the safety of the public, crew, vessel traffic, and the environmental, and that it was collaborating with project stakeholders, including PortMiami, DEP, CoE to monitor the marine environment for the duration of the project (DredgingToday, 2013a).

In Miami-Dade County's November 2013 press release, Director Bill Johnson notes the project's adherence to the highest environmental standards: the restoration of 16 acres of seagrass, nine acres of artificial reef, and that divers would be onsite to monitor natural resources for turbidity and sedimentation effects before and during all dredging activities ("Port Miami Deep Dredge", 2013)

The Pro-Bay Conservation sees the port expansion differently. In the construction area lies an aging pipeline that carries 25million gallons of raw sewage per day from Miami Beach to a Virginia Key wastewater treatment plant. Moving it could cause the pipe to rupture, covering the beaches and Bay with raw sewage. This would be a catastrophic and environmental mess, and the beaches would have to be closed down (*Battle for Biscayne Bay*, 2012).

Despite assurances, conservationists are afraid that dredging will cause significant turbidity and massive siltation; it will result in the deaths of coral reefs and other species. The CoE claims there will be no significant impact from the dredging, but conservationists argue that whenever turbidity is changed, the whole food web is affected. The project simply cannot be completed without hurting the ecosystem—the project will upset the area, something that cannot be recreated later (*Battle for Biscayne Bay*, 2012).

In the last two smaller scale dredgings of the port channel there were problems. In 1999 a contractor illegally took three acres of seagrass from an adjacent aquatic state reserve, which is the main habitat of the manatee. In 2005-2006, a two-month dredging operation was continuously shut down because of turbidity issues (Sand and Gravel). This casts serious concerns on a dredging project of two years.

In the beginning of the fight, conservationists argued that the draft permit submitted did not fully protect the Bay. The mitigation plan only included 15 acres of seeded seagrass beds and transplanted coral for 415 acres of dredging. They state the mitigation efforts are decreased with each draft plan, and that mitigation itself is a myth (*Battle for Biscayne Bay*, 2012). As the project has gone on, lack of monitoring, noncompliance, leaky transport barges, and other problems have been cited by conservationists. Surveys and inspections dating back to April 2014 show widespread sedimentation and coral mortality ("Coral and Dredging Impacts in Miami", 2015).

Marine biologist Colin Foord has been studying and documenting coral in Miami's waterbodies since 2007. His research shows a surprising diversity, opportunistically colonizing man-made infrastructure and human debris, including two new species of soft coral and a rare hybrid, the fused-staghorn coral, which is listed as threatened under the Endangered Species Act in 2011. These corals display impressive adaptive abilities promising qualities for coral reef restoration, and make them priceless for the marine ecosystem and for research. They also live in the area marked for dredging (*Battle for Biscayne Bay*, 2012).

Conservationists are also concerned about ripple effects throughout the ecosystem, especially considering the close proximity of Bill Sedowsky Wildlife Preserve, a very environmentally fragile area, where not even kayaks are allowed (*Battle for Biscayne Bay*).

Both coalition will use these bits of (technical) information regarding restoration and mitigation efforts, and studies that emphasize minimal impact or maximum impact on Bay ecosystem and (scientific) information about ecosystem species in their efforts at influencing policy (Sabatier and Weible, 2007).

5.2.3 Artifactual

Artifactual				
	Pro-Bay	**Power Relation**	**Pro-Port**	**Power Relation**
Apparatus		different		
	Dan Kipnis plane			
Art		less, different		more, different
	Miami New Times Articles	Smaller readership	*Miami Herald/Miami Today Articles*	Larger readership
	YouTube, online videos	Viewings insignificant	Press releases	Viewing data not available

Figure 16. Resource: Artifactual

Artifactual resources refer to more tangible objects, or things created by people that are mobilized as resources in actor strategies, though as with art, these resources can be considered in conjunction with other resources, like information. Figure 16 shows the artifactual resources possessed by the two coalitions. In terms of apparatuses, Dan Kipnis of the Pro-Bay coalition possessed a seaplane, which was used in the course of collecting data to monitor sedimentation plumes caused by the dredging. This is noted because it was used as a tool for data collection, in order to create evidence to influence policy on the part of Pro-Bay. Due to limited funding available to the coalition, such data may not have been collected otherwise. It is an instance of different, and less, power to Pro-Port, whose larger monetary resources provided the ability for data collection by other means, not specifically possessed beforehand by the coalition.

Artifacts used for information dissemination for both coalitions include news articles. Although other publications had pieces about Deep Dredge during the course of the project, three newspapers are looked at here as resources, for their relevance because they are Miami-based and/or because of coordinated relationship with a coalition. For these publications, a search was done from 2011-2014 of all articles containing various search terms the project was referred to by. These articles were analyzed to determine if they were relevant, and if they were neutral or biased in one-way or another. They were then measured by how many times 20 different Pro-Bay or 20 different Pro-Port terms were used in the articles, in order to support the bias conclusion. The terms were derived from interviews and press releases and chosen by the top twenty most frequently used with negative or positive connotation. [See Appendices: C.1, C.2, C.3]

Out of 17 articles written in the *Miami New Times*, 15 were biased toward Pro-Bay, and two were neutral. Most were particularly loaded with anti-Port rhetoric and negative words. All were written by Michael Miller, and because of the heavy bias, and his coordinated effort with other coalition members to write these articles, these articles and publication can be considered a resource of Pro-Bay. [see Appendix: C.3]

In the course of the interviews, it became apparent that many Pro-Bay actors felt the *Miami Herald* was not fulfilling its duty of balanced reporting (Interview Kipnis, Mesa, 2015; personal correspondence Van Leer, 2015). UPG Founder and President Sam Van Leer said, "The Miami Herald was a major part of the PR juggernaut. They utterly failed their role in scrutinizing the project. Instead, they regurgitated the Port's PR talking points verbatim." According to Dan Kipnis, "The Herald ate up the lines from the Port about creating jobs." Blanca Mesa went to the *Miami Herald* with all of the research she had done leading up to the first lawsuit. However, they

would not run a story about the dredge project until she took her information to a *New York Times* reporter and thestory was first broken by that ourlet (Alvarez, 2011). She also said that the editorial staff gave space to the Port to include op-ed and editorial pieces twice a month, at the weekly editorial meetings she participated in (Interview Mesa, 2015).

From the analysis, I would not completely agree. There was a period of time when there was no environmental staff writer at the *Miami Herald*, meaning any articles that were published came from the business and economics department. In this case, which actually was during a majority of the Deep Dredge project from 2012-2014, all of the articles were written in a positive manner about economic gains from Port expansion, with no articles looking at it neutrally. [see Appendix: C.1] To this extent Pro-Port can be considered to have had power-over the news outlet for a time period, and was thereby able to disseminate their technical information through an outside, established source. Of the five articles published in the *Miami Today*, three were Pro-Port biased, two were neutral, and no articles discussed any negative environmental impact. [see Appendix: C.2]

The *Miami New Times* has a readership of 70,000 ("About us", 2015). According to the *Miami Herald* they have a readership of over 500,000 daily, and over 800,000 on Sundays ("The Miami Herald", 2015). According to a statistical portal, it had a high in spring/autumn of 2011of 500,000 readers, and a low of 410,000 in spring 2014 ("Daily newspapers reading", 2015). The *Miami Today* has a readership of 75,000 ("Demographics", 2015). Given that the *Miami Herald* and the *Miami Today* have higher readerships than the *Miami New Times,* through this resource, Pro-Port had more power than Pro-Bay.

However, since public opinion was not mobilized in the policy change in this case, the effects of these resources are limited.

Pro-Bay had several YouTube videos discussing information and their concerns about Deep Dredge online, including a TEDx Talk, *Battle for Biscayne Bay*, and three technical videos by Dan Kipnis. In 2012, the year *Battle for Biscayne Bay* was uploaded, the estimated population of Miami-Dade was 2.593 million (U.S. Census Bureau, 2015), 1,275,853 of which made up the labor force (U.S. Bureau of Labor Statistics, 2015b). Labor force can be used as a proxy for people old enough to be concerned with such a policy as the management of Biscayne Bay—though it is a conservative number as it excludes people past the age of retirement, who may still be interested in such issues. This YouTube video received 11,500 views by March 2015. The TEDx Talk had 6,800 views; and videos by Dan Kipnis received 500, 86, and 2260 views. That means, taking for granted that each view was a different person, and someone located in Miami-Dade County, *The Battle for Biscayne Bay* would have only reached .9% of the local population, and less for the other videos. The *Battle for Biscayne Bay* was even linked to by both *The Miami New Times* and *The Miami Herald*. Not only is it clear from interviews and document analysis that the public had little to do with this policy change either way, this information further solidifies what an insignificant effect these videos had on the case. They were produced to educate, raise awareness, mobilize support, disseminate information but reached such a small part of their target audience as to be rendered useless.

The press releases of PortMiami and the CoE could be operationalized in the same way, by using data from a 'page views' counter of their websites and comparing that to labor force. However, that data could not only not be obtained, but since public opinion did not play a role, it is also unnecessary.

5.2.4 Natural

Natural				
	Pro-Bay	**Power Relation**	**Pro-Port**	**Power Relation**
Physical Space		different		
	Office space of Carlton Fields			
Time		less, different		more
	coalition member volunteer time	Difficult to determine		
	2011 court case-delay project	Months to years, to indefinitely	2011 court case-speed up litigation	Reversal of Pro-Bay time, and speed up

Figure 17. Resources: Natural

Figure 17 shows the natural resources available to each coalition, which were limited in both cases. The law firm Carlton Fields not only lent some of their lawyers, pro-bono, to the coalition membership for the lawsuits against Deep Dredge, but also donated office space for the plaintiffs to meet and work in. This resource is difficult to quantify in number form, as size is not important, but rather that the coalition actors involved in the lawsuits had space to meet and work in general sense, rather than needing monetary resources to be able to rent space for such activities. This fact was specifically mentioned by Dan Kipnis and James Porter (interviews Kipnis, Porter, 2015). It is included as part of the analysis as a comparative backdrop against the resources available to Pro-Port. Like with the seaplane used for data collection by Pro-Bay mentioned in artifactual resources, and that skills are mentioned for Pro-Bay as human resources, the inclusion here is that specific resources become more important in terms of Pro-Bay strategies because their resources overall were more limited. Detailed in the following section on monetary resources, the greater funds available to Pro-Port mean that the coalition was able to hire a large and experienced team of lawyers, for example, which comes with support staff, billable hours, office space, etc. It is not necessary for Pro-Port to seek out or place emphasis on office space as a resource.

The time donated by Pro-Bay actors (since it was all volunteer based) working against the Deep Dredge project is another resource. Like apparatuses, this is different power than what Pro-Port possessed; but again, because of more extensive funds to hire attorneys, experts, and pay personnel, such resources do not represent an advantage in terms of power. Volunteer time for so many various activities that could be considered related to the Deep Dredge project over several years would have been beyond the scope of aggregating for this research, but was unnecessary anyway. Volunteer time is being compared in terms of significantly fewer mobilizable troops for Pro-Bay, and simply as a comparison for the paid time of Pro-Bay actor personnel. What is important to note in terms of volunteer time is what was provided by the attorneys, pro-bono. In the absence of this donated time (and skills), Pro-Bay would have either had to come up with funds to hire attorneys, or otherwise

would not have been able to mount lawsuits against the Pro-Port actors, which, although not very successful, were important strategies in their attempts to influence policy.

In other case studies, volunteer time in regard to specific coalition strategies could be necessary to quantify, especially if activities based on volunteer time are important strategies in influencing policy, for example, volunteers striking outside of municipal government buildings.

As another natural resource on either side, time played an important role in the first lawsuit. The original lawsuit in 2011 by Pro-Bay actors put a stop to the project, pending a court case several months in the future, and could have meant an indefinite hold on Deep Dredge depending how the court ruled (Miller, M.E., 2012a). The time was going to be used by Pro-Bay to acquire more resources to mount an opposition to the project, like additional funds and expert testimony. However, the passing of legislative bills sped up the case and Pro-Port used time in a negative sense to their advantage, running out the clock for Pro-Bay to raise money and hire experts. As a result, they were not able to put together a strong opposition (Interviews Olle, Pappas, Porter, Kipnis).

5.2.5 Monetary

Monetary				
	Pro-Bay	**Power Relation**	**Pro-Port**	**Power Relation**
Funds		less		more
	Dan Kipnis personal investment		coalition budgets	
	donation from Sierra Club			
	donation to Coral Morphologic			

Figure 18. Resources: Monetary

Pro-Bay	
Dan Kipnis	a few thousand of own money
Sierra Club	$10,000
Tropical Audubon	pro-bono
Miami Waterkeeper	pro-bono
Coral Morphologic	$100,000 donation to organization, so focus could be on Deep Dredge
lawyers	pro-bono or win reimbursement
Total	a few thousand

Pro-Port		
Total Project (estimates)		$214,500,000
	State of Florida	$112,000,000
	Miami-Dade County	$108,000,000
	(Great Lakes contract)	$83,600,000
PortMiami	Total Net Assets 2011	$225,600,000
	Expenditures 2011-2012	$52,069,000
	2013-2018 Proposed Capital Improvements Program	$574,700,000
DEP	2011-2012 budget	$1,460,214,322
Army Corps	Overall civil works budget 2011	$5,065,344,000
	Operations and Maintenance Budget FY2014 (Miami Harbor):	$4,355,000
Total		millions

Figure 19. Resources: Monetary, Budgets Pro-Bay
(see Appendices: E.2)

Figure 20. Resources: Monetary, Budgets Pro-Port
(see Appendices: E.2)

Figure 18 shows the monetary resources available to the coalitions and the power relations this represented, with the numbers being broken down more specifically per coalition actor in Figures 19 and 20.

Pro-Port actors were working with budgets that figured in the millions and billions. The total project cost was over $214 million, which was split between Miami-Dade County and the State of Florida.

The Army Corps of Engineers worked with an overall civil works budget of $5 billion in 2011 and $4.8 billion in 2014. Its FY 2014 Operations and Maintenance Budget for Miami Harbor was $4.3 million. PortMiami has $570 million budgeted for proposed capital improvement programs from 2013-2018, with net assets of $221 million in 2013. Its total expenditures for all departments, excluding Safety and Security, in FY 2013-2014 were $61,902,000. The Florida DEP had a budget of $1.46 billion in 2011-2012, and $1.2 billion in FY 2013-2014. Because Pro-Port actors would not participate in interviews and the annual reports for the organizations did not break down the operating budgets further, it is difficult to estimate the exact monetary funds that would have be available for this project. However, what can be gleaned from the data is the scale of the Pro-Port coalition funds as compared with those of Pro-Bay, which can be estimated in the millions, since the project cost was estimated at over $200 million.

In sharp contrast, the Pro-Bay coalition was mostly operating on pro-bono time and skill donations, like the lawyers who represented them in the two cases and for other activities like data collection and the making of YouTube videos, and were otherwise self-funded. Dan Kipnis estimates that he contributed a couple thousand dollars himself in the course of the battle. He reached out to fellow fishermen and businesses along Biscayne Bay to donate funds for the lawsuits, with no luck, and even asked local celebrity Norman Braman for a contribution, but says he would not even donate $10,000 to the cause (Interview Kipnis, 2015). Tropical Audubon and MWK reached out to their membership and to outside individuals and other organizations that might be willing to donate to the cause, but were unsuccessful (Interview Porter, 2015). The final tabulation of a few thousand for Pro-Bay funds in Figure 19 is derived from physical money spent in the course of the Deep Dredge project. It does not include the value of pro bono work or other resources. Those are discussed as resources in their own sections.

In the form of monetary resources, Pro-Port possessed far more resources than Pro-Bay. Their funds allowed them to hire very good and very many professionals and experts to generate information, provide depositions, undertake strategies to influence policy, and employ personnel to do various tasks to support the project. For example, Bill Johnson lobbied support for the project from the State, as part of his function as Port Director, which was a $263,000 a year position, a figure that is included in the annual operating costs of the Port. It rendered other Pro-Bay resources, like donated time and office space, powerless in comparison because it enabled the coalition to acquire far more, and more sophisticated resources and complex strategies.

It also rendered some strategies by Pro-Bay ineffective. For example, part of the second lawsuit was a $400,000 fine for not complying with the permit. If Pro-Port had instead taken the time to comply with permit regulations, stopping the project would have cost them $250,000 a day. So in comparison the fine was an absorbable cost (Interview, Olle, Pappas, 2015). Not only did Pro-Port have far greater monetary resources, but the project funds came from tax-payer dollars, and as a federal organization, any costs incurred during the course of the project by CoE for fines or legal fees also come out of tax payer dollars. For all intents and purposes, this gives them a bottom-less budget; they did not have to constrain those strategies based on running out of money.

5.3 Actor Strategies in ACF Paths to Policy Change

As discussed in chapter 2, ACF outlines four paths by which policy can change: policy oriented learning, internal and external shocks, and negotiated agreement paths (section 2.2.4) (Sabatier and Weible, 2007). These paths have not been fully developed, and external shocks in particular are considered to be necessary but insufficient conditions for major policy change (section 2.3.1). This, however, is a dissatisfying explanation for the gap in the framework (Sotirov and Memmler, 2012). Nohrstedt (2011) argues that in order to further the theoretical progress of this framework, ways by which policy change actually happen require additional clarification.

In the 2014 update of *Theories of the Policy Process* by Weible and Sabatier, framework authors again emphasize the need for ongoing research in regard to resources. "Resources are an important contribution for providing the theoretical leverage for understanding the capacity for a coalition to make strategic decisions and to engage in various activities to influence policy subsystems," (Jenkins-Smith et al., 2014, p.198). Refer to sections 2.3.2 and 2.3.3 for the elaboration of this knowledge gap.

Indeed, in the Deep Dredge case study, policy change occurred via all four paths. External events, like a change in governing coalition, redistributed resources; policy-oriented learning occurred, which shifted the secondary beliefs of how management of Biscayne Bay should be put into practice; and negotiation agreements settled lawsuits, allowing the project to be completed. Nevertheless, failing to explore these paths further limits the explanatory capacity of ACF. Instead, a critical look at actor resources and strategies will show that one coalition possessed more power, allowing them to dominate the policy subsystem and influence change.

Within the four paths for policy change, the power framework will help to identify specific variables and the casual processes of how those variables lead to change (Nohrstedt, 2011). Based on the hypothesis of this study, the coalition that has more resources, but especially those that exploit them more effectively through strategies that encourage synergetic power within the coalition, and disrupt the power of a competing coalition will be the coalition that is effective in realizing its policy objectives.

Figure 21 shows the different strategies that will be discussed in the following sections, grouped according to which path they fall under. Events that are external to the policy subsystem stand alone in the figure, although they have repercussions throughout the change in policy via resource redistribution and are thereby linked to the other paths as well. This will be discussed in section 5.3.1. The other three paths have some overlap, as they all pertain to events within the policy subsystem. Internal events can also be instance of policy learning, for example. The strategies in purple are those of the Pro-Port coalition, while those in green are of the Pro-Bay coalition.

