

Thesis submitted in partial fulfillment of the requirements for the
degree of D.Phil. in Management

**Sea Change:
A Sensemaking Perspective on
Competing Institutional Logics**

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Hilary Term 2013

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Abstract

In recent years, institutional theorists have been increasingly interested in institutional change, seeking to understand the contextual factors and agents responsible for alterations to existing institutional arrangements. Institutional theory's historical focus on isomorphism has made it challenging to account for actors' motivations to pursue change projects. It is generally believed, though, that agents are mobilized through exposure to multiple institutional logics. Recently, scholars have begun to recognize that competition among multiple logics may not quickly produce a 'winning logic'; rather, such logics may co-exist for prolonged periods in a context of 'institutional complexity'. The turn toward institutional complexity reveals that preoccupation with the 'paradox of embedded agency' has left the development of change projects themselves under-theorized: What happens when organizational actors must interpret puzzling institutional contexts and generate alternatives?

In seeking to understand organizational actors' efforts to cope with conflicting logics in a context of scientific uncertainty, this study aligns with this growing interest in institutional complexity. Drawing on concepts from sensemaking theory, this research illuminates how actors with divergent interests, enacting their organizational roles, cope with competing logics and interact around a change project that emerges as a result of their efforts at coping. It thus contributes to institutionalist understandings of institutional complexity and change and adds to an emerging body of research linking institutional theory and sensemaking.

The empirical setting for this single-case study is the 'sustainable seafood' discourse that began in the early 1990s when the cod collapsed off North America's eastern seaboard. Prolonged scientific uncertainty regarding the collapse made generation of preferred alternatives problematic; this resulted in lengthy sensemaking efforts by multiple stakeholder groups, drawing on different institutional logics to produce divergent and competing interpretations and action scripts. Tracing the evolution of this discourse through documents, observations, and interviews empirically reveals processes of interrelated sensemaking, and further, exposes sensegivers as bricoleurs who use institutional elements creatively to affect the sensemaking of others.

Keywords: Institutional theory, institutional change, deinstitutionalization, institutional logic, institutional complexity, sensemaking, sensegiving, dialogical change

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1 INTRODUCTION

Since the early 1990s, institutional theorists have been increasingly preoccupied with explanations of institutional change, and in particular, with the contextual factors and agents responsible for alterations to existing institutional arrangements. However, the occurrence of these reexaminations and revisions of institutions is problematic for a theoretical stream built on conceptualizations of taken-for-granted contexts driving organizational actors toward similarity: As Holm expressed it, “How can actors change institutions if their actions, intentions, and rationality are all conditioned by the very institution they wish to change?” (Holm 1995: 398) This conundrum, known as the ‘paradox of embedded agency’, bedevils institutional scholars seeking to understand the relationship between structure and agency (DiMaggio and Powell 1991; Friedland and Alford 1991; Holm 1995; Seo and Creed 2002).

To resolve this puzzle and thus account for instances of endogenous institutional change, Seo and Creed (2002) have theorized that it is exposure to institutional contradictions that enables actors enmeshed in institutionalized arrangements to become aware of their dissatisfaction with existing arrangements, and thus to champion change (Seo and Creed 2002). These contradictions arise because actors operate in multiple organizational fields, fields which are nested within larger social systems and interactive with other fields (Meyer and Rowan 1977; Friedland and Alford 1991; Oliver 1991; Thornton and Ocasio 1999). Consequently, they are exposed to multiple institutional logics, the “taken-for-granted resilient social prescriptions that enable actors to make sense of their situation” (Greenwood, Diaz et

al. 2010: 521) which “underpin the appropriateness of organizational practices in given settings and at particular historical moments” (Greenwood, Diaz et al. 2010: 522). Early theorizations of multiple institutional logics focused on the processes through which one logic came to vanquish another (Thornton and Ocasio 1999; Rao, Monin et al. 2003; Reay and Hinings 2005), but recently, scholars have begun to recognize that logics may undergo translation, becoming hybridized (Battilana and Dorado 2010), or may even continue to co-exist for prolonged periods, without resolution of their conflicts, in a context of ‘institutional complexity’ (Greenwood, Raynard et al. 2011).

The agents coping with these multiple logics have been explored using conceptualizations of ‘institutional entrepreneurship’ (DiMaggio 1988), ‘embedded agency’ (Seo and Creed 2002), and ‘institutional work’ (Lawrence and Suddaby 2006), all valuable contributions to our understanding of the roles organizational actors assume in promoting change projects. However, the emphasis of these theoretical streams on the actors—entrepreneurs, agents, workers—together with growing awareness that shifts in institutional logics may not be easily resolved in favor of a ‘winning logic’ (Reay and Hinings 2009) leaves the actual development of change projects themselves under-theorized. In particular, what happens when organizational actors must interpret ambiguous and puzzling institutional contexts and generate plausible alternatives? The study described here uses a sensemaking perspective to examine how actors with divergent interests, enacting their organizational roles in an interrelated fashion, cope with competing logics and interact around a change project that emerges as a result of their efforts at coping.

The empirical setting for this study is the ‘sustainable seafood’ discourse that had its beginnings in the cod collapse off North America’s eastern seaboard in the early 1990s. In the aftermath of the collapse, external actors championed a new logic to challenge the dominant logic underpinning commercial fishing, but industry activities were conducted according to a centuries-old guiding logic which was not only reflected in members’ practices, but was materially embedded in capital equipment, technologies and techniques, and thus highly institutionalized. Furthermore, prolonged scientific uncertainty regarding the cause of the collapse and its potential ramifications made generation of a preferred alternative problematic, and thus this single event triggered lengthy sensemaking efforts. These were not limited to the scientists and government officials responsible for fishery management, but included actors from within