Figure 22 breaks down the strategies according to the power framework types, dynamics, and relations. It represents how the strategies will be discussed in the following sections in order to understand the power distribution in the policy subsystem and why Pro-Port was the dominant coalition. Refer back to sections 2.6.2 and 2.7.2 for explanations of these elements of power.
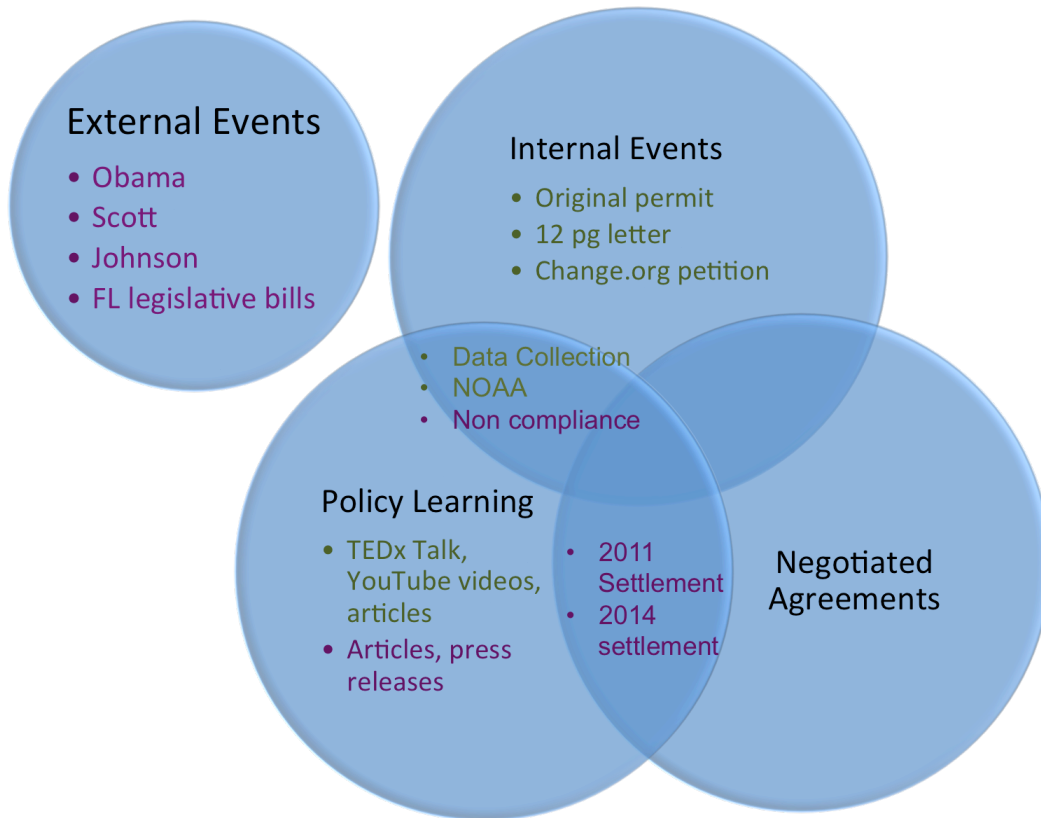
Figure 21. Actor Strategies in ACF Paths to Policy Change

*Green represents Pro-Bay strategies
*Purple represents Pro-Port strategies

Strategies									
	Condition	**Type**	**Dynamic**	**Relation**	**Relation**	**Dynamic**	**Type**	**Condition**	
Pro-Bay									**Pro-Port**
12 page letter	protest, network	innovative	antagonistic	diff, less	**more**	synergetic	transformative	formalization	Original permit
Change.org petition	lobbying	innovative	antagonistic	less	**more**	antagonistic	transformative	enacting legislation	Florida Legislature bills
2011 lawsuit	enact legis., concession	constitutive	antagonistic	less	**more**	antagonistic, synergetic	destructive, transformative	con. Induce.-coercive, economic	2011 lawsuit settlement
TEDx Talk	information dissemination	innovative	synergetic	diff, (less)					
YouTube videos	information dissemination	innovative	antagonistic	diff, (less)					
data collect/monitor	protest, enact legis.	innovative	antagonistic	diff, (less)					
2014 lawsuit	enacting legislation	transformative	antagonistic	less	**more**	synergetic	constitutive, transformative	enact legis., concession	2014 $400,00 settlement
NOAA involvement	enacting legislation	transformative	antagonistic	less	**more**	antagonistic, synergetic	transformative	inaction	Non-compliance of permit
News articles	publishing, information dissemination	innovative	antagonistic	less	**more**	synergetic	innovative	publishing, information dissemination	Articles, press releases, fact sheet publication
litigation	information dissemination	innovative	synergetic	diff, (less)					
					more, different	synergetic	innovative	lobbying, networking	Bill Johnson gaining support of Gov Scott
					more, different	synergetic	innovative	deference	Obama- We Can't Wait Initiative
					more, different	synergetic	constitutive, transformative	def.; con. Induce.-norm., econom.	Scott- funds, visits; influence legis., Johnson; decrease DEP

Figure 22. Actor Strategies

5.3.1 External events

External events are considered by ACF to be necessary but not sufficient conditions for major policy change, because they can alter the power balance between coalitions, redistributing resources, thereby altering their ability to change or maintain stable policies, and providing minority coalitions with new possibilities to realize their policy core beleifs (Sabatier and Jenkins-Smith, 1999; Sabatier and Weible, 2007; Sotirov and Memmler, 2012; Weible et al., 2008). External events include socioeconomic conditions, regime change, outputs from other subsystems, or disaster (Sabatier and Weible, 2007). This section is going to discuss power in term of the socioeconomic recession in the United States, the change in regime at the state level, and outputs from other relevant subsystems of the expansion of the Panama Canal and new legislation in order to provide a better understanding of policy change.

Socioeconomic conditions

The 2008 recession in the United States was a significant shock to the socioeconomic conditions in Miami. For the first time in about two decades, more Americans thought that economic considerations should be given priority over environmental ones ("Environment", 2015). This may have influenced the policy core attributes of the Biscayne Bay management subsystem by shifting overall public opinion to favor economic issues over environmental ones, thereby influencing which issues were most important to voters and for which candidates they voted. In 2011, Rick Scott ran on a pro-business campaign platform of job creation and eliminating the hurdles to business ("Rick Scott", 2012), at a time when, according to the U.S. Bureau of Labor Statistics, unemployment rates continued to climb. Discussed below, this regime change had a significant effect on redistributing resources for the Pro-Port coalition.

Likewise, of the two main political parties in the United States, the Democratic Party is the one commonly known as favoring environmental programs. However, in response to the recession, the newly elected Democratic President Barack Obama signed the American Recovery and Reinvestment Act into law in 2009 as an economic stimulus package ("American Recovery", 2015). In line with this policy was his *We Can't Initiative*, which emphasized infrastructure projects and job creation, a strategy that gave him a periphery role in the Pro-Port coalition. By publicly supporting the project, his formal authority as President lent deference to Deep Dredge, having a similar effect as that of Gov. Scott (discussed below) in terms of political dynamics, giving innovative power to the coalition by drawing attention to it, and overall lending synergetic and more power.

Regime change

The election of Scott represented a significant regime change, seeing policy in Florida in general change to reflect more pro-economy and pro-business practices, as opposed to environmental practices. In a 2014 editorial, Scott is accused by the *Tampa Bay Times* of undoing pro-environmental policy of past Florida governors, like weakening enforcement of environmental laws, cutting support for clean water, conservation, and other programs, and supporting laws that allow private industry to pollute without factoring that into their operating costs during his first term. He appointed a shipping executive as the secretary of the Department of Environmental Protection, voted for smaller budgets for the DEP each year, does not acknowledge man-made climate change, and did not seriously address any water quality, land conservation, or growth management issues in his first term. In his first year, the state's five water management districts had to reduce their budgets by $700 million, cutting many projects and laying off several employees, and creating what the editorial calls a chilling culture at the Department of Environmental Protection ("Editorial", 2014).

However, in the lead up to elections in 2014, Scott touted 'record funding' for environmental protection in his State of the State speech. Politifact Florida, a project of the *Tampa Bay Times* which fact checks statements by members of Congress, state legislators, governors, mayors, and other politicians rate this claim false. They cited several examples to support this, including the abolition of the Department of Community Affairs in 2011 by Scott and the Florida Legislature, the slashing of property tax collections for state water management districts, dropping the budget from $1 billion in 2011 to $622 million in 2014, the laying off of 58 DEP employees in 2012, in 2011 Scott proposing to

zero out Florida Forever, a program to buy land with money on real estate transactions for conservation, and the fact that cases handled by the DEP dropped from 2,289 in 2010 to 799 in 2012, to only 145 by May 2014 (Sherman, 2014).

In a recent article from the Miami Herald, it is reported that Governor Scott's administration ordered DEP employees, contractors, and volunteers not to use the terms "climate change" and "global warming" in official communications. Though spokesmen for various departments deny this, the article gives evidence that this was an unofficial policy and cites an analysis that shows a dramatic decrease in the use of those terms during Scott's tenure. This specifically impacted Biscayne Bay regarding the Coral Reef Restoration Program in the Biscayne Bay Environmental Center. Jim Harper, a nature writer contracted to write a series of educational fact sheets on how to protect coral reefs, said he was told not to include the words "climate change" even though this is a significant source of reef damage (Korten, 2015).

Scott stands in contrast to the previous governor, Charlie Crist, who despite being a Republican at the time, supported policies that set him to the left of his party. Crist supported several environmental policies: he vetoed HB 7123, saying that the bill did not go far enough toward advancing green energy, but instead might result in further delays to advancing an energy policy that addresses conservation; he was named 'Champion of the Everglades' by the Audubon of Florida for the purchase of Sugar Corporation land by the SFWMD for preservation purposes; and he proposed $200 million economic development package to stimulate green energy, while also citing economic accomplishments during his tenure, including increasing unemployment aid and investing $2 billion to improve the work force (Krishnaiyer, 2014).

The shift in socioeconomic conditions and the regime change can be seen to influence policy change, but are insufficient in fully explaining the shift. The socioeconomic conditions may have been a reason why a pro-business governor was voted into office, but there was no vote linking the decision to use Miami-Dade taxpayer money to fund Port construction to the taxpayers themselves. Public opinion played a small role in the policy change. The Pro-Bay coalition was comprised of a few individuals who specifically had difficulty raising public support (Interview Kipnis, Porter, 2015), and the strategies the Pro-Port coalition used did not involve the public either, but rather depended on elected officials and governing organizations. In fact, in 2010, PortMiami was looking to gain the support of governor-elect Scott in order to secure funding for the project (Fagenson, 2010). Furthermore, simply citing a regime change as reason has weak explanatory value and fails to examine the specific elements therein that brought about the change. Rather, the regime change was responsible for significantly redistributing resources, as high-ranking elected officials, with significant formal authority and contingent inducement entered the subsystem on the side of the Pro-Port coalition (Sabatier and Weible, 2007; Sewell, 2005).

Port Director Bill Johnson used his position of formal authority at the Port to lobby pro-business Governor Rick Scott and the State of Florida for funding for Deep Dredge. This was an innovative strategy as it created or discovered these new resources. This networking was the creation of the Pro-Port coalition, and the inclusion of Rick Scott would have a synergetic effect on policy change due to the resources he possessed and influence he could exert.

Rick Scott, in his position of formal authority, gave power to the coalition. He was able to allocate or distribute state funding for the project, a constitutive strategy. As Governor, he exerts a strategy of deference in a general sense, in that as the highest elected official in Florida he has the most influence of a single person to have his wishes carried out. He also visited the Port several times to observe progress and emphasize this strategy. More specifically, he can offer contingent inducement toward those who support his policies. Although this strategy can be difficult to define directly, there are two instances that appear reasonable to categorize in this way.

First, during the Deep Dredge project, Bill Johnson retired as Port Director and was put at the head of Miami-Dade's Water and Sewer Department, a position he had no experience for. Shortly thereafter, he was nearing mandatory retirement from working for the County when Governor Scott appointed him as CEO and Director of Enterprise Florida, the State's economic development arm, despite Johnson having no experience in the economic-development field. It is a post that comes with the title of Commerce Secretary, a $275,000 annual salary, and a $100,000 bonus (Hank, D. 2015). Likewise, Carlos Lopez-Cantera, the Florida representative that sponsored and supported the

legislation that sped up the 2011 lawsuit, was appointed by Gov. Scott to Lieutenant Governor in 2014, a position that is first in line succession to the Governor ("Meet Lieutenant", 2012). Both of these appointments seem to be considered normative contingent inducement, as well as economic contingent inducement, as promotions often come with increases in salaries and other benefits. The promotion of Cantera also goes back to deference, where supporting such a crucial bill, thereby supporting Scott's project, most likely increased his prestige with Scott and chance of getting such a promotion.

Scott's deference, and his formal position as Governor, gave him the ability to decrease the size and funding of the Florida Department of Environmental Protection and to exert his pro-business policies on the department. These strategies represented constitutive and transformative power, whereby Scott was able to establish and enact the distribution of resources, and in the case of the DEP, also transformative power, in that he was able to destroy and change how resources were distributed. That is, discouraging this regulatory body from interfering with the project, and decreasing their capacity to do so. James Porter commented that the "DEP has not been proactive here. This is a project that the governor wanted, so I think DEP is just trying to stay out of the way" (Interview Porter, 2015). The regime change had a significant effect on redistributing the coalition membership. It placed actors with significant resources in the Pro-Port coalition, and it also moved the DEP from the Pro-Bay coalition (whereby its function as regulatory body according to Florida law meant it used to and should have been looking out for the environmental interests of the Bay) into the Pro-Port coalition, because it was no longer doing that, and instead approving a permit favoring the Deep Dredge project. This led to the necessity of other actors to become part of the Pro-Bay coalition.

These strategies had a synergetic power in that they strengthened and enabled Pro-Port's ability to influence policy change. It also represents more and different power from that of the Pro-Bay coalition, since they did not have actors in positions of formal authority, and thus could not gain access to this type of power.

Other subsystem outputs
Another external event, the expansion of the Panama Canal, also influenced policy change. Without this, without the ability of larger vessels to pass through, the need to deepen PortMiami to accommodate such vessels significantly decreases. PortMiami and the Panama Canal Authority entered into a memorandum of understanding in 2011 calling for the parties to share marketing activities, information, data, and training and technology (Blake, 2011). However, this had a limited effect on policy change because Super-Post Panamax ships were already calling on PortMiami, albeit not fully loaded, and despite the expansion, only some eastern ports—not all—in the United States have made the decision to expand. This outside event and partnership with the Panama Canal is not enough to explain a multi-million dollar investment made by the State of Florida and on behalf of local taxpayers for such a politically and environmentally sensitive and complicated project. To better elaborate the effect on policy change, this event has to be looked at in the context of its influence on Bill Johnson to lobby Washington and Governor Scott in order to secure funding so that the project could be completed in a time frame congruent with the completion of the Panama expansion.

Lastly, the 2011 legislation, which sped up the first lawsuit that had put a hold on project, was transformative power, destroying the opportunity Pro-Bay had to slow down and possibly stop the project altogether, and changed how that legislative power was distributed, placing it back in the Pro-Port coalition. It was an external subsystem event, but was also considered by Pro-Bay actors as a Pro-Port strategy because it came exactly at a time period in response to their lawsuit, and was specifically written to work retroactively, meaning it would influence their lawsuit. It was antagonistic toward the strategy of Pro-Bay, and because it moved the power away from them, it was an instance of more power on the part of Pro-Port. It also took the resource of time from Pro-Bay and made it resource of Pro-Port. In preparing for the lawsuit, this essentially ran out the clock and the opportunity for them to raise funds and find expert witnesses to give depositions on the issues. Opponents of Deep Dredge described the bill, which would force a quicker-than-usual final decision on the dredge, by saying it that it did not just "deprive citizens of access to fair and impartial justice," it is also "designed to arrive at a specific outcome in a pending lawsuit and makes a charade of the

administrative hearing process," (Miller, M.E., 2012c).

The basic argument in ACF is that external perturbations provide an opportunity for major policy change, but that such a change will not occur unless that opportunity is skillfully exploited by those who want change—actors that had heretofore been the minority coalition. Critics of the framework also argue that the intervening steps linking external events and policy change is missing (Weible et al. 2009). Within the Deep Dredge case study, a change in public onion regarding environmental and economic issues due to recession and change in governor can be looked at in relation to policy change. However, it is not until these events are considered in terms of resource redistribution and exploitation that they can be connected and to and understood to have influenced policy change. For example, the election of Rick Scott himself is not very significant until it is considered in the context of his funding allocation, effects on the DEP, etc. These strategies did have a direct influence on policy change. Additionally, these external events had an effect on redistributing resources and coalition membership, which also links them to events and strategies in the following three paths to policy change.

5.3.2 Internal events and policy oriented learning

The second path of policy change refers to events from within the policy subsystem, like natural or human induced catastrophes, which, like external events, can alter power balance. The third path is policy-oriented learning, which refers to alternations in thought resulting from new information or experience, which are concerned with the attainment of revision of policy objectives (Sotirov and Memmler, 2012). Because internal events can provide the platform for new information and thereby policy learning, they are discussed together. Actor strategies can be executed and thought of in the context of internal events or in order to induce policy-oriented learning, as these paths are concerned with revision of policy objectives.

During the course of the project various internal subsystem events occurred that highlighted failures in subsystem practices including leading to policy oriented learning. These new experiences and information influenced the revision of policy objectives, affecting secondary beliefs, or how specific policies were implemented. Learning occurred within both coalitions as new knowledge was produced through the experience of the dredging project, but the strategies of the Pro-Port coalition proved more powerful, and thus enabled them to influence policy. The 2006 dredging project will be discussed, its influence on policy cleaning, and the original permit for the Deep Dredge project. Then Pro-Bay strategies will be analyzed, to understand why they had little effect. Lastly, permit noncompliance by Pro-Port and the involvement of NOAA will be looked at.

2006 dredge, policy-oriented learning, and the original Deep Dredge permit

The Phase II construction in Miami Harbor from 2005-2006 was conducted with new blasting techniques that were intended to reduce impact on the surrounding environment. Instead, sedimentation in the water consistently surpassed turbidity limits set in the permit, and the project had to be continually shut down (Fagenson, 2014). This internal shock proved that dredging could be environmentally damaging, even despite new techniques designed to mitigate damage, and was an instance of policy oriented learning within the Pro-Bay coalition, reinforcing and confirming their policy core beliefs regarding conservation of the Bay and the dis-ability of large-scale construction projects to fit therein. It was also an instance of policy-oriented learning within the Pro-Port coalition. It reinforced their beliefs that environmental concerns can interfere with economic goals of Bay utilization, and that for future projects, the environmental regulations have to be changed to be less strict in order for dredging effects to remain in compliance. When writing the permit for Deep Dredge, DEP increased the distance for turbidity measurement from 300 yards from the construction area to 750 yards (Interview Kipnis, 2015). Because Biscayne Bay is classified as an "Outstanding Florida Water" turbidity measurements should be conducted at 300 yards to protect existing good water quality ("Factsheet", 2011). Measuring further away from a construction site means that sedimentation level data would be lower, allowing the project to comply with maximum turbidity levels more easily. What this internal shock highlighted in terms of failures in subsystem practices (Weible and Sabatier, 2007), was that environmental interests have to be sidelined to realize economic interests, and that in implementing this policy objective, the secondary beliefs reflect less strict environmental regulation. This policy-oriented learning had an effect on the original dredging permit.

The original dredging permit and its approval by DEP was the internal event that set in motion the conflicting strategies of the two coalitions. It can also be considered a Pro-Port strategy because it was a permit that fell short of state regulation, but was approved by the regulatory body nonetheless. The Director of Miami Waterkeeper at the time said, "The permit issued by the State of Florida falls short on environmental safeguards for fragile Biscayne Bay and gives multiple exemptions to state rules in place to protect the water quality," (Blake, 2011). Dan Kipnis said "It had holes big enough to drive a dredge through," (Interview Kipnis, 2015). He also said that the Army Corps of Engineers basically wrote the permit, and DEP just stamped it. Pro-Port learning about environmental regulation compliance was translated into a strategy regarding the permit.

The formalization of this original permit was transformative power, redistributing legal authority for Pro-Port actors to undertake a major dredging project, a departure from past policy, and a synergetic power dynamic for Pro-Port efforts, enabling their effect on policy change. Because of this formalization and approval, it represents more power on the side of the Pro-Port coalition.

Policy-oriented learning within coalitions is not usually associated with policy change because it tends to reinforce pre-existing coalition beliefs in high conflict situations like this one. However, it can be understood in connection to the many cascading events in policy change in this case study from a power perspective. The policy-learning of Pro-Port influenced the permit they wrote for Deep Dredge, which got approval when it otherwise should not have, because the formal decision-making authority lay with an actor in the Pro-Port coalition (which can be connected further back to a redistribution of resources by external regime change). The policy learning of Pro-Bay will influence them to mount a lawsuit against the permit, discussed in section 5.3.3 under 'Negotiated agreements', which will explore how in contrast, their lesser resources and thereby lesser power did not make them successful in influencing policy

Pro-Bay strategies: 12-page letter, Change.org, information dissemination
The Pro-Bay strategy of drafting that 12-page letter in 2011 and the online petition on Change.org can be analyzed in the context of internal events, because they were designed to highlight internal subsystem failures. The letter was a strategy of networking and bringing together various parties and actors that would fight against Pro-Port to stop the project and the petition was a strategy of lobbying support against the project. They were both innovative types of power because they created to human resources in the form of mobilizable troops and created and gave attention to mental resources in the form of scientific and technical information regarding Biscayne Bay, past projects, and the possible damage dredging would cause. Because these strategies were directed against Pro-Port, to stop Deep Dredge, they had an antagonistic power dynamic. However, they represented less and different power because the resources they mobilized were less than that of Pro-Port. The human resources were less, the petition did not have far reaching effects, getting fewer than 300 signatures online, whereas the successful petitions on the website get signatures in the hundreds of thousands, and the information was countered by more expert-based information from Pro-Port. These strategies represented less power, and thereby did not effect policy change.

This is a similar case with the TEDx Talk, the YouTube videos and the data collection done by Kipnis, Miami Waterkeeper, and Foord. The information dissemination by the two former strategies, and the condition of protesting and enacting legislation by the latter were meant to be highlight failures in the subsystem caused by the Deep Dredge projects and provide the means for policy learning within the subsystem in regards to the fragility of the Bay ecosystem and the damage the project was doing. They were innovative strategies meant to give attention to the mental resources that Pro-Bay possessed about the negatives scientific and technical aspects of the project, and to possibly create more resources in the form of public opinion or mobilizable troops.

The monitoring of sedimentation levels and collection of data was a protest against the data being generated by Pro-Port actors stating that the project was within permit regulations, and was meant to be proof that they were violating the permit in order to bring about legal recourse for the violation. Both the Youtube videos and the data collection were antagonistic against Pro-Bay because they highlighted the damage and noncompliance of the project, while the TEDx Talk was synergetic, emphasizing the scientific and natural value of Biscayne Bay and why it should be managed to protect it in its natural state.

These strategies were different power from Pro-Port (since they did not have comparable strategies), but also represented less power. They had little impact, reaching very small audiences and doing nothing to generate public support or to influence Pro-Port actors toward cross-coalition learning. Even the permit violation evidence was less powerful because the entity that should have enforced the permit, the DEP, was in the Pro-Port coalition. The position of the CoE is that the State of Florida cannot enforce the permit guidelines because they are a federal agency and so not subject to state law, even if DEP had tried to enforce it (Interview Porter, 2015).

The news articles in the *Miami New Times* for Pro-Bay and the press releases and articles in the *Miami Herald* and *Miami Today* for Pro-Port were innovative strategies of publishing and information dissemination for both coalitions, in order to give attention to their scientific and technical information regarding the project and thereby influence policy learning. For Pro-Bay this was to highlight the failures of the project in terms of environmental protection, and was an antagonistic strategy toward Pro-Port. For Pro-Port is was to highlight the narrative of the extensive and positive economic impact the project would have, while also emphasizing the environmental

mitigation and monitoring measures that were written into the permit, and to present them in a way that bellied environmental concern. It was a narrative to influence policy-oriented learning that in fact the best management practices for Biscayne Bay included maximizing its economic potential. Although overall public opinion played did not play a role in the policy change, the Pro-Port strategy represented more power than that of Pro-Bay because the readership of their news outlets was greater. Additionally, because the project was happening, their strategy did not need to mobilize public support. Rather, for the Pro-Bay strategy to be considered more powerful it did need to have rallied public support against the project.

Noncompliance and NOAA
During the course of the dredging, the CoE and the dredging company failed, on several occasions, to comply with mitigation and monitoring practices outlined in the permit and declined to comment about their work, while releasing statements saying that they were adhering to "some of the highest levels of environmental monitoring and protection measures that we have ever implemented," (Staletovich, 2014). In fact, even when NOAA divers came to remove coral colonies, they refused to stop dredging to allow them to dive the area. These instances drastically highlighted the failure of the permit to uphold environmental protection and mitigation, and can therefore be looked at in the context of internal shocks. They can also be aggregated as a strategy of noncompliance or inaction on the part of Pro-Port, because slowing down or pausing the operation would have had greater financial repercussions than what they would incur because of noncompliance. Slowing down would have also gone against coalition secondary beliefs.

Instead, noncompliance was an instance of synergetic power because it strengthened the overall influence on policy change of putting economic concerns over environmental ones. It can also be looked at as antagonistic and very disruptive toward the efforts of Pro-Bay to at least comply with environmental mitigation efforts in the permit, as weak as they were considered by that coalition, and represents more power because the repercussions for noncompliance would not have a negative effect on Pro-Port. Any fines or other costs incurred would be reimbursed by Miami-Dade County anyway. It was a transformative strategy, because the formal power gained by Pro-Bay in rewriting the permit to have more environmental regulations and the significance of information showing bad monitoring practices and high sedimentation levels was destroyed by their ability to not comply. In fact in the 2014 lawsuit, the U.S. Magistrate judge presiding over the case told the Pro-Port lawyer that he was "talking gobbledygook" and that "You've got 40 people here watching you say you won't abide by your contract," (Staletovich, 2014). Their resource of human (or institutional rather) leverage as a federal body, and ability to settle any lawsuits or fines because of large monetary resources made this one of its most important strategies. It contributed to policy-oriented learning within the coalition by reinforcing the beliefs that specific policy implementation based on permit violations and secondary beliefs relating to economic concerns could lead to successful completion of the project.

Because Pro-Bay was able to collect data that proved Pro-Port was not complying with permit regulations and thereby refusing to submit to state regulation, they notified NOAA, another federal agency, in an attempt to bring them under a governmental body that would have jurisdiction. This move can be looked at both in terms of an internal shock, because it was an event within the subsystem that was intended to highlight failures in the current practices, and policy-oriented learning, because it was concerned with revising policy objectives, or shifting policy back toward greater environmental regulation. As a strategy of enacting legislation it was transformative power because it sought to destroy the advantage CoE had of not complying with a state regulatory body. It was antagonistic toward their strategy, but ultimately an instance of less power, because even when NOAA became involved, Pro-Port still refused to comply with their rulings, and was able to do so.

In adversarial policy subsystems like this one, where competitive coalitions seek an upper hand, as opposed to collaborative subsystems with cooperative coalitions, expert-based information is most likely to be used as a political weapon in order for a coalition to gain an upper hand. Likewise, policy-oriented learning in ACF is more commonly linked with minor policy change via secondary beliefs, or major change via policy oriented beliefs, when cross coalition learning takes place (Weible et al., 2008). However, in these examples, policy-oriented learning happened within coalitions, and

reinforced preexisting beliefs, or worked on coalition secondary beliefs to move the opposing coalitions further apart. Throughout the project, Pro-Port moved toward more aggressive economic-oriented practices while the secondary beliefs of Pro-Bay reflected the inability of major construction projects to take place within the limits of environmental integrity in the bay.

At the same time, internal events highlighted failures in the subsystem—that indeed, despite mitigation and restoration plans, severe environmental damage was taking place. Nevertheless, these internal shocks and policy-oriented learning only worked to the advantage of the Pro-Port coalition. In order to understand why the policy change went in the direction of Pro-Port, these paths can be looked at in terms of power. For example, the technical information was possessed by each side and used as a weapon the conflict, however, that of Pro-Port was backed by more experts because they had the monetary resources to obtain such information. They could also afford not to comply with permit regulations because of their position as a federal body and because of monetary resources. On the other hand, the strategies by Pro-Bay to gain public opinion and educate people were unsuccessful because of lesser resources.

5.3.3 Negotiated Agreements

Weible and Sabatier (2007) elaborate the possibility of coalitions which have been fighting for decades coming to a negotiated agreement representing a substantial change from the status quo. The two lawsuits brought against the Deep Dredge project by Pro-Bay and their resolutions can be looked at in terms of negotiated agreements.

The 2011 and 2014 lawsuits can be analyzed together as a strategy of information dissemination, to raise public awareness, and to educate regulatory bodies and keep them focused on the project (Interview Porter 2015). As an overall strategy it was innovative as it was specifically used to give and to keep attention on the issues involved with Deep Dredge, and possibly mobilize other resources as people became aware of what was happening. In this way it was also an internal shock, because despite not having great success, it was meant to highlight the failures in the system and make public the damage Pro-Port was doing to Biscayne Bay, even though they said they would not. The lawsuits in general are examples of negotiated agreements, because they put the issue at hand into a professional forum in an institutional setting where the two coalitions could try to come to some consensus. It was a synergetic strategy for Pro-Bay, designed to strengthen their position by attacking the Deep Dredge project from a legal perspective. However, because of lesser resources, like fewer troops, funds, and expert-backed scientific and technical information, the litigation was not very successful for Pro-Bay, and was a strategy of less power than Pro-Port.

In addition to falling under the negotiated agreement path, the 2011 and 2014 lawsuits by Pro-Bay were also internal subsystem events, used to highlight the failures in the management policy that was allowing economic gains at severe environmental costs. They were strategies of formalizing or enacting legislation. The 2011 lawsuit was a form of constitutive power, or the instituting of legal recourse by Pro-Bay. The State should have actually been the plaintiff in that first lawsuit, not the Pro-Bay actors of Dan Kipnis, MWK and Tropical Audubon Society, because the permit that DEP approved was in violation of state permitting requirements. However, because the "State" (public officials like the governor, state legislators, and local officials) wanted the project to go ahead, the plaintiffs had to sue the CoE under the state's citizen suit provision, which gives citizens the right to enforce waste-related and environmental laws (Interview Olle and Pappas, 2015). It was an antagonistic strategy by Pro-Bay because it called into question the ability of Pro-Port to carry out the project and shift policy to favor economic concerns.

The suit represented less power for Pro-Bay, however, because it was ultimately unsuccessful. The 2011 suit was settled between the two coalitions before going to trial by agreeing to rewrite the permit. Dan Kipnis referred the rewriting as a small success because before they rewrote it, it had much larger environmental mitigation holes in it, but he agrees with other interviewees that it was ultimately a loss for Pro-Bay (Interview Kipnis, Porter, Olle and Pappas). Because of a lack of time, funds, and knowledge, and because Pro-Port had more of all of those, the new permit was not particularly good in outlining better environmental regulations than the original. Lawyers Olle and Pappas commented that not only did they not have the expertise in dredging to understand the equipment being used and its possible impacts, like Pro-Port did, some of this knowledge was only produced as the project was happening. Some of the environmental effects were not known before hand, and the project itself was a learning experience about dredging techniques in general for future lawsuits and projects.

Settling the lawsuit was an act of concession for Pro-Bay, but was a strategy of economic and coercive contingent inducement for Pro-Port. If the case had gone to trial, instead of being settled between the two parties, and Pro-Bay lost, they would have been personally and financially liable for the legal fees incurred by Pro-Port. Given the number of lawyers involved in the case, the fact that they came from very expensive firms, and the number of experts involved for depositions that could have amounted to hundreds of thousands or even millions of dollars in legal fees for the three plaintiffs. Kipnis said he was specifically approached by Pro-Port lawyers reminding of this, and strongly persuaded to settle. In this way, the lawsuit settlement was a transformative strategy because it destroyed the legal resource Pro-Bay had, and was antagonistic toward their efforts. Likewise, it was overall very synergetic for the Pro-Bay efforts because it not allowed the project to go ahead, but also added greater resources in the form of technical and scientific information and legitimacy to the project because it had gone through the legal system and come out of it still with

approval. Another important provision, or resource, the settlement provided Pro-Port was that it could not be sued over the project again under the same circumstances. This was another example of more power for the Pro-Port coalition.

Due to gross permit violations, Pro-Bay sued the Deep Dredge project again in 2014. This time it was under federal law for violation of the Endangered Species Act, one, because the 2011 settlement meant the type of suit had to be different, and two, because the CoE claimed they were not beholden to state law. Like the previous suit, it was a strategy of enacting legislation, or using legal recourse to advance their policy objectives, meant to transform and destroy the advantage Pro-Port had by going after them on the federal stage, and was thereby antagonistic toward their strategy. But also like their previous lawsuit, this one strategy represented less power for the Pro-Bay Coalition.

The 2014 lawsuit is still ongoing, but one of the provisions was a $400,000 settlement for coral restoration efforts. Not only has Pro-Port refused to stop dredging so that NOAA divers could locate coral, but a $400,000 settlement is a small fine compared to the cost of delaying the project. It was a strategy of concession on the part of Pro-Port, agreeing to the fine and some other provisions, but also enacting legislation, because by agreeing to these terms, they could still continue with the project, making it a synergetic power in terms of their policy objectives. It was both transformative, in nullifying the Pro-Bay strategy, and constitutive in enacting resources in their favor. It was a successful strategy for Pro-Port and represents more power.

The negotiated agreement path reflects policy-oriented learning across coalitions within a collaborative professional forum, but according to Sotirov and Memmler (2012), should meet several conditions in order to be effective. There should be mutual dissatisfaction with the status quo, absence of alternative institutional venues, and promotion of collaborative trust, commitment and inclusive decision-making. The lawsuits did reflect agreements that were negotiated amongst the parties. For Pro-Bay there was dissatisfaction with the status quo because they found the damage that was going to be done by the project unacceptable. Empirical issues also played an important role in the cases in terms of the marine and environmental science involved, and the technical dredging information that played a big role in the case which framed the seriousness and causes of the problem (Sabatier and Weible, 2007). However, negotiated agreements fail to meet many of the other ACF conditions, and yet are associated with policy change in this policy subsystem.

Both lawsuits were brought against the Deep Dredge project because earlier strategies, like writing a 12-page letter to ask that the project be slowed down to allow for more research, did not succeed. Although the decision-making, like the re-writing of the original permit, was inclusive of actors from both coalitions, it did not represent collaborative trust or commitment. Rather, Pro-Port had too much power in terms of superior resources and the strategies they could undertake, that taking them to court was the only alternative venue in which Pro-Bay might be able to influence policy. However, these attempts failed, because again, Pro-Port had too much power. In the first case, the lawsuit was settled because it was unappealing for Pro-Bay to take it to trial. A loss would have been devastating to the actors personally because of a lack of resources. In the second case, despite ruling in Pro-Bay favor, the negotiated agreement did not influence policy in their direction, because Pro-Port had power enough to make the court rulings ineffective.

5.4 Willingness/ Skillful leadership:

In addition to strategies, the second condition for the exercise of power is willingness, or the presence of skillful leadership within a coalition. The framework defines this as actors who deliberately and successfully mobilize and gain resources and effectively use strategies (see section 2.7.3). Because this condition takes into consideration all resources and strategies as a whole rather than one particular path or type, it has to be discussed separately from the paths to policy change.

In the context of this research this variable is operationalized by determining which actors were most frequently associated with coalition resources and strategies, by taking into consideration anecdotal evidence from interviews and document analysis, and through the results of the reputational power survey. It is assumed that when an actor is associated with a strategy to influence policy, necessitating the mobilization of resources to which he/she might connected, these actions are taken deliberately (as most people do not find themselves 'accidentally' involved in such type of actions).

5.4.1 Pro-Bay willingness

Figure 22 shows the willingness metric of each Pro-Bay actor. Although she did not receive the highest score, Blanca Mesa is notable to discuss briefly. As a member of the Sierra Club, she was the original actor who brought together other coalition members upon hearing about the Deep Dredge Project and did most of the initial research for the 12-pg letter, providing background for the 2011 lawsuit. Although after this she had a much more periphery role in the coalition, providing support for various strategies, but not being directly involved or responsible for resource creation.

The two other main actors in the Pro-Bay coalition that possessed willingness were MWK and Dan Kipnis. They created or gained access to several new resources, or at least tried to, and were involved in the most strategies, like data collection, disseminating information in the form of YouTube videos and news articles, and were plaintiffs in both lawsuits. Their participation in these strategies was deliberate, and therefore constitutes willingness. They were also considered by their fellow actors as two of the most instrumental actors in the coalition. In the survey for reputational power, MWK and Dan Kipnis respectively received the two highest percentages of votes for both the "Most influential" and "Top 3" powerful actors in their coalitions, shown in Figure 23.
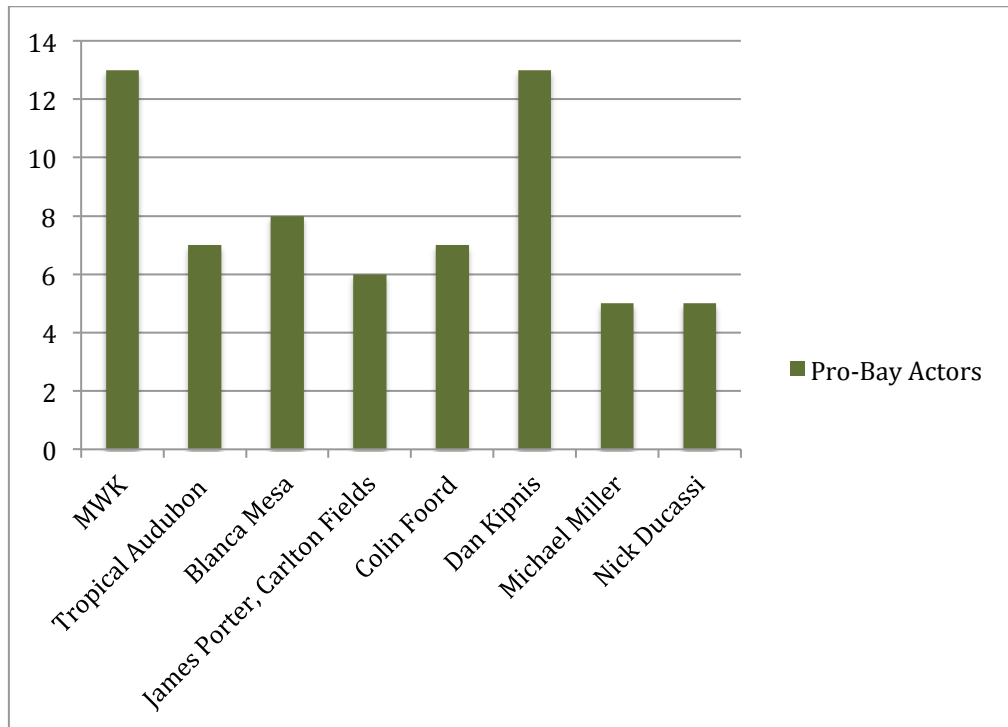
Figure 23. Willingness, Pro-Bay

(see Appendix: B.2)
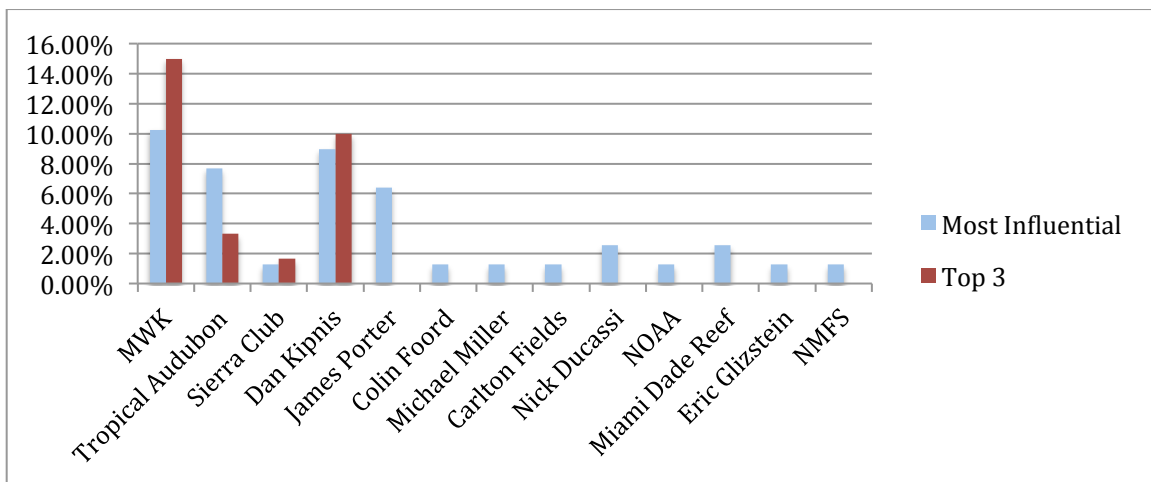
Figure 24. Pro- Bay Reputational Power

5.4.2 Pro-Port willingness

Figure 24 shows the willingness of the Pro-Port actors. On the Pro-Port side, Bill Johnson was the original actor exhibiting willingness in terms of deliberately seeking access to resources, because he can be used as representative of the decision to expand the Port, since he was the director, and it was due to his efforts that Governor Scott became involved, who himself was important in resource accumulation and exploitation. He was also connected to a wide range of other strategies, like press releases, because of his position as director, though his direct involvement with them may actually have been less relevant. As such, and because Governor Scott and the CoE received high metrics for both willingness and in reputational power, shown in Figure 25, they are considered more important in terms of skillful leadership.

During the course of the interviews, several Pro-Bay coalition members referred to the Pro-Port actors as the "powers that be" and attributed the policy change to their pushing "this project aggressively and adeptly" (personal correspondence Van Leer, 2015). The usage of the term power here can be related to the vast resources available to Pro-Port actors. Specifically, both actors had access to large monetary resources in the form of operating budgets and the state budget that Scott could allocate for the project, which could be used to gain access to other resources like lawyers, and to pay off fines, etc. They also had access to substantial human resources in the many mobilizable troops available in the organizations, and both Scott and the CoE possessed human leverage as their formal positions of power meant they could directly influence policy. In the noncompliance strategies, deference, lawsuit settlement and instances of contingent inducement this is especially apparent. In the survey for reputational power, Rick and the US Army Corps of Engineers received the two highest percentages of votes for both the "Most influential" and "Top 3" powerful actors in their coalitions, and Army Corps was voted most influential overall of all actors, in both categories.

Overall, the Pro-Port coalition possessed more power in terms of skillful leadership because their "willing" actors were associated with the greater resources, and with more strategies that were successful. However, in future research, it may be useful to do a more in depth network analysis to determine which actors had the most centrality in the coalition, and to gain a deeper understanding of actor connection to strategies, in order to develop this variable.
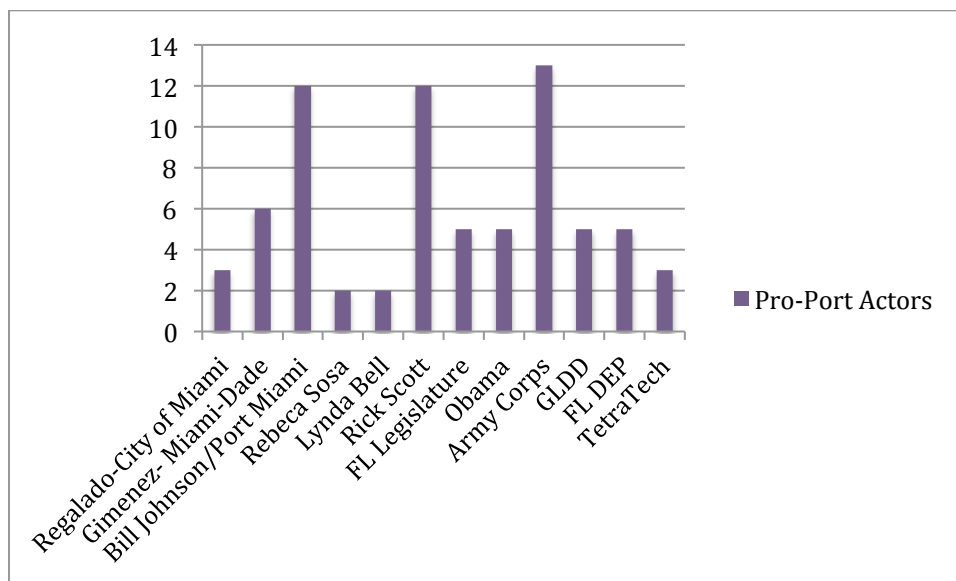
Figure 25. Willingness, Pro-Port
(see Appendix: B.1)

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Pro-Port Reputational Power
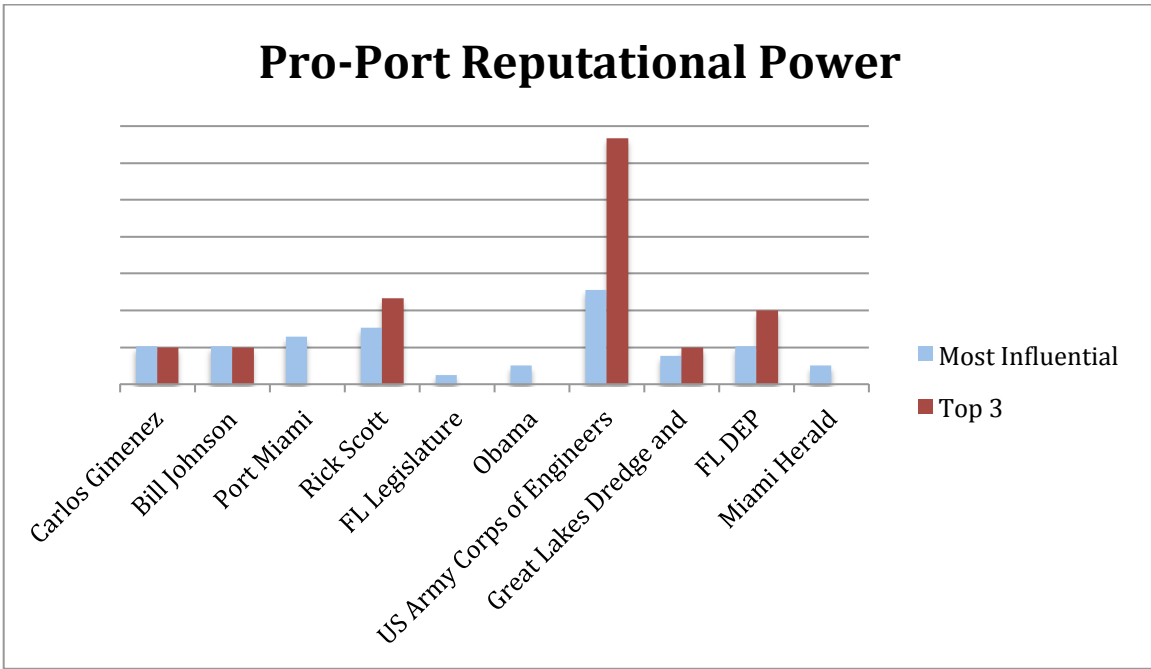
Figure 26. Pro-Port Reputational Power

5.5 Analysis Conclusions

The power framework developed in this study looks at power in terms of resources that coalitions have access to and how they mobilize these resources in the form of strategies and skillful leadership. To understand which coalition is able to dominate a policy subsystem the resources can be compared as to which coalition possessed more. Strategies are broken down into what condition of power they are, what type of power, being constructive or destructive, and how that relates to a coalition's own efforts and that of an opposing coalition, being either an antagonistic strategy or a synergetic strategy. By looking at these facets and whether more or fewer resources were mobilized therein, it can be determined which strategies represented more or less power for a coalition.

In the Deep Dredge case study the Pro-Port coalition had significantly more human resources, numbering in the hundreds compared to about 16 people on the Pro-Bay side, and with several actors who possessed human leverage in the form of formal decision-making authority. The monetary resources of Pro-Port numbered in the millions of dollars, compared to something in the range of thousands of dollars for Pro-Bay, which also gave them access to other resources. The mental, artifactual, and natural resources were also greater for Pro-Port. The access to these resources and skillful leadership enabled Pro-Port to consistently leverage more power over Pro-Bay in their strategies, and to execute successful strategies that were synergetic to their own efforts and antagonistic to Pro-Bay. On the other hand, the strategies that Pro-Bay used were counteracted by Pro-Port, through which their resources were often transformed or destroyed.

Throughout the interviews with Pro-Bay actors, it became apparent that they themselves recognized their lack of resources, and thereby power, in this policy subsystem. Dan Kipnis reached out to local celebrity billionaire and care dealership owner Norman Braman, who had recently taken up a similar cause in which Miami-Dade County and the city's baseball team wanted to use taxpayer money to fund a multi-billion dollar stadium (Associated Press, 2008). Having such a figure support the Pro-Bay policy objectives could have lent the coalition human leverage in the form of deference and may have given them access to more public support. According to Kipnis, Braman "wouldn't donate even $10,000. I said, "I don't need your money, I need you to get your face out there and tell people this is a bad deal for Miami, he wouldn't even do that."" Other local fisherman and business owners that Kipnis approached for support and for funds were equally uninterested in the issue. Kipnis said that having more human resources in the form of public support (public opinion, mobilizable troops), having local endorsements (leverage, deference, contingent inducement), more funding (monetary), and more organizations involved (mobilizable troops), would have strengthened the coalition and given them more power to impress their policy objectives (Interview Kipnis, 2015).

From a legal perspective Porter also commented specifically, "one of the factors that went into the settlement in the first case was a lack of resources. This is a very large, complex project that would have requires expert testimony, a lot of costs related to discovery, depositions, that sort of thing. The clients did not have the money. When we brought the first case, we didn't have the experts or scientists speaking out on our behalf at that time," (Interview Porter, 2015). Lawyers Dennis Olle and Gary Pappas said they could have been more successful if they had had half a million dollars to work with a year more worth of time to lobby support in Tallahassee from the government and to find experts for depositions (Interview Olle and Pappas, 2015). Their strategies could have been more successful had they had access to greater natural resources (time) and especially monetary resources. This would have meant greater access to scientific and technical information that supported their policy objectives, and more access to greater human resources to undertake such strategies as lobbying for formal legal support.

Avelino and Rotmans (2009) label the exercise of multiple power types at the same time as a *power plenum*, which describes a situation in which actors are mobilized for the survival of a system, or *systemic power*. On the opposite end, when something prevents the exercise of systemic power, there is a situation known as a *power vacuum*, or a void of power. Looking at the Deep Dredge case study, the access to resources and successful strategies of Pro-Port can be thought of as a power plenum, and it was this greater power that allowed the coalition to dominate the Biscayne Bay management subsystem and effect policy change to reflect their policy objectives. On the other hand, the Pro-Bay

coalition had lesser resources and in almost every strategy they were prevented from gaining an advantage by exercising power. They experienced a power vacuum.

According to the idea that major policy change can be looked at as a series of cascading events (Weible et al., 2008), the various events in the Deep Dredge project, dating back to the original Record of Decision in 2006 giving the go-ahead for the project, and especially the events from 2011 on, give a progression of policy change from management that held environmental and economic concerns in equilibrium, to management based on economic concerns to the detriment of the Biscayne Bay ecosystem. Prior to the policy change, the distribution of coalition actors and resources was very different. Most actors were not involved in an active role, since there was no need, because the regulatory agency responsible for upholding management legislation was ensuring the balance of interests.

As discussed in the literature, the policy change in this case study could be looked at in terms of the ACF four paths to policy change. However, considering a recession and a change in the governor leaves out important links between these external shocks and policy change. Likewise, within the other three paths, a cursory examination would lead one to believe that policy change should not have happened. Pro-Port actors violated law and their dredging permit. Should there have not been some legal recourse protecting the environmental interests of the Bay as per Florida statutes? Here too, the causal processes linking the paths and the policy change are missing.

In applying the concept of power to the case study in a critical way, and breaking down the coalition resources and strategies, it becomes clear why in each instance the policy subsystem moved in the direction of policy change. Power was concentrated in the Pro-Port coalition, making them dominant, and allowing them to influence policy.

6. Conclusions and Discussions

6.1 Objectives and research questions

The main focus of the Advocacy Coalition Framework is to better understand policy change (Sotirov and Memmler, 2012). It was originally developed as a response to limitations of policy analysis at the time (Sabatier, 1986), and although it is considered one of the leading frameworks in policy analysis today by several authors (Capano, 2009; Sotirov and Memmler, 2012; Weible et al., 2009, Nohrstedt, 2005, 2011; Albright, 2011; Ingold, 2011), many of these same authors find that the ACF itself has various areas that require additional clarification.

Sabatier, Weible, and several other researchers who have used the framework discuss the importance of resources in the framework in looking at the policy process and particularly their influence on policy change. Nohrstedt (2011) emphasizes the importance of the underlying variables that explain policy change, and that to contribute greater theoretical progress to the framework these variables require additional clarification. Likewise, Nohrstedt (2011) and Albright (2011) argue that the conditions under which a coalition successfully exploits a policy subsystem need to be empirically tested. The ACF outlines four different paths that lead to policy change. However, the framework does not explore the processes that determine when policy change will actually take place, because not all exogenous shocks and not all instances of policy learning translate into policy change (Sabatier, 2011). Although other areas of the framework are also discussed as requiring further research, based on the literature, the concepts of power, resources, and strategies provide and interesting knowledge gap, whereby their conceptualization may help better explain policy change. Therefore, this research was designed to address the question:

1. How can the concept of power be used to elaborate the causal mechanisms of policy change within the Advocacy Coalition Framework?
    a. What are the explanatory limitations to the process of policy change within ACF?
    b. How can the concept of power be conceptualized and operationalized in the context of policy process analysis?
    c. How can this power framework increase the explanatory capacity of the process of policy change within ACF?

6.2 Hypothesis

In order to answer this question, the study has aggregated the various definitions of power and typologies of resources to develop a framework by which power can be looked at empirically within the ACF paths to policy change to examine why change happens, and applied it to a cases study with the aim of testing the that framework. It was hypothesized that:

The extent to which a coalition dominates a subsystem and thereby effects policy change depends on the relative power that coalition possess within a subsystem, which can be analyzed through the comparison of resources and skillful exploitation of these resources amongst competing advocacy coalitions, thereby determining the more effective power dynamic of one coalition over others. Power as a causal mechanism can elaborate the existing four paths of policy change in ACF to give them greater explanatory value.

Based on the hypothesis of this study, the coalitions that have more resources, but especially those that exploit them more effectively through strategies that encourage synergetic power within the coalition, and disrupt the power of a competing coalition will be the coalition that is effective in realizing their policy objectives. Thus, sources of power are important factors in determining the extent to which a coalition dominates a subsystem (Sewell, 2005).

6.3 Method

A framework of power was conceptualized to test the hypothesis. First a typology of resources was developed that categorized resources into five different groups, to determine which coalition possesses more resources. The distribution of resources within the policy subsystem is analyzed according to the reputational power technique. Resources are looked as sources of coalition strategies to influence policy according to their policy objectives. They are critically analyzed in terms of conditions of power, and what type, dynamic, and relation of power they represent for the coalition and are discussed within the existing ACF paths of policy change, in order to elaborate on the causal mechanisms. Lastly, the framework looks at power in terms of skillful leadership of coalition actors.

The framework was applied to a case study regarding policy change in Biscayne Bay. The single case study was chosen because of its ability to generate in-depth data that is necessary in theory development by allowing the researcher to focus on variety of intensive data-collection methods. The case study itself was chosen because while there was a clear instance of policy change that could be examined via ACF, the concept of power had a high likelihood of adding explanatory value.

6.4 Conclusions and contribution to ACF

A review of ACF literature found that causal mechanisms in the framework were lacking the important intervening steps that link ACF paths to policy change to actual policy change, and that an elaboration of the concepts of power, resources, and strategies within the framework was needed, answering the first research sub-question. A further investigation of these concepts found that conceptualizing power in terms of resources and strategies, and investigating them via types, relations, and dynamics provided a power framework through which power could be operationalized. The framework satisfied the second research sub-question. Finally, the application of the framework within the ACF paths policy change increase their explanatory capacity, elaborating the intervening steps between the causal mechanisms and policy change, answering the third sub-question.

In the case of the Deep Dredge project, in which management policy in Biscayne Bay underwent a shift from policy that scrutinized development practices to ensure environmental integrity, to one where management meant maximization of economic potential, policy change is apparent via all four paths outlined in the advocacy coalition framework. Externally, socioeconomic conditions in became worse because of a global recession, which focused on opinion on economic concerns. A governor was voted into office on a pro-business platform, and plans were announced to expand the Panama Canal. Exogenous events on their own cannot explain policy change however. Internally, several events occurred that shifted policy to allow for construction projects that were more damaging than were allowed under Florida law, like the approval of the original dredging permit, and lawsuits that formalized the continuance of the project.

However, simply looking at the case in that context fails to explore the causal mechanisms of why the change happened. There is little explanatory value for policy change just by looking at the paths in this way. In the case of the 2011 lawsuit, the original permit should not have been approved according to Florida law, and the state itself should have taken the Army Corps of Engineers to court to enforce its environmental laws, not a group of individuals and environmental activists. This then cannot be understood in the context of policy change without analyzing what mechanisms allowed Pro-Port to use this situation to their advantage when it theoretically, based on Florida law, should have stopped the project. Instead, closely analyzing the paths by looking at the strategies used, and the resources utilized in these strategies, gives a clear understanding of power possessed by each coalition and that the coalition with more power was able to dominate the subsystem and effect policy change.

The power framework developed for this study allows the researcher to break down the paths in a critical manner and measure the variables therein to connect them to policy change and provide causal explanation. For example, *because* Pro-Port actor Rick Scott had *formal authority* and *power over* the regulatory environmental body, the DEP, he was able to *influence* a permit approval

and therefore *effect policy change*. By breaking down the paths into resources and strategies, they can be analyzed according to conditions, types, and dynamics in order to determine the relation of power between or amongst coalitions, and the to look at the success or failure of strategies that contribute to policy change. The case study shows that in order to dominate a subsystem a coalition needs to have more power, power that disrupts opposing coalitions, and power that enables their own efforts.

Using power conditions allows the researcher to categorize strategies according to type, so it can be analyzed whether they accomplished their objective. Then discussing the strategies according to types, dynamics, and relations gives the researcher the tools to give a critical discussion about how the strategies fit within the paths to policy change and contribute to the overall coalition strategy of influencing policy change. Via this case study, the it was found that using power to investigate policy change gave much higher explanatory capacity to the ACF framework.

6.5 Limitations

Despite this conclusion, there were some limitations to the framework and areas for improvement. Sabatier and Weible (2007), Avelino and Rotmans (2009; 2011), and Sewell (2005) all cite difficulties operationalizing power as one of the reasons reason why the concept is so controversial in the social sciences and why it has not been explored to the extent of other concepts in the context of ACF. Throughout this research some resources were easier to operationalize than others and were operationalized on an ad hoc basis based on type. When comparing numbers that are so vastly different, it is acceptable to discuss the implications for resource distribution like operating budgets in the millions vs operations based on pro-bono work. However, many such numbers are attached to variables that have many dimensions that make them difficult to compare 1 to 1, like a lack of record keeping, numbers that apply to a broader dimension than what is being analyzed, and a difference in the way coalitions keep records or classify things, like when a fiscal year begins and ends. Because such data is compiled and published by actors themselves, this is not a problem with a clear solution. For this reason, resources and strategies have to be analyzed in a qualitative manner.

In this case study specifically, the resources and strategies varied so drastically in their amounts and success that it was easy to compare power, and for that reason also acted as a good case study for the development of theory. However, in applying the power framework to other situations, there might not be such a clear distinction, in which case the difficulty in operationalizing variables would become more pronounced.

Additionally, this case study only included certain resources, and therefore did not explore the operationalization of all the various types of resources in the framework. For example, public opinion did not play a role, and so no method for operationalizing it was developed. Artifactual resources in general had little to do with this case study. As this resource category is associated with 'things', it may be difficult to conceptualize how to operationalize artifacts, until confronted with specific ones. This is an opportunity for further theory development. In terms of defining strategies like non-compliance and others that may be politically sensitive when confronted with, it is difficult to ask coalition members the reasons behind these actions, as this may put them on alert and unwilling to speak with researcher. It is also difficult to determine economic and coercive contingent inducements, especially when research is done at such a close period in time to the event. Discovering bribes or threats is beyond the scope of this research. Normative inducements are much easier to assume however, in that voting in certain ways, for example, can usually guarantee, within this political system, that you maintain party favor, or risk alienating one's self.

The operationalization of willingness/skillful leadership also requires further develop. For this study reputational power was used along with examining which actors were involved in the most resources and strategies. In further research, this might be expanded to include a full network analysis, looking at such things as connectivity of actors and centrality measures. A network analysis might also be used to expand an aspect of power in terms of connectivity and coordination of coalition actors. ACF defines coalition members as actors who are involved in deliberate and coordinated activity to effect policy change. While the Pro-Bay coalition members satisfied these conditions, not all actors coordinated with everyone else or were even aware of all other members. Perhaps if actors were all very well connected, they would be able to better mobilize and gain access to resources and thereby increase their power.

Because this research was designed to develop and test a framework, one case study was an appropriate decision because it allowed for much in depth research. However, in order for the framework to become useful to the ACF, this research has to be replicated to refine the conceptualization of power, operationalization, and its position within ACF.

Another limitation of this case study was that it may be biased toward one coalition. The researcher was able to gain access to most of the actors in the Pro-Bay coalition as they were individuals, non-profit organizations, and ultimately look like the "good guys" in the story of this dredging project. The Pro-Port actors either declined to speak with the researcher or ignored repeated attempts at contact altogether. In new articles there were also instances where journalists reported that Pro-Port actors declined to comment. This may be due to both the fact that the actors were involved in an ongoing legal battle, and because the Pro-Port actors were increasingly being painted as the "bad guys" in the media recently. Large organizations and elected officials can also be very difficult to gain access to, especially when referring to something that is as politically sensitive as a project that caused environmental damage and represented instances of law breaking. Nonetheless, even with a bias, the researcher tried to present the resources and strategies based on verifiable data, but the situation of opinion and data bias may present a similar problem in other case studies.

Although there is room for refinement in the application of the power framework, the research has shown that a critical inclusion of power in ACF gives greater explanatory capacity to the four causal mechanisms it provides for policy change, confirming the research hypothesis. Major policy change happens as a series of events, and while it is useful to categorize this change in the four paths, the dynamic nature of the policy process and variability of the social sciences means that taking a more critical look at the causal processes can give a better understanding as to why change happens, and why sometimes change happens contrary to what might have been expected. Power, as it was conceptualized here, provided a structured way in which to do that, to better understand the interactions of coalition actors, how they position themselves within a subsystem, and how to understand the dominance of one coalition and policy change.

The idea of including power in ACF in a more critical way is not a new one. Weible, Sabatier, and Jenkins-Smith (Weible et al. 2008, 2009, 2011) have all mentioned this as a critique of the framework, along with the problems related to policy change, as well as other authors who have already begun research in this direction (Nohrstedt, 2011; Albright, 2011, Ingold, 2011). The refinement of ACF, especially as it relates to policy change, power, resources, and strategies will rely upon researchers continually borrowing and testing each other's theories.

6.6 Recommendations for future research

For future research and the refinement of this power framework, it might be interesting to examine power and its effect on policy change in same case study area. Bay management policy changed from balanced environmental and economic concerns to being more economically concerned, and resulted in extensive environmental damage that Pro-Bay actors feared would occur. Despite the failures of this project, PortMiami was only one of several ports in Florida that was being looked at for expansion. At least three other ports in the state are being earmarked for large-scale dredging projects and have similar basic attributes as this case study, including environmental fragility and constitutional structures. Further research could examine if coalitions working against these other dredge projects—which includes some Pro-Bay actors—acquired any policy learning from the Deep Dredge case, and if they utilize these resources, or go about accessing other resources, in order to execute more effective strategies in these other cases.

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Appendix

Appendix A.1 Interview Kipnis

Interviewee: Captain Dan Kipnis
Date: 24 March 2014
Interview Length: 36:31
Interview File Name: Interview Kipnis
Type of Interview: Phone call

Coalition: Pro-Bay Conservation

Coalition Beliefs

1. What do you believe the role of Biscayne Bay in South Florida is? (i.e. what should be/is/is the most useful/best function of the Bay)

"Biscayne Bay is the crown jewel of South Florida, it makes Miami very special; there is no other city with a tropical, estuine bay sitting right in the middle of two and a half million people... We have 2 national parks, the Bay is a national park and then you have Everglades National Park. This is right in the middle of Miami-Dade COunty, this is amazing. The bay should be used for its natural draw, it produces more money economically for mimi dade county than the port ever would, the port has never made a penny, we spend 7-10 million dollars a year, the county does, coverig their short falls, they cant raise enough revenue to cover their yearly payments and bonds, the bonds they used to build the port with. They have never made any money, shipper make money, but not the port.

2. What were your main goals regarding the Deep Dredge Project?

try to get as little damage as possible done; it was impossibe, it was going to happen, it was impossible, we were fighting the perfect storm, going up against that giant wave; impossible to win it; all we can do is try to make the project the best that we can, try to make the project as least damaging a we could

Resources
3. What resources were available to you/your organization during the Deep Dredge project?

just himself, and own money/time he was willing to put in; used his own plane to do some research/monitoring, and rented boats to do onsite research/monitoring

      a. How many members does your organization have?

1, himself

      b. How many personnel? How many personnel were dedicated to the project and for what length of time?

1, himself, throughout

      c. What is the operating budget of the organization?

0- but did donate several thousands of dollars of his own money

      d. Is your organization able to raise funds? Did it raise funds for this project? How? How much funding?

tried to raise money from other local fishermen, boat captains, businesses along the bay, etc, could not get any; tried to get "celebrity" endorsement by local billion of car dealership chain, Braham, but he would not help

      e. Did you produce any knowledge/information for this project?

did water samples himself; created YouTube video explaining problems and non-compliance

Network Coordination
4. Did you interact/coordinate with any other organizations in regard to the project? Who? How?

Was plaintiff in lawsuit with BBWK, Tropical Audubon Society, with lawyer James Porter; tried to reach out to other organizations to get funding, but did not get any; was interviewed by Michael Miller of Miami New Times several times

Strategies
5. What strategies did you/your organization pursue to influence policy? (i.e. lobbying, suing, information campaigns, press releases

suing the CoE, and the settling with them to at least get some consessions, i.e. some tighter environmental restrictions in the FDEP permit; created 3 YouTube video, with 500, 86, 2,260 views and says these are all by Pro-Bay people anyway; participated in YouTube video; tried to reach out personally for funding from local business owners to no avail, and other wealthy locals to no avail

6. What do you think your most successful strategy was?

most successful thing was getting the permit from FDEP re-written, because the way it was before was so much worse "had holes in that big enough to drive the dredge through it"

7. Are there any strategies you would have liked to employ that you didn't? Are there any resources you would have liked to have?

this was the inevitable outcome of it because odds were stacked so heavily against them; having public support, having local endorsements, more funding/organizations that could make coalition stronger

Interview Notes
Miami New Times is the only outlet that supported this coalition; Miami Herald and Miami Today stayed "neutral" giving "balanced" reports which is in effect supporting Port, said the Herald ate up the lines from the Port about creating jobs
Miami New Times Readership: 70,000 according to themselves: http://www.miaminewtimes.com/about
Miami Herald Readership: 534,195 daily; 818,780 on Sunday, according to themselves (The McClatchly Company)-
http://www.mcclatchy.com/2006/06/09/359/the-miami-herald.html
410,000 at its lowest in spring 2014 and 500,000 at its highest in spring/autumn 2011 according to Statista Statistics Portal
http://www.statista.com/statistics/229342/readers-of-the-miami-herald-mi-daily-edition-per-issue/
Miami Today Readership: 75,000 according to themselves
http://www.miamitodaynews.com/advertise/media/demographics/
2006 dredging had to be continually stopped because of so much sedimentation and turbidity, said that they never finished the job; this time they had permit changed from last time to say that measuring turbidity instead of 300 yds from site at 750 yards (because since it is "Outstanding Florida Water" -- a water designated worthy of special protection because of its natural attributes. This special designation is applied to certain waters, and is intended to protect existing good water quality. http://www.dep.state.fl.us/water/wqssp/ofw.htm-- they can only have so much sediment, so they changed the measuring distance) and plus the fact that no where has a low turbidity anymore to have a base measurement, they have gotten away with being able to have much more sedimentation;

isnt sure if they actually believe they can do this environmentally this time (reference 2006), or if they are just syaing that;

dan, tropical audubon, bbwk who sued to stop this in 2011 and Jim Porter working pro bono, self funded; no one came up with money, no one wanted to give money, i tried to get money from all my fishermen friends, captains, to businesses on the bay, no one wanted to do it; then you have COE who lead theproject, and newly elected Scott, im taking away all barriers to doing business in the state; florida forever which is the land buying program to protect lands, he cut from 300 to 200 million a year, we just passed amendment 1; which means floridians voted to take 1/3 of excise tax to protect lands, which is about 10 billion over 10 years; the legisltarure under governnors leadership, just killed all of that, took all the money and used it for general funds and all this kind of stuff; 75 percent of people passed ammendment 1, which means they want this money to be used for protection; so i am up against people like that, the CoE, Miami dade county, and the port is actually like not even connected to the county; in reality, the port and airport are like their own 2 governments; governnor siad doing dredge will provide 30000 permanent jobs, and director of the port said same thing, fl east coast railroad said we are going to finish railroad into the port and take the containers out by rail, and they are taking them out to just behind the airport, and unlaoding them there, then they get put on trucks and trains to go elsewhere because they don't have the room in the port right now, so what happens when larger ships come in, don't have room for it, but "the powers that be are so strong"; when we went in for mediation, judge said before we go to court with this, i want you guys to sit down in a room together and try to come up with a settlement; met 3 times, we had problems with the permit that the FDEP, which was gutted by the governor, he fired everyone who had been there for 25 years, all the people who cared, the scientists, fired half the staff , because he wants the FDEP to be business-friendly

4 of them, and 11 attorneys from Miami-Dade County, CoE, Port and other reps from CoE and DEP, so about 25 people; went thorugh the original permit that FDEP granted to CoE, took apart line by line, many hours of negotiations, "we were not happy this was going forward, but we got the best out of it we could get, and we radically changed the permit, even though we couldn't get 750 m zone changed, but got lots of other things changed that we thought would give us a shot of doing this environmentally a little more correctly, so we signed off on that and lawsuit was removed; every single issue we have had, they have done, every single issue that we said there were going to to, they did, like leaking hopper barges and spilled materials, dredging areas that are not supposd to dredge, too mcuh turbidity, not removing corals, not doing assessments they were supposed to do; and this went on for months, their non compliance, non monitoring, non assessment; but we were doing it, we were diving and seeing and that is why you see Mike MIller of MImia New Times with so many articles; we tried to stir up, but miami herald backed project in a major way, believed what the corps told them, that thye wouldn't hur the environment, we have changed what we do and they way we do it; when the CoE leaves the damage has to fix damage because are custodians and by law have to fix it; "we are overpowered"

the CoE are saying the dredging "may" have caused sedimentation, is a natural phenomenon, "the scientists are like what?", the herald believes the corp

the fdep came after the project and dove and saw that the reef was covered up, after the dredge happened

BBWK had no money, tropical audubon got 5 or 10 thousand from members to have some studies done and that was it, the vp of tropical Audbon, Dennis Olle is an attonrey and gave some of his legal staff, and gave his offices to use, people donated maybe hundreds of thousands of dollars in kind donation, but no actual cash

dan put a couple of thousand, and then another 3, using his sea plane to monitor, and rented boats to take people out to do water sampling

most successful thing was getting the permit from FDEP re-written, because the way it was before was so much worse "had holes in that big enough to drive the dredge through it"

the CoE essentially wrote the project, so they couldn't stop the project in any way shape or form, they could go through and do whateever they want to do, and the CoE says this is natioal security, making the port deep enough to handle these ships is a matter ofnational security, but the it's the army, the army copr of engineers, these people are the military, you don't say no to the military, they have a mission, to get this port down to 52 ft deep not matter how they get it done, the environemtn is not their mission, the mission is to get the job done

what would have been most helpful resources? it was impossibe, it was going to happen, it was impossible, we were fighting the perfect storm, going up against that giant wave; impossible to win it; all we can do is try to make the project the best that we can, try to make the project as least damaging a we could

me: there seems to be a disconnect betweent he tax payers and what actually happens, it seems that information that makes the good policy outcome obvious: there was a lot of press of this, and we tried to get support from the general public, we tried very hard, we got no support, but without the general public going, i went to norman braham, the billion car dealer, and i said norman , what about 10 thousand even, wouldn't even give us that; i said i don't need your money, i need you to get your face out there and tell people this is a bad deal for miami, he wouldn't even do that

why i agreed to settle, i have an attorney come over fomr oppostiiton, that under florida law that if you don't want to settle and we take this to court, and you lose, your will have to pay all of our legal fees-- this would have been millions of dollars, and you will be personally liable for it, and we will go after you

in the scheme of everything, we were very small, surprised we got as far as we did; the coalition was just BBWK, Tropical Audubon, and Dan, and attorney, that was it "no body else" (in his eyes that was the entire coalition)

Amendment 1 was passed by 75% of voters, which "redirects funds currently dedicated to existing trust funds into the Land Acquisition Trust Fund to acquire, restore, improve and manage conservation lands including wetlands and forests; fish and wildlife habitat; lands protecting water resources and drinking water sources, including the Everglades, and the water quality of rivers, lakes, and streams; beaches and shores; outdoor recreational lands; working farms and ranches; and historic or geologic sites, by dedicating 33 percent of net revenues from the existing excise tax on documents for 20 years. http://floridawaterlandlegacy.org/sections/page/about; http://www.flchamber.com/political/2014-election-center/vote-amendment-1/

scott laid off 58 DEP employees, repealed 300 environmental rules, and has drastically reduced the number of violations it finds; DEP is unable to back up claim that fewer violations because more people operating within rules, with specifics and that lower penalty revenue means the department has fewer financial resources to track whether industries are in fact adhering to environmental standards. http://www.huffingtonpost.com/2013/08/30/rick-scott-environmental_n_3844674.html

Appendix A.2 Interview Porter

Interviewee: James Porter
Date: 1 April 2015
Interview Length:
Interview File Name:
Type of Interview: skype call

Coalition: Pro-Bay Conservation

Coalition Beliefs

1.   What do you believe the role of Biscayne Bay in South Florida is? (i.e. what should be/is/is the most useful/best function of the Bay)

more balanced view than captain daan, room for both economic use and maintaing the bays function for its environment value; port of miami was there long before i came on scene and we have a big thriving port, most people, even people he works with aren't trying to shut down port but wanted to see a better balance between evnrinmental protection and stewardhip

2.   What were your main goals regarding the Deep Dredge Project?

getting more environemental protection built into the project; first alw suit, the adminstratvie challenge was about getting more envrironemntal protection written into lawsuit, second was trying to enforce the terms of the permit

Resources

3.   What resources were available to you/your organization during the Deep Dredge project?
     a.   How many members does your organization have?

just himself

     b.   How many personnel? How many personnel were dedicated to the project and for what length of time?

no

     c.   What is the operating budget of the organization?

pro-bono work

     d.   Is your organization able to raise funds? Did it raise funds for this project? How? How much funding?

     e.   Did you produce any knowledge/information for this project?

Network Coordination

4.   Did you interact/coordinate with any other organizations in regard to the project? Who? How?

BBWK, Tropical Audubon, Dan Kipnis

Strategies

5.   What strategies did you/your organization pursue to influence policy? (i.e. lobbying, suing, information campaigns, press releases

the clients were trying to raise money, not necessarily through their membership, but through other organizations and other individuals who might give donations; part of the client is doing is litigation, part of what they are doing is raising public awareness, and also workign with these regulatory agencies to educate them and keep them focused on the project, that is sort of the different prongs of the overall objective, more recently, with this second case, we have gotten some good press coverage and that is certainly part of a strategy

6.   What do you think your most successful strategy was?

we were somewhat successful in the first case, did improve terms of the permit somewhat, but not as much as we needed to do; second suit- how does the CoE get away with it, after applying for permit with the state and negotiating the terms with the state and going through all the litigation with us; the corps position is that state of florida cannot force permit because it is a federal agency, not subject to state law, so when violations come up, the corp will stiff arm the DEP and does not have to listen to state, that they have no power to enforce permit

7.   Are there any strategies you would have liked to employ that you didn't? Are there any resources you would have liked to have?

one of the factors that went into the settlement in the first case was a lack of resources, this is a very large complex project that would have required expert testimony, a lot of costs related to discovery, depositions and that sort of thing, and clients did not have money; when we brought first case, we didn't have the experts or scienttist speaking out on your behalf at that time, a lot

of people were caught un aware by the permit and the implications; bill that gave them less time; trying to raise money to hure experts, and that just ran clock out; raise money by talking to other organizations and individuals who could make contributions; when we brought first case challenging permit, we didn't have the experts or the scientists speaking out on our behalf at that time,

Interview Notes
2 pieces of litigation, first was administrative challenge to dreding permit, did work pro bono; sedonf is federal court case of violations of endangered species- not charging client directly , but if you win you get legal fees;
1- bbwk excutive director who is lawyer as well, so a hands on assistance in case,
2- 2 other lawyers also working from private practice; one is hoping to also get reimbrised with a win, one is doing this on completely pro bono basis; get legal fees if they win, hoping that they prevail in the case, and that he gets paid

at time of first case, helping law school at fiu develop public interest in environemtnal law clinis and it came to him through the clinic, public intersted environmetnal law clinic development with fiu, so case came thruogh clinic; is an environmental lawyer
DEP has not been proactive here, this is a project that the governor wanted, so i think DEP is just trying to tay out of the way

Appendix A.3 Interview Olle, Pappas

Interviewee: Dennis Olle, Gary Pappas of Carlton Fields Jorden Burt Law Offices
Date: 21 April 2015
Interview Length: 36 minutes
Interview File Name:
Type of Interview: phone call

Coalition: Pro-Bay Conservation

Coalition Beliefs

1. What do you believe the role of Biscayne Bay in South Florida is? (i.e. what should be/is/is the most useful/best function of the Bay)

The port is there and is going to be there, the key is to get the project done correctly, with the right type of environmental protections in place; although all of the economic stats they had for the project were made up, if you listened to the port you would think that everyone's job in Miami is connected to the Port

2. What were your main goals regarding the Deep Dredge Project?

to get the project done with enough and the right kind of portections in place

Resources

3. What resources were available to you/your organization during the Deep Dredge project?
    a. How many members does your organization have?

    b. How many personnel? How many personnel were dedicated to the project and for what length of time?

3 people from another small law firm who were doing it in the hopes of getting legal fees back;
from their law firm it was the two of them and Joh Kamp plus access to their paralegals and technology people, thye are a big firm with 300+ lawyers in different locations. their firm encourages them to do things like this because its good for business, so they could take the time
multiple plaintiffs;
jim porter was solo as the lead attorney,

    c. What is the operating budget of the organization?

thye were doing it all pro bono, but other law firm hoping to get reimbursed; jim porter hoping to get reimbursed if they win

    d. Is your organization able to raise funds? Did it raise funds for this project? How? How much funding?

    e. Did you produce any knowledge/information for this project?

one of the biggest challenges was the scientific and technological information involved; they could match some scientists and marine biologists, but the dredging company had experts in dredging which they couldn't match; even if they had had more time and more resources; so they did have some experts,but not enough, and it came down to the other lawyers being able to produce experts that ran circles around them in terms of the technology, plus as you go along in sucha project you learn things that you didn't know at the outset,
the dredging company had divers down there the whole time, all the days looking at sedimentation and monitoring, so they had data, and were able to back things up; this side basically had dan with his plane documenting plumes, and then divers go in a few days, but they didn't have the money to have someone in there for so long collecting data, and might not even have been allowed to because of the permit even if they did have the money

Network Coordination

4. Did you interact/coordinate with any other organizations in regard to the project? Who? How?

other lawyers, bbwk, dan kipnis, tropical audubon

Strategies

5. What strategies did you/your organization pursue to influence policy? (i.e. lobbying, suing, information campaigns, press releases

that initial settlement can barely be seen as a win, it was a win for the other side, because they got to go ahead and do project, it was also a provision that they couldn't sue them again if they settled; really they should have settled in the first place, but thye didn't have enoug knowledge or experience or expertise at that time; this second lawsuit is because they violated the species act, so they are going federal, whereas first lawsuit was state

6. What do you think your most successful strategy was?

maybe now, in second case, having learned more things as they went along, and being able to take them to court in federal case; in hinesight even some best practices failed; such a knowledge mismatch

7. Are there any strategies you would have liked to employ that you didn't? Are there any resources you would have liked to have?

if they ahd been able to start a year before, with a 500,000 for research and lobbying purposes in Tallahassee, them mayeb they would have been able to keep up; would have retained their own dredging experts, someone who knew somehting about dredging techniques and the types of vessels they were going to use; completely separate from the environmental issues where the economic issues; that what they port said about the economics that would beenfit from the construction; but these are made up, te eocnomics are not good, but they don't have the funds and the time to have an economic think tank come up with a study to dismiss these claims, they say that the dreding will not guarantee the ships coming here, especially when it is so much easier and cost effective for them to go elsewhere; you need someone like Norman Braman, that when he wants something, he has the money to just do it out of pocket

Interview Notes
3 another lawyer form another, paralegaland technology people, was abig firm like our doing
multiple plaintiffs; jim is solo, lead attorney, representing certain of the plaintiffs; our law firm has 300+ lawyers in different lcoaitons; gary and john kamp of the team here; and another smaller alw firm, the priciple of which was side

some of whom are reducing for reduced rate, and some are working for free
bbwk

we were oding it pro bono, because firm encourages that and good for usand the court, he is still doing it for fees and for the cause; goliath side- CoE, department of justice represents the corut; federally funded agencies, and we pay their lawyer, and also dade county is oligated under contract to reimburse the cor of engineers and its lawyers to rape and pillage the environemnt, DoJ are DC lawyers,
and regualrly represent the army corp, who know their client very wel and are experince
ou have the count and the feds,
the state should ahev been the plaitiff and enforceing the permit, one of the counts; under the citizen suti of the state act provision, we were trying to enforce the state permitting requirement for the stae, they were happy to
there is no incentive for the state to do anything ; they are happy to sit back;

coalition of environemtal gorup represented by various lawyers whoa re enforicng the ; that state refuses to enforce, against other governemnts,

expertis of dredging company was overwhleming; most importatn point in this, while we could articulate that we achieved a vicotry, it really was not
power swing at the haring came form the dredign company witnesses because they could talk circles, and while we can match a bilogist against, a a coarl scientist, the real outcome fo the case the real outcome fo the hearing was decdied by the dredgin company dredign experts

bbwk, and audubon, brought apermit challenge and there wasa large mediation that was done in these offices, the cor the country and the state were all on one side,and the rebel alliance

6 people on one side and about 25 on the other,

there was some legislatuve initiative ot move the case along, not sure even if we had more time if we had more time to ge the right people, we were outgunned,
candidly, we tried to come to a settlement, the terms are so scientific, highly technical and what we found out is that we learned more along the way than we knew at the beginning, but we didn't know enough ; we would have doen differently, becaue so much scientific and technical inforation that we did not know
sme best practices totally failed, we agreed to things that now with hinesight t

we got as much as we could at that time, more sophisticated plaintiffs about what to worry about for th enxt time, maybe in broward county

technical mismatch in second cas,e in hinesight , knwoing what we know now, we would aev retained our won dredigng experts, that the company was going to use, and would ahev influenced how we
it ended up beign about the tehcnology, marriage of those two, to have confdent witnesses, you learn

***the dredging company hired their own lawyers as well, because for them it is just important that they dredge, and they have been doing this a long time, and have lawyers and experts that can back up what they say; their interest was to have this project fo forward so they could make money;

the CoE has been in the business of dredging for 200 years; and they get paid and reimbursed by tax payer money no matter what; in the second hearing the judge at some point said somethignt o the effect of " so let me get this straight, someone in the department down the hall (in washington, the EPA) told you to do something, and you flat out didn't do it" and then the CoE

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lawyers being to say something, and he says "cut the gobbledegook and tell me straight", because someones boss's boss's boss said to someone elses boss in washignton to not do something; what it comes down to is where there isnt inforcement between these departments; these organizations that are there to protect the environment are not doing their job; and the punshiment isn't great enough for them to stop, and CoE, even if they get fined, get reimbursed anyway, because they are the govenremnt;

Appendix A.4 Interview Foord

Interviewee: Colin Foord
Date: 21 April 2015
Interview Length: 45 minutes
Interview File Name:
Type of Interview: Phone Call

Coalition: Pro-Bay Conservation

Coalition Beliefs

8.   What do you believe the role of Biscayne Bay in South Florida is? (i.e. what should be/is/is the most useful/best function of the Bay)

bay is nursery for unique and endangered corals, which could be very important in general sesne for coral restoration projects, this is a resilient coral that is actually growing 300 m off beach coast, they need to be protected for ecosystem and for research value

9.   What were your main goals regarding the Deep Dredge Project?

to get more proteciton put in permit for the coral reefs, for CoE to recognize that there were more staghorn hybrid corals than what their initial study said, for them to actually relocate them, relocate them properly, in good areas, which didn't happen, their sites were covered in silt, and they didn't remove enough, coral morphologic had to do a lot of it

Resources

10. What resources were available to you/your organization during the Deep Dredge project?
       a.   How many members does your organization have?

       b.   How many personnel? How many personnel were dedicated to the project and for what length of time?

him, and a support diver, and then interns from miami whom they taught to help transplant coral

       c.   What is the operating budget of the organization?

is not a non- for-profit organization-- which is why it couldn't be part of suit he thinks-- but about 10,000 is needed to run lab each month, they work from grants

       d.   Is your organization able to raise funds? Did it raise funds for this project? How? How much funding?

they got a 100K grant from Knight FOundaton that allowed them to stop other work and focus solely on the coral collection and keeping corals alive in lab

       e.   Did you produce any knowledge/information for this project?

they ahd been working for several years already in the bay documenting the corals and researching them; he trained some UM students on corals, did a ted talk, contributed some knowledge for lawsuit, the first and second one, fact checked the video made by ducassi; they also did some monitoring, they were supposed to be able to removie some coral at some point, but their permit to remove it was no being issued, while dredging was on going,

Network Coordination

11. Did you interact/coordinate with any other organizations in regard to the project? Who? How?

with other coalition members, with nick for video,

Strategies

12. What strategies did you/your organization pursue to influence policy? (i.e. lobbying, suing, information campaigns, press releases

video, ted talk, trying to get information out, was a primacy resource for michael miller of new times, basically the going under and monitoring and taking video to show about the noncompliance that was going on, so they ahd something to take to higher court/regulatory bodies

13. What do you think your most successful strategy was?

14. Are there any strategies you would have liked to employ that you didn't? Are there any resources you would have liked to have?

Interview Notes

the second lawsuit was a $400,000 fee for the corals; a day for them costs $250,000 whether they are dredging or not, so the most important thing for them is to keep working, even if they get fined for noncompliance, it really pales in comparison to what they would lose if they had to delay work

Appendix A.5 Interview Mesa

Interviewee: Blanca Mesa
Date: 21 April 2015
Interview Length: 40 minutes
Interview File Name: Blanca Mesa
Type of Interview: Phone Call

Coalition: Pro-Bay Conservation

Coalition Beliefs

15.   What do you believe the role of Biscayne Bay in South Florida is? (i.e. what should be/is/is the most useful/best function of the Bay)

the natural resources need to be protected, in their natural state; the development, especially with permit as is, would damage biscaybe bay and virginia key

16.   What were your main goals regarding the Deep Dredge Project?

first to stop the project, get the permit stopped, but then to have the permit at least give more protection, to not have dredge dumping done on virginia key

Resources

17.   What resources were available to you/your organization during the Deep Dredge project?
    a.   How many members does your organization have?

she has one individual, as a member/volunteer of sierra club

    b.   How many personnel? How many personnel were dedicated to the project and for what length of time?

she alone did a lot of the leg work, research, got together the main coalition memebers, wrote the initial 11 pge letter, as a voluntee

    c.   What is the operating budget of the organization?

sierra club donated about 10,000 dollars to get the coalition started with lawsuit

    d.   Is your organization able to raise funds? Did it raise funds for this project? How? How much funding?

did raise funds through members, donated about 10,000

    e.   Did you produce any knowledge/information for this project?

she did a lot of reasearch about history of use, went to biscayne bay acquatic preserve office and got information, called the state environmental agency and got information from them, and compiled it in letter, also gave all her research to the ny times

Network Coordination

18.   Did you interact/coordinate with any other organizations in regard to the project? Who? How?

she got major actors involved, and also reached out to other organizations to sign letter

Strategies

19.   What strategies did you/your organization pursue to influence policy? (i.e. lobbying, suing, information campaigns, press releases

letter, tried to get media coverage by herald, couldn't get it, got ny times to run story, nick ducassi, son made the video, but the it was too late

20.   What do you think your most successful strategy was?

21.   Are there any strategies you would have liked to employ that you didn't? Are there any resources you would have liked to have?

if they hadn't folded to the pressure of the initial law suit if they ahd gone to court she believes they could have gotten the permit stopped or better privision put in

Interview Notes

long term; protecting the virginia key in natural state, bill sedosky nationa park ; dredging could potentially affect , and dumping the dredge material on virginia key, was memebr of sierra club, thye had been big player in protecting virignia key,

she contacted tropical audubon to forma caolition laura reynolds, hadnt been issues state permit yet, and then reached out to bbwk alexis segal, then coalition started to come together, alexis had not gotten in any campaign yet, tropical audubon laura reynolds had some experiece in took i upon self to research pblic record and where they were on permit, read through all and put together 11 page document- letter; werent represented by council at that point, and went back to some other lady; sierra club donated money- $10,000 from state and local; reserached and alos fdoun dan kipnis, she was just a member of the Sierra Club, she was active back in the 60's, long term environmental activist, long term project on virginina key, trying to protect its natureal resources, most of island is in antural state, and third is part of wildlife refuge,and that faces port; she fodun out at some point that port construciton turning basin would be next to virignia keya ang might affect the island and they might dump dredge material on virginia key which would alter the landscape; i was memebr of club and they ahd been active and a leader in protecting virginia key in fighitng to keep island in its natural state and against other plans to develop it; in the cours e of this she did some research and contacted tropical audubin to form a colaition, laura reynolds, first said, can't do anythign because permit ahs been issued, and she said i don't think so and if they ahvent then we should do something about it, CoE was still applying for it, then reached out to new group BBWK, which had some fund raising parties and a web presence, and blindly emailed the director, and a few weeks later alexis answered and they talked, and that is how the coaltiion started; at the pint alexis had never been a aprt of any sort of campaign, tropical audubon didn thave the experiecne of campaigning like sierra club did; she took it upon herself to research and assess the posisiton they ahd out there and where we were on the permitting, and she read through eveyrhting and put together the first letter of objection, that went thorugh all these thigns,; also went through Biscayne Bay Acquatic Preserve office wa s resource to look back at all kinds of proejcts having to do with dee dredge, they had previous people who cared about this; once persont hat we brought back to life was dan kipnis, and he became part of coalaiton, at that point were not represented by council, barbara lang had stopped a project earlier of homestead airforce base of becoming second major airport wich would have damaged the biscayne national park; then form talkiing peeople to peope, got council; james porter had never done this before, but said he was not afaird of the county and port; that is how that coalition got started; they were obviosuly not going to stop or change project on their own; we had some state people, phone call with state regulator at the DEP ; i am so glad you called, because this project is terrible for the envirionment, i was hoping someone would take notice, and what do you need; along the way some people helped, they ahev some power and some intel that we used; after porter filed lawsuite we raised some money , so the sierra club donated money, but tey did not become a plaintiff; needed some money to start up; about 10,000$; from state and local groups together
they other side pretty much has unlimited resources, unlimited power as well, this is what happens, we have this lawsuit that before we can even get depositions, they were pressuring the people to settle; lopex cantera- introduced the bil retroactively, because we already had a date for a hearing, so he changed state law, that made adminsitrative decision moot, the advisory having no power, it was specifically intended to make their lawsuit moot; and when i said to him that that was unconstitutional, he said, well take me to court; so he knew it was unconstitutional, but he knew we didn't have the resources to appeal that; so because of that, the plaintiffs folded, didn't do depositions; she on her own , was just a member, just a volunteer, did a lot fo the legwork on her own, got the coalition together
so then we did that vidoe, but by the time the video came out, the lawsuit had already been settled; because i know if we had gone to depositions, with their bogus economic jsutificaiton, poor environental protection, they would have had to lie if we went to court, they knew that they were in a dicey situaiton, because;
now is the time that they should have the commitment from the post panamax countries, for business, btu they don't yet, no one, these companies make deciions years ahead of time where they are going to be ,a dn they ahevnt siad thye would be iin miami; we went to editorial board of miami herald, and showed them evidence, and they said, well th eport said something different, and we said that's not true,a dn they said, well we support our port; the editorial board division at miami herald would ; mimi whitefield would just write about the economics; i begged curtis to write a story about the port, he was the environmental guy, but he wouldn't; so then she went to ny times, they wrote a story, and broke something miami should have, blew away miami herald, and they were devastated; editor called her intot heoffice and apolgized that they dint run the story she wanted; no one wanted to do the story; because it was an online story it got a lot fo media attention, lots of tweeting; this was the first occasion that a news outlet covered the environemtnal aspect; they allowed the editorial section , th eop-ed pieces and the letter to the editors to be used by the port, she says it is also dependant on who is president, ebcause he could stop all of this; lizette alvarez of ny times: September 3, 2011- Sunday story
http://www.nytimes.com/2011/09/04/us/04coral.html?_r=0

Appendix B.1 Willingness: Pro-Port

	Regalado	Gimenez	Johnson	Sosa	Lynda Bell	Rick Scott	FL Legislature	Obama	Corps	GLDD	FL DEP	TetraTech
Strategies												
Original permit									1		1	
FL legislative bills			1				1		1			
2011 lawsuit			1						1	1		1
2014 lawsuit			1						1			
non-compliance									1			
information dissemination/publishing			1						1			
lobbying			1									
Obama- We Can't Wait								1				
reduction of DEP						1						
funding allocation		1				1			1			
deference	1	1	1	1	1	3	1	1				
contingent inducement						2						
Resources												
human leverage	1	1	1	1	1	1	1	1	1		1	
mobilizable troops			1						1	1	1	1
skills												
Sci./tech info.						1			1	1	1	1
beliefs		1	1			1	1		1			
public opinion												
apparatus												
art	1	1	1			1			1	1	1	
physical space												
time			1				1		1			
funds		1	1			1			1	1	1	
Total	**3**	**6**	**12**	**2**	**2**	**12**	**5**	**5**	**13**	**5**	**5**	**3**

Appendix B.2 Willingness: Pro-Bay

	MWK-Rachel Silverstein	Tropical Audubon-Laura Reynolds	Sierra Club-Blanca Mesa	James Porter, Carlton Fields	Colin Foord	Dan Kipnis	Michael Miller	Nick Ducassi
Strategies								
12 pg letter	1	1	1			1		
change.org								
2011 lawsuit	1	1		1		1		
2014 lawsuit	1	1		1		1		
data collection	1		1		1	1		
information dissemination/publishing	1				1	1	1	1
getting NOAA involved	1							
litigation	1	1				1		
Resources								
human leverage								
mobilizable troops	1	1	1	1	1	1	1	1
skills	1		1	1	1		1	1
scientific/technical information	1		1		1	1		
beliefs	1	1	1	1	1	1	1	1
public opinion								
apparatus						1		
art	1		1		1	1	1	1
physical space				1				
time	1	1				1		
funds			1			1		
Total	**13**	**7**	**8**	**6**	**7**	**13**	**5**	**5**

Appendix C.1 Article Analysis: *Miami Herald*

Author	Curtis Morgan
Date	Sep-11
Title	Port Dredging: Big dig could make big stink
Link	

Negative of Port	Positive of Port
Kill	Job
Destroy	Boost
Damage	Economy
Improper	Infrastructure
Risk	Protection
Impact	Good
Covered	responsible
Buried	Complete
Turbidity	Competit
Sludge	Develop
Detritus	Supply
Sediment	Quality
Silt	Only
Broke	Major
Evasion	Construct
Disregard	Work
Noncompliance	Success
Smother	Benefit
Degrade	First
Trouble	create
Total: 0	**Total:** 0

not about dredging effects

Author	Curtis Morgan
Date	Sep-11
Title	PORT OF MIAMI: Dredge deepens marine concern
Link	

Negative of Port	Positive of Port
Kill	Job
Destroy	Boost
Damage	Economy
Improper	Infrastructure
Risk	Protection
Impact	Good
Covered	responsible
Buried	Complete
Turbidity	Competit
Sludge	Develop
Detritus	Supply
Sediment	Quality
Silt	Only
Broke	Major
Evasion	Construct
Disregard	Work
Noncompliance	Success
Smother	Benefit
Degrade	First
Trouble	create
Total: 0	**Total:** 0

balanced

Author	Jim Wyss, Jacqueline Charles, Mimi Whitefield		Author	Curtis Morgan	
Date	Nov-11		Date	Jan-12	
Title	Latin American ports ready for Panama Canal expansion		Title	Study: Sewage pipe on the verge	
Link	http://www.miamiherald.com/incoming/article1944813.html		Link		

Negative of Port	Positive of Port		Negative of Port	Positive of Port	
Kill	Job		Kill	Job	
Destroy	Boost		Destroy	Boost	
Damage	Economy		Damage	Economy	
Improper	Infrastructure		Improper	Infrastructure	
Risk	Protection		Risk	Protection	
Impact	Good		Impact	Good	
Covered	responsible		Covered	responsible	
Buried	Complete		Buried	Complete	
Turbidity	Competit		Turbidity	Competit	
Sludge	Develop		Sludge	Develop	
Detritus	Supply		Detritus	Supply	
Sediment	Quality		Sediment	Quality	
Silt	Only		Silt	Only	
Broke	Major		Broke	Major	
Evasion	Construct		Evasion	Construct	
Disregard	Work		Disregard	Work	
Noncompliance	Success		Noncompliance	Success	
Smother	Benefit		Smother	Benefit	
Degrade	First		Degrade	First	
Trouble	create		Trouble	create	
Total:		0	**Total:**		0
			Total:		0	**Total:**		0

just mentioned in context that PortMiami hopes to take business back from Bahamas

not about dredge effects

Author	Curtis Morgan
Date	Jan-12
Title	Delay for Miami's Deep Dredge
Link	

Negative of Port	Positive of Port
Kill	Job
Destroy	Boost
Damage	Economy
Improper	Infrastructure
Risk	Protection
Impact	Good
Covered	responsible
Buried	Complete
Turbidity	Competit
Sludge	Develop
Detritus	Supply
Sediment	Quality
Silt	Only
Broke	Major
Evasion	Construct
Disregard	Work
Noncompliance	Success
Smother	Benefit
Degrade	First
Trouble	create
Total: 0	**Total:** 0

balanced

Author	Curtis Morgan and Kathleen McGrory
Date	Feb-12
Title	Legislature 2012: Port project getting state help
Link	

Negative of Port	Positive of Port
Kill	Job
Destroy	Boost
Damage	Economy
Improper	Infrastructure
Risk	Protection
Impact	Good
Covered	responsible
Buried	Complete
Turbidity	Competit
Sludge	Develop
Detritus	Supply
Sediment	Quality
Silt	Only
Broke	Major
Evasion	Construct
Disregard	Work
Noncompliance	Success
Smother	Benefit
Degrade	First
Trouble	create
Total: 0	**Total:** 0

balanced

Author	Staff reports		
Date	Mar-12		
Title	Waterlogged: OUR OPINION: Attempt to fast-track port dredging unfair		
Link			

Negative of Port		Positive of Port	
Kill		Job	
Destroy		Boost	
Damage		Economy	
Improper		Infrastructure	
Risk		Protection	
Impact		Good	
Covered		responsible	
Buried		Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	0	**Total:**	0

Pro-Bay

Author	Curtis Morgan and Kathleen McGrory		
Date	Mar-12		
Title	Move to hasten dredge may trigger fight		
Link			

Negative of Port		Positive of Port	
Kill		Job	
Destroy		Boost	
Damage		Economy	
Improper		Infrastructure	
Risk		Protection	
Impact		Good	
Covered		responsible	
Buried		Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	0	**Total:**	0

balanced

Author	Curtis Morgan		Author	Jordan Melnick	
Date	Mar-12		Date	Mar-12	
Title	Port dredging gets go-ahead		Title	Anti-dredge activists make 'Battle for Biscayne Bay' film	
				http://www.miamiherald.com/news/local/community/miami-	
Link			Link	dade/midtown/article1939616.html	
Negative of Port	**Positive of Port**		**Negative of Port**	**Positive of Port**	
Kill	Job		Kill	Job	
Destroy	Boost		Destroy	Boost	
Damage	Economy		Damage	Economy	
Improper	Infrastructure		Improper	Infrastructure	
Risk	Protection		Risk	Protection	
Impact	Good		Impact	Good	
Covered	responsible		Covered	responsible	
Buried	Complete		Buried	Complete	
Turbidity	Competit		Turbidity	Competit	
Sludge	Develop		Sludge	Develop	
Detritus	Supply		Detritus	Supply	
Sediment	Quality		Sediment	Quality	
Silt	Only		Silt	Only	
Broke	Major		Broke	Major	
Evasion	Construct		Evasion	Construct	
Disregard	Work		Disregard	Work	
Noncompliance	Success		Noncompliance	Success	
Smother	Benefit		Smother	Benefit	
Degrade	First		Degrade	First	
Trouble	create		Trouble	create	
Total:	0	**Total:**	0	**Total:**	0	**Total:**	0

balanced

Op-ed submitted by BeachedMiami.com writer, not Herald staff

Author	Mimi Whitefield		
Date	Nov-12		
Title	Competition heats up as U.S. ports prepare for Panama Canal expansion		
	Read more here:		
Link	http://www.miamiherald.com/incoming/article1944705.html#storylink=cpy		

Negative of Port	Positive of Port	
Kill	Job	5
Destroy	Boost	2
Damage	Economy	
Improper	Infrastructure	1
Risk	Protection	
Impact	Good	2
Covered	responsible	
Buried	Complete	7
Turbidity	Competit	7
Sludge	Develop	1
Detritus	Supply	
Sediment	Quality	
Silt	Only	1
Broke	Major	6
Evasion	Construct	
Disregard	Work	4
Noncompliance	Success	
Smother	Benefit	3
Degrade	First	
Trouble	create	
Total: 0	**Total:**	39

only talks about economic side and that Miami is going to win the race to dredge its port and be prepared for larger shipments, that any project of this magnitude will have lawsuits; dismisses lawsuit agains PortMiami in one line

Author	Mimi Whitefield		
Date	Nov-12		
	Panama Canal's $5 billion makeover could be boon for South		
Title	Florida		
Link	http://www.miamiherald.com/incoming/article1944682.htm		

Negative of Port	Positive of Port	
Kill	Job	
Destroy	Boost	1
Damage	Economy	
Improper	Infrastructure	
Risk	Protection	
Impact	Good	
Covered	responsible	
Buried	Complete	2
Turbidity	Competit	
Sludge	Develop	
Detritus	Supply	
Sediment	Quality	
Silt	Only	
Broke	Major	
Evasion	Construct	
Disregard	Work	
Noncompliance	Success	
Smother	Benefit	1
Degrade	First	1
Trouble	create	
Total: 0	**Total:**	5

mentioned in context that Miami is in position to benefit because it is ahead of other ports

Author	Patricia Mazzei		
Date	Mar-13		
Title	In Florida, Obama pitches new ways to attract private investment for public-works projects		
Link	http://www.miamiherald.com/incoming/article1948676.html		

Negative of Port		Positive of Port	
Kill		Job	4
Destroy		Boost	1
Damage		Economy	4
Improper		Infrastructure	1
Risk		Protection	
Impact		Good	
Covered		responsible	
Buried		Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	2
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	1
Total:	0	**Total:**	13

Author	Patricia Mazzei		
Date	Mar-13		
Title	Fla. Gov. Scott wants state reimbursed for port dredging project		
Link	http://www.miamiherald.com/incoming/article1948660.html		

Negative of Port		Positive of Port	
Kill		Job	3
Destroy		Boost	1
Damage		Economy	
Improper		Infrastructure	
Risk		Protection	
Impact		Good	
Covered		responsible	1
Buried		Complete	1
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	2
Disregard		Work	2
Noncompliance		Success	
Smother		Benefit	
Degrade		First	1
Trouble		create	2
Total:	0	**Total:**	13

that Scott wants Obama to reimburse Florida with federal funds

published twice with two different titles: Scott to Obama: Reimburse Florida for PortMiami dredging project

Author	Alfonso Chardy	
Date	Jun-13	
Title	Gov. Scott checks out PortMiami dredging	
Link	http://www.miamiherald.com/news/local/community/miami-dade/article1958307.html	

Negative of Port	Positive of Port	
Kill	Job	1
Destroy	Boost	
Damage	Economy	1
Improper	Infrastructure	1
Risk	Protection	
Impact	Good	
Covered	responsible	
Buried	Complete	1
Turbidity	Competit	1
Sludge	Develop	
Detritus	Supply	
Sediment	Quality	
Silt	Only	1
Broke	Major	
Evasion	Construct	
Disregard	Work	3
Noncompliance	Success	
Smother	Benefit	3
Degrade	First	4
Trouble	create	
Total: 0	**Total:**	16

Author	Mimi Whitefield	
Date	Oct-13	
Title	Arrival of giant cranes ushers in new era at PortMiami	
Link	http://www.miamiherald.com/news/business/international-business/article1955990.html	

Negative of Port	Positive of Port	
Kill	Job	
Destroy	Boost	
Damage	Economy	
Improper	Infrastructure	
Risk	Protection	
Impact	Good	
Covered	responsible	
Buried	Complete	1
Turbidity	Competit	1
Sludge	Develop	
Detritus	Supply	
Sediment	Quality	
Silt	Only	1
Broke	Major	
Evasion	Construct	
Disregard	Work	
Noncompliance	Success	
Smother	Benefit	
Degrade	First	1
Trouble	create	
Total: 0	**Total:**	4

mentioned in context of improvements to port so it can handle bigger ships and be competitive with Savannah

Author	Jenny Staletovich			
Date	<mark>Jul-14</mark>			
Title	Bay activists warn Corps to clean up dredge			
Link	http://www.miamiherald.com/news/local/community/miami-dade/article1975948.html			

Negative of Port		Positive of Port	
Kill	2	Job	
Destroy		Boost	
Damage	3	Economy	
Improper		Infrastructure	
Risk	1	Protection	1
Impact	1	Good	
Covered		responsible	
Buried		Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment	6	Quality	1
Silt		Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance	1	Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	<mark>14</mark>	**Total:**	2

Author	Mimi Whitefield			
Date	Sep-14			
Title	A floating factory deepens shipping lanes			
Link	http://www.miamiherald.com/news/business/biz-monday/article2168647.html			

Negative of Port		Positive of Port	
Kill	1	Job	
Destroy		Boost	
Damage		Economy	
Improper		Infrastructure	
Risk		Protection	2
Impact		Good	
Covered		Hope	
Buried		Complete	1
Turbidity		Competit	1
Sludge		Develop	
Detritus		Supply	
Sediment	1	Quality	
Silt		Only	3
Broke		Major	
Evasion		Construct	
Disregard		Work	3
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	2	**Total:**	<mark>10</mark>

Author	Jenny Staletovich		
Date	Sep-14		
Title	Miami port dredging damaging sea life, state inspectors say		
Link	http://www.miamiherald.com/news/local/community/miami-dade/article1980616.html		

Negative of Port		Positive of Port	
Kill		Job	
Destroy		Boost	
Damage	4	Economy	1
Improper		Infrastructure	1
Risk		Protection	
Impact		Good	
Covered		responsible	1
Buried	1	Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment	8	Quality	
Silt	2	Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother	1	Benefit	
Degrade		First	
Trouble		create	
Total:	**16**	**Total:**	3

article does talk about damage and concerns in more detail and that CoE could not be reached for comment, but does end with quote from Deputy Director of DEP that violations are being worked on, and that they are "simple, straightforward and quick to do"

Author	Mimi Whitefield		
Date	Sep-14		
Title	Miami is betting big that expansion of Panama Canal will bring in megaships		
Link	http://www.miamiherald.com/news/business/biz-monday/article2197067.html		

Negative of Port		Positive of Port	
Kill		Job	3
Destroy		Boost	1
Damage		Economy	3
Improper		Infrastructure	1
Risk		Protection	3
Impact		Good	
Covered		responsible	
Buried		Complete	12
Turbidity		Competit	5
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	1
Broke		Major	6
Evasion		Construct	5
Disregard		Work	7
Noncompliance		Success	1
Smother		Benefit	1
Degrade		First	
Trouble		create	
Total:	0	**Total:**	**49**

Author	Ken Roberts		Author	Jenny Staletovic	
Date	Sep-14		Date	<mark>Oct-14</mark>	
Title	Gateway City: Miami, everyone else, await Panama Canal expansion		Title	Environmentalists drop emergency bid to stop Government Cut dredge	
Link	http://www.miamiherald.com/news/business/biz-monday/article1989745.html		Link	http://www.miamiherald.com/news/local/community/miami-dade/article3333802.html	

Negative of Port			Positive of Port	
Kill		Job		
Destroy		Boost		1
Damage		Economy		
Improper		Infrastructure		1
Risk		Protection		
Impact		Good		1
Covered		responsible		
Buried		Complete		1
Turbidity		Competit		1
Sludge		Develop		
Detritus		Supply		
Sediment		Quality		
Silt		Only		2
Broke		Major		
Evasion		Construct		
Disregard		Work		
Noncompliance		Success		
Smother		Benefit		
Degrade		First		2
Trouble		create		
Total:	0	**Total:**		<mark>9</mark>

Negative of Port			Positive of Port	
Kill		Job		
Destroy		Boost		
Damage	1	Economy		
Improper		Infrastructure		
Risk		Protection		1
Impact		Good		
Covered		responsible		
Buried		Complete		
Turbidity		Competit		
Sludge		Develop		
Detritus		Supply		
Sediment	4	Quality		
Silt		Only		
Broke		Major		
Evasion		Construct		
Disregard		Work		
Noncompliance	1	Success		
Smother		Benefit		
Degrade		First		
Trouble		create		
Total:	<mark>6</mark>	**Total:**		1

biased in against pro-port, says that they have non complied with permit, citing costs

Author	Jenny Staletovich		
Date	Oct-14		
Title	Activists sue to stop Government Cut dredge and protect coral		
Link	http://www.miamiherald.com/news/local/community/miami-dade/article2443072.html		
Negative of Port		**Positive of Port**	
Kill		Job	
Destroy		Boost	
Damage	2	Economy	
Improper		Infrastructure	
Risk		Protection	1
Impact	2	Good	
Covered		responsible	
Buried		Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment	3	Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother	1	Benefit	
Degrade		First	
Trouble		create	
Total:	8	**Total:**	1

Author	Rachel Silverstein		
Date	Nov-14		
Title	Legal Settlement a win for Miami and our Bay		
Link	http://www.miamiherald.com/opinion/op-ed/article3853885.html		
Negative of Port		**Positive of Port**	
Kill		Job	
Destroy		Boost	
Damage		Economy	
Improper		Infrastructure	
Risk		Protection	
Impact		Good	
Covered		Hope	
Buried		Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	0	**Total:**	0

Op-ed by director of BBWK

Author	Jenny Staletovich	
Date	<mark>Feb-15</mark>	
Title	Biscayne Bay coral at risk from sloppy dredge work	
Link	http://www.miamiherald.com/news/local/community/miami-dade/article9356072.html	

Negative of Port	**Positive of Port**	
Kill	Job	
Destroy	Boost	
Damage	Economy	
Improper	Infrastructure	
Risk	Protection	
Impact	Good	
Covered	responsible	
Buried	Complete	
Turbidity	Competit	
Sludge	Develop	
Detritus	Supply	
Sediment	Quality	
Silt	Only	
Broke	Major	
Evasion	Construct	
Disregard	Work	
Noncompliance	Success	
Smother	Benefit	
Degrade	First	
Trouble	create	
Total: 0	**Total:**	0

<mark>talks about damage being done- Pro-Bay</mark>

Total	25
Pro-Bay	5
Pro-Dredge	11
submitted op-ed for Bay	2
non-relevant	2
balanced	5

Search: PortMiami, Port of Miami, Deep Dredge 2011-2014

took twenty common negatively loaded words from interviews and other videos made my Pro-Bay people; took twenty common positive words from CoE and PortMiami and Great Lakes Dredge company press release

From April 2012-July 2014 there were no articles that were balanced or Pro-Bay, when environmental reporter Curtis Morgan became and editor, until Jenny Staletovich was hired on as new environmental reporter

During that time, Port was only written about by Business/Economy staff writers, but even then, economic claims of port are 1-sided

Appendix C.2 Article Analysis: *Miami Today*

Author	Claudio Mendonca			Author	Risa Polansky		
Date	Feb-05			**Date**	Jun-10		
Title	Congress Has Plan To Deepen Channels At Port Of Miami			**Title**	Leaders Turn Desires To Port Dredging As Needed Tiein With Tunnels Impact		
Link	http://www.miamitodaynews.com/news/050203/story2.shtml			**Link**	http://www.miamitodaynews.com/news/100610/story3.shtml		
Negative of Port	**Positive of Port**			**Negative of Port**	**Positive of Port**		
Kill	Job		1	Kill	Job		
Destroy	Boost			Destroy	Boost		
Damage	Economy		1	Damage	Economy		
Improper	Infrastructure			Improper	Infrastructure		
Risk	Protection			Risk	Protection		
Impact	Good			Impact	Good		
Covered	responsible			Covered	responsible		
Buried	Complete			Buried	Complete		
Turbidity	Competit			Turbidity	Competit		1
Sludge	Develop			Sludge	Develop		
Detritus	Supply			Detritus	Supply		
Sediment	Quality			Sediment	Quality		
Silt	Only		1	Silt	Only		
Broke	Major			Broke	Major		
Evasion	Construct			Evasion	Construct		
Disregard	Work			Disregard	Work		
Noncompliance	Success			Noncompliance	Success		
Smother	Benefit			Smother	Benefit		
Degrade	First		1	Degrade	First		
Trouble	create			Trouble	create		
Total:	0	**Total:**	4	**Total:**	0	**Total:**	1

positive about port, but more about possibility of bill passing

says that dredging is crucial to maintain competitive edge

Total	5
Pro-Bay	
Pro-Dredge	3
submitted op-ed for Bay	
non-relevant	
balanced	2

Search: PortMiami, Port of Miami, Deep Dredge, 2011-2014

Author	Zachary S. Fagenson			Author	Zachary S. Fagenson		
Date	Dec-10			Date	Jan-11		
Title	Port Of Miami Is Looking To Govelect Rick Scotts Visit As It Seeks Money To Dredge Bay			Title	Florida Gov Rick Scott Digs Into Port Of Miami Dredging In Washington Martinez At Home		
Link	http://www.miamitodaynews.com/news/101209/story5.shtml			Link	http://www.miamitodaynews.com/news/110113/story4.shtml		
Negative of Port		**Positive of Port**		**Negative of Port**		**Positive of Port**	
Kill		Job	3	Kill		Job	4
Destroy		Boost		Destroy		Boost	
Damage		Economy	1	Damage		Economy	2
Improper		Infrastructure		Improper		Infrastructure	
Risk		Protection		Risk		Protection	
Impact		Good		Impact		Good	1
Covered		responsible		Covered		responsible	
Buried		Complete		Buried		Complete	
Turbidity		Competit		Turbidity		Competit	
Sludge		Develop		Sludge		Develop	
Detritus		Supply		Detritus		Supply	
Sediment		Quality		Sediment		Quality	
Silt		Only	2	Silt		Only	
Broke		Major		Broke		Major	
Evasion		Construct		Evasion		Construct	
Disregard		Work		Disregard		Work	
Noncompliance		Success		Noncompliance		Success	
Smother		Benefit		Smother		Benefit	
Degrade		First		Degrade		First	
Trouble		create	2	Trouble		create	3
Total:	0	**Total:**	8	**Total:**	0	**Total:**	10

Author	Yudislaidy Fernandez		**Author**	Scott Blake	
Date	Feb-11		**Date**	Nov-11	
Title	In Paradox Dredge Port Of Miami Or Not We Win		**Title**	Port Of Miami Renews Panama Canal Authority Pact	
Link	http://www.miamitodaynews.com/news/110224/story2.shtml		**Link**	http://www.miamitodaynews.com/news/111103/story5.shtml	

Negative of Port	Positive of Port		Negative of Port	Positive of Port	
Kill	Job		Kill	Job	1
Destroy	Boost		Destroy	Boost	
Damage	Economy	1	Damage	Economy	2
Improper	Infrastructure	1	Improper	Infrastructure	
Risk	Protection		Risk	Protection	
Impact	Good		Impact	Good	
Covered	responsible		Covered	responsible	
Buried	Complete		Buried	Complete	1
Turbidity	Competit		Turbidity	Competit	1
Sludge	Develop		Sludge	Develop	
Detritus	Supply		Detritus	Supply	
Sediment	Quality		Sediment	Quality	
Silt	Only		Silt	Only	1
Broke	Major	1	Broke	Major	2
Evasion	Construct		Evasion	Construct	1
Disregard	Work		Disregard	Work	2
Noncompliance	Success		Noncompliance	Success	
Smother	Benefit	1	Smother	Benefit	
Degrade	First		Degrade	First	
Trouble	create	1	Trouble	create	1
Total: 0	**Total:**	5	**Total:** 0	**Total:**	12

Neutral article about how whether Miami expands port, bigger Panama Canal means more ships in general= every port is a winner

about Bill Johnson defending project against attaks from environmentalists, does not mention their side

Author	Scott Blake			Author	Scott Blake		
Date	Dec-11			**Date**	May-13		
Title	Environmentalists Petition Florida To Bar Port Of Miami Dredging			**Title**	Higher Costs Slow Port Miami Dredging		
Link	http://www.miamitodaynews.com/news/111131/story4.shtml			**Link**	http://www.miamitodaynews.com/news/130523/story2.shtml		
Negative of Port		**Positive of Port**		**Negative of Port**		**Positive of Port**	
Kill		Job		Kill		Job	
Destroy		Boost		Destroy		Boost	1
Damage	1	Economy	3	Damage		Economy	
Improper		Infrastructure		Improper		Infrastructure	1
Risk		Protection	2	Risk		Protection	
Impact	1	Good		Impact		Good	
Covered		responsible		Covered		responsible	
Buried		Complete	1	Buried		Complete	1
Turbidity		Competit		Turbidity		Competit	
Sludge		Develop		Sludge		Develop	
Detritus		Supply		Detritus		Supply	
Sediment		Quality		Sediment		Quality	
Silt		Only		Silt		Only	2
Broke		Major		Broke		Major	1
Evasion		Construct		Evasion		Construct	
Disregard		Work		Disregard		Work	
Noncompliance		Success		Noncompliance		Success	1
Smother		Benefit		Smother		Benefit	
Degrade		First		Degrade		First	
Trouble		create		Trouble		create	
Total:	2	**Total:**	6	**Total:**	0	**Total:**	7

balanced between 2 paragraphs per each coalition

about cost estimates and contract bids; has one line mentioning a lawsuit but that two sides came to an agreement

Appendix C.3 Article Analysis: *Miami New Times*

Author	Michael Miller
Date	Aug-11
Title	PORT OF MIAMI GROWTH: "DO YOU REALLY NEED TWO WARTS ON THE TIP OF A PENIS?"
Link	http://www.miaminewtimes.com/news/port-of-miami-growth-do-you-really-need-two-warts-on-the-tip-of-a-penis-6538881

Negative of Port		Positive of Port	
Kill		Job	
Destroy		Boost	
Damage		Economy	1
Improper		Infrastructure	
Risk		Protection	
Impact		Good	
Covered		responsible	
Buried		Complete	
Turbidity		Competit	3
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	3
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	3
Degrade		First	
Trouble	1	create	
Total:	1	**Total:**	10

Author	Michael Miller
Date	Sep-11
Title	PORT OF MIAMI EXPANSION WON'T SAVE THE CITY'S ECONOMY, EXPERTS SAY
Link	http://www.miaminewtimes.com/news/port-of-miami-expansion-wont-save-the-citys-economy-experts-say-6383515

Negative of Port		Positive of Port	
Kill		Job	
Destroy		Boost	1
Damage		Economy	
Improper		Infrastructure	
Risk		Protection	
Impact		Good	
Covered		responsible	
Buried		Complete	
Turbidity		Competit	2
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	1
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	0	**Total:**	4

Author	Michael Miller		Author	Michael Miller	
Date	Sep-11		**Date**	Nov-11	
Title	PORT OF MIAMI DREDGE PROJECT: ENVIRONMENTALISTS PLOT LAWSUIT		**Title**	ENVIRONMENTALISTS SUE TO STOP PORT OF MIAMI DEEP DREDGE PROJECT	
Link	http://www.miaminewtimes.com/news/port-of-miami-dredge-project-environmentalists-plot-lawsuit-6555713		**Link**	http://www.miaminewtimes.com/news/environmentalists-sue-to-stop-port-of-miami-deep-dredge-project-6561698	

Negative of Port		**Positive of Port**		**Negative of Port**		**Positive of Port**	
Kill		Job		Kill		Job	1
Destroy		Boost		Destroy		Boost	
Damage	2	Economy		Damage	1	Economy	
Improper		Infrastructure		Improper	1	Infrastructure	
Risk		Protection		Risk		Protection	2
Impact		Good		Impact		Good	
Covered		responsible		Covered		responsible	
Buried		Complete		Buried		Complete	
Turbidity		Competit		Turbidity		Competit	1
Sludge		Develop		Sludge		Develop	
Detritus		Supply		Detritus		Supply	
Sediment		Quality		Sediment		Quality	
Silt		Only		Silt		Only	
Broke		Major		Broke		Major	
Evasion		Construct		Evasion		Construct	
Disregard		Work		Disregard		Work	
Noncompliance		Success		Noncompliance		Success	
Smother		Benefit		Smother		Benefit	
Degrade		First		Degrade		First	
Trouble		create		Trouble		create	1
Total:	2	**Total:**	0	**Total:**	2	**Total:**	5

only mentions some environmentalist concerns about damage that will be done

nuetral reporting on lawsuit, one line from each about their side of argument

Date	Jan-12		Date	Feb-12	
Title	DEEP DREDGE DELAYED: PORT OFFICIALS OPTIMISTIC, ENVIRONMENTALISTS READY TO GO THE DISTANCE		Title	MIAMI PORT DEEP DREDGE GETS GREEN LIGHT IN TALLAHASSEE, ENVIRONMENTALISTS OUTRAGED	
Link	http://www.miaminewtimes.com/news/deep-dredge-delayed-port-officials-optimistic-environmentalists-ready-to-go-the-distance-6523684		Link	http://www.miaminewtimes.com/news/miami-port-deep-dredge-gets-green-light-in-tallahassee-environmentalists-outraged-6540098	

Negative of Port		Positive of Port		Negative of Port		Positive of Port	
Kill		Job	1	Kill		Job	
Destroy		Boost		Destroy		Boost	
Damage	1	Economy		Damage	1	Economy	
Improper		Infrastructure		Improper		Infrastructure	
Risk	1	Protection		Risk	1	Protection	
Impact		Good		Impact		Good	
Covered		responsible		Covered		responsible	
Buried		Complete	3	Buried		Complete	
Turbidity		Competit		Turbidity		Competit	
Sludge		Develop		Sludge		Develop	
Detritus		Supply		Detritus		Supply	
Sediment		Quality		Sediment		Quality	
Silt		Only		Silt		Only	
Broke		Major		Broke		Major	
Evasion		Construct		Evasion		Construct	
Disregard		Work		Disregard		Work	
Noncompliance		Success		Noncompliance		Success	
Smother		Benefit		Smother		Benefit	
Degrade		First		Degrade		First	
Trouble		create	1	Trouble		create	
Total:	2	**Total:**	5	**Total:**	2	**Total:**	0

just nuetral report of suit, does not mention much of either side

that tallahassee unfairly green lighted project without giving plaintif's enough time to prepare

Author	Michael Miller
Date	Mar-12
Title	DEEP DREDGE OPPONENTS RELEASE 'BATTLE FOR BISCAYNE BAY' VIDEO AS SENATE PUSHES AHEAD
Link	http://www.miaminewtimes.com/news/deep-dredge-opponents-release-battle-for-biscayne-bay-video-as-senate-pushes-ahead-6561700

Negative of Port		Positive of Port	
Kill	1	Job	
Destroy		Boost	
Damage		Economy	
Improper		Infrastructure	
Risk		Protection	
Impact		Good	
Covered		Hope	
Buried		Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	**1**	**Total:**	0

link to video about the battle for bay

Author	Michael Miller
Date	Mar-12
Title	POOP PIPELINE COULD BURST ON FISHER ISLAND, BUT COUNTY WANTS DEEP DREDGE DONE FIRST
Link	http://www.miaminewtimes.com/news/poop-pipeline-could-burst-on-fisher-island-but-county-wants-deep-dredge-done-first-6556809

Negative of Port		Positive of Port	
Kill		Job	
Destroy		Boost	
Damage	1	Economy	
Improper		Infrastructure	
Risk	1	Protection	
Impact		Good	
Covered		responsible	
Buried		Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus		Supply	
Sediment	1	Quality	
Silt		Only	
Broke	1	Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	**4**	**Total:**	0

about possible damage to bay if is old pipeline ruptures during dredge

Author	Michael Miller		
Date	Apr-12		
Title	PORT OF MIAMI DEEP DREDGE CLEARS FINAL HURDLE AS ENVIRONMENTALISTS DROP LAWSUIT		
Link	http://www.miaminewtimes.com/news/port-of-miami-deep-dredge-clears-final-hurdle-as-environmentalists-drop-lawsuit-6519362		

Negative of Port		**Positive of Port**	
Kill		Job	
Destroy		Boost	
Damage	2	Economy	2
Improper		Infrastructure	
Risk		Protection	
Impact	1	Good	
Covered		responsible	
Buried		Complete	
Turbidity	1	Competit	
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	4	**Total:**	2

that plaintiffs settled by renegotiating permit, didn't get all they want, but got some concessions and trust fund for restoration

Author	Michael Miller		
Date	Jun-14		
Title	COLIN FOORD BRAVES BAD WEATHER AND GIANT EELS TO SAVE SEA CREATURES FROM DEEP DREDGE		
Link	http://www.miaminewtimes.com/news/colin-foord-braves-bad-weather-and-giant-eels-to-save-sea-creatures-from-deep-dredge-6524990		

Negative of Port		**Positive of Port**	
Kill	1	Job	
Destroy	4	Boost	1
Damage	1	Economy	2
Improper		Infrastructure	
Risk	1	Protection	
Impact	1	Good	
Covered		responsible	
Buried		Complete	1
Turbidity	1	Competit	
Sludge	1	Develop	
Detritus		Supply	
Sediment		Quality	
Silt	1	Only	
Broke	1	Major	1
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	12	**Total:**	5

Author	Michael Miller
Date	Jun-14
Title	CORAL MORPHOLOGIC RACES TO SAVE CORALS FROM DEEP DREDGE
Link	http://www.miaminewtimes.com/news/coral-morphologic-races-to-save-corals-from-deep-dredge-6396928

Negative of Port		Positive of Port	
Kill	1	Job	
Destroy	3	Boost	1
Damage	1	Economy	2
Improper		Infrastructure	
Risk	1	Protection	
Impact		Good	
Covered		responsible	
Buried		Complete	1
Turbidity	1	Competit	
Sludge	1	Develop	
Detritus		Supply	
Sediment		Quality	
Silt	1	Only	
Broke		Major	1
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	**9**	**Total:**	5

about how they were given minimal time to save corals

Author	Michael Miller
Date	Jul-14
Title	SLEUTHING ENVIRONMENTALISTS REVEAL DEEP DREDGE DAMAGE
Link	http://www.miaminewtimes.com/news/sleuthing-environmentalists-reveal-deep-dredge-damage-6396356

Negative of Port		Positive of Port	
Kill	2	Job	
Destroy		Boost	
Damage	2	Economy	
Improper	1	Infrastructure	
Risk	1	Protection	
Impact		Good	
Covered		responsible	
Buried	1	Complete	
Turbidity	1	Competit	
Sludge		Develop	
Detritus		Supply	
Sediment		Quality	
Silt	3	Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	**11**	**Total:**	0

Author	Michael Miller			
Date	Jul-14			
Title	DEEP DREDGE CRITICS USE DRONES, PLANES, AND SATELLITES TO SHOW DAMAGE TO BISCAYNE BAY			
Link	http://www.miaminewtimes.com/news/deep-dredge-critics-use-planes-and-satellites-to-show-damage-to-biscayne-bay-6550412			

Negative of Port		**Positive of Port**	
Kill	2	Job	
Destroy		Boost	
Damage	4	Economy	
Improper	1	Infrastructure	
Risk		Protection	
Impact		Good	
Covered		Hope	
Buried	1	Complete	
Turbidity	1	Competit	
Sludge	1	Develop	
Detritus		Supply	
Sediment		Quality	
Silt	4	Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	**14**	**Total:**	0

Author	Michael Miller			
Date	Aug-14			
Title	DEEP DREDGE SILT IS KILLING OUR CORAL AFTER ALL, ADMIT STATE INSPECTORS			
Link	http://www.miaminewtimes.com/news/deep-dredge-silt-is-killing-our-coral-after-all-admit-state-inspectors-6549749			

Negative of Port		**Positive of Port**	
Kill	5	Job	
Destroy		Boost	
Damage	5	Economy	
Improper	3	Infrastructure	
Risk	1	Protection	
Impact	3	Good	
Covered	1	responsible	
Buried	4	Complete	
Turbidity		Competit	
Sludge		Develop	
Detritus	1	Supply	
Sediment		Quality	1
Silt	12	Only	
Broke	3	Major	
Evasion	1	Construct	
Disregard	1	Work	
Noncompliance		Success	
Smother	1	Benefit	
Degrade		First	
Trouble	1	create	
Total:	**42**	**Total:**	1

Author	Michael Miller			
Date	Sep-14			
Title	NOAA WARNS OF "RAPID DETERIORATION" OF ENDANGERED CORALS DUE TO DEEP DREDGE SLUDGE			
Link	http://www.miaminewtimes.com/news/noaa-warns-of-rapid-deterioration-of-endangered-corals-due-to-deep-dredge-sludge-6559941			

Negative of Port		Positive of Port	
Kill	4	Job	1
Destroy	1	Boost	1
Damage	1	Economy	1
Improper		Infrastructure	
Risk		Protection	
Impact	2	Good	
Covered		responsible	1
Buried		Complete	
Turbidity		Competit	
Sludge	2	Develop	
Detritus		Supply	
Sediment	5	Quality	
Silt	2	Only	
Broke	1	Major	
Evasion		Construct	
Disregard		Work	1
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	1
Total:	**18**	**Total:**	6

Author	Michael Miller			
Date	Oct-14			
Title	MIAMI DEEP DREDGE: ENVIRONMENTALISTS WIN COURT BATTLE BUT NOT WAR AS BLASTING CONTINUES			
Link	http://www.miaminewtimes.com/news/miami-deep-dredge-environmentalists-win-court-battle-but-not-war-as-blasting-continues-6554165			

Negative of Port		Positive of Port	
Kill	2	Job	
Destroy		Boost	
Damage	4	Economy	
Improper		Infrastructure	
Risk	1	Protection	
Impact		Good	
Covered		responsible	
Buried		Complete	
Turbidity	1	Competit	
Sludge		Develop	
Detritus		Supply	
Sediment	2	Quality	
Silt		Only	
Broke		Major	
Evasion		Construct	
Disregard		Work	
Noncompliance		Success	
Smother		Benefit	
Degrade		First	
Trouble		create	
Total:	**10**	**Total:**	0

about how they won concessions for Port's bad behavior

Author	Michael Miller
Date	Oct-14
Title	DEEP DREDGE CRITICS FILE EMERGENCY DEMAND TO STOP "DESTRUCTION OF ENDANGERED SPECIES"
Link	http://www.miaminewtimes.com/news/deep-dredge-critics-file-emergency-demand-to-stop-destruction-of-endangered-species-6527412

Negative of Port		Positive of Port	
Kill	4	Job	
Destroy	2	Boost	
Damage	6	Economy	5
Improper		Infrastructure	
Risk	1	Protection	
Impact	1	Good	1
Covered		responsible	
Buried	1	Complete	
Turbidity		Competit	
Sludge	2	Develop	
Detritus		Supply	1
Sediment	1	Quality	
Silt	3	Only	
Broke		Major	
Evasion		Construct	1
Disregard		Work	
Noncompliance		Success	
Smother	1	Benefit	
Degrade		First	
Trouble	1	create	1
Total:	23	**Total:**	9

that pro-bay just want the project done right, especially as more ports will face dredging in future; CoE spokeswoman says port has always been important economically, but that the environment is important to them

Total	17
Pro-Bay	15
Pro-Dredge	
submitted op-ed for Bay	
non-relevant	
balanced	
neutral	2
Search: PortMiami, Port of Miami, Deep Dredge, 2011-2014	

Appendix D.1 Reputational Power: Most Influential

Respondent	Gimenez	Bill Johnson	Port Miami	Scott	FL Legis.	Obama	Army Corps	GLDD	FL DEP	Miami Herald	MWK-Rachel Silverstein	Tropical Audubon-Laura Reynolds	Sierra Club-Blanca Mesa	James Porter,	Colin Foord	Captain Dan Kipnis,	Michael Miller	Nick Ducassi	Miami-Dade Reef Guard,	NOAA	NMFS	Eric Glitzenstein	Carlton Fields Law Firm
Pro-Port Expansion																							
Pro-Bay Conservation																							
MWK-Rachel Silverstein		1	1			1	1	1	1		1	1				1			1				
Tropical Audubon-Laura Reynolds	1						1				1	1				1							1
Sierra Club-Blanca Mesa		1	1	1	1	1	1		1	1	1	1		1		1		1					
James Porter,	1			1			1																
Carlton Fields Law Firm			1				1	1			1	1		1	1	1				1	1	1	
Colin Foord		1		1			1	1			1			1		1	1	1	1				
Captain Dan Kipnis,	1		1	1			1																
Michael Miller																							
Nick Ducassi	1	1	1	1			1				1												
Secondary																							
NPCA: Caroline McLaughlin							1		1		1	1	1	1		1							
Miami-Dade Reef Guard, Urban Paradise Guild-Sam Van Leer		1		1			1		1	1	1	1		1		1							
Total	4	5	5	6	1	2	10	3	4	2	8	6	1	5	1	7	1	2	2	1	1	1	1

Appendix D.2 Reputational Power: Top 3

	Gimenez	Bill Johnson	Rick Scott	Army Corps	GLDD	FL DEP	MWK-Rachel Silverstein	Tropical Audubon-Laura Reynolds	Sierra Club Miami Group-Blanca Mesa	James Porter,	Colin Foord, Coral Morphologic	Captain Dan Kipnis,	National Marine Fisheries Service
Respondent													
Pro-Port Expansion													
Pro-Bay Conservation													
MWK-Rachel Silverstein				1	2		3						
Tropical Audubon- Laura Reynolds							1	2				3	
Sierra Club Miami Group-Blanca Mesa				2		3				1			
James Porter,	2		3	1									
Carlton Fields Law Firm				3	1							2	2
Colin Foord, Coral Morphologic				3			2					1	
Captain Dan Kipnis,	1		2	3									
Nick Ducassi			1	3			2						
Secondary													
NPCA: Caroline McLaughlin				2		3	1						
Urban Paradise Guild-Sam Van Leer		3	1	2									
Total	**3**	**3**	**7**	**20**	**3**	**6**	**9**	**2**	**1**			**6**	

Appendix E.1 Resources: Staff

Staff, Mobilizable Troops				
Corps of Engineers				
Jerry Murphy	Senior Project Manager	(Murphy)		
Laurel Reichold	Project Manager	correspondence		
Susan Jackson	Spokeswoman	(Gallardo, 2014)		
PortMiami:	(Miami-Dade County: PortMiami, 2013)			
	Port Director with 3 departments: PR & Comm, Port Director Designee, HR & Customer Services	Under Designee: Deputy Director: Finance (7 sections), Capital Development (4), Operations, Safety and Security , and Business Initiative (3)		
	2011-2012	2012-2013	2013-2014	Proposed 2015
Office of the Director	4	4	4	15
Deputy Port Director	155	147	160	9
Capital Development	37	37	42	42
Finance	43	44	49	43
Business Initiatives	8	7	8	13
Port Operations			0	135
Total	247	239	263	257
	(Miami-Dade County: PortMiami, 2013b)	(Miami-Dade County: PortMiami, 2013b)	(Miami-Dade County: PortMiami, 2014)	(Miami-Dade County: PortMiami, 2015)
*not including safety and security				
Department of Environmental Protection ("Florida Department of Environmental Protection", 2015)	2011-2012	2012-2013	2013-2014	("Beaches, Inlets & Ports Program," 2015)
	3450	3364	3114.5	7

Biscayne Bay Water Keepers	(Interviews)	
	1- Director	
Tropical Audubon Society		
	1- Director	
Dan Kipnis		
	1	
Legal Council		
	Jim porter solo, 2 from Carlton Fields, plus paralegals and some tech people; 3 other attorneys from small group	
Sierra Club		
	1- Blanca Mesa	
Nick Ducassi		
	1+ people who helped with video	editor, 2 composers, kayaker, 2 assistants
Coral Morphologic		
	Colin, did most of work, plus assistance diver and some interns	

Appendix E.2 Resources: Budgets

Budgets				
CoE Factsheet 2014	("Fact Sheet: Miami Harbor Channel", 2014)			
Total project cost estimate (Channel Deepening):	$214,500,000			
Federal cost estimate:	$103,100,000			
Miami-Dade County Memorandum 2014:	("Memorandum", 2014)			
Miami-Dade share:	$108,000,000			
State Share	$112,000,000			
Corps of Engineers Operations and Maintenance Budget FY2014 (Miami Harbor): ("Fact Sheet: Miami Harbor", 2014)	$4,355,000			
Overall Civil Works Budget	2011	2012	2013	2014
Civil Works Budget Work Plan	$5,065,344,000 ("US Army Corps of Engineers: FY11", 2011)	no data	$4,982,000,000 ("US Army Corps of Engineers: Civil Works", 2013)	$4,826,000,000 ("US Army Corps of Engineers: Strong Point", 2013)
PortMiami 2013-2018 Proposed Capital Improvements Program: (Miami-Dade County: PortMiami, 2013)	$574,700,000			
Total net assets:	2011	2012	2013	2014
Comprehensive Annual Financial Reports	$225,600,000 (Miami-Dade County: PortMiami, 2011)	$238,200,000 (Miami-Dade County: PortMiami, 2012)	$221,100,000 (Miami-Dade County: PortMiami, 2013)	not published
	2011-2012	2012-2013	2013-2014	
Expenditures	52069 thousand	56310 thousand	61902 thousand	
DEP	2011-2012	2012-2013	2013-2014	
Keep Florida working	$1,460,214,322 ("Governor Rick Scott's", 2015)	$1,313,686,038	$1,204,456,007	
Great Lakes Dredge and Dock	$83.6 million ontracts	("Memorandum", 2014)		

Biscayne Bay Water Keepers		(interviews)
	pro-bono	
Tropical Audubon Society		(interviews)
	pro-bono	
Dan Kipnis		(interviews)
	a few thousand dollars of own money, resources	
Legal Council		(interviews)
	pro-bono, or hoping to have fees reimbursed by winning	
Sierra		(interviews)
	donated $10,000	
Coral Morphologic		(interviews)
	got 100K donated so they could focus on this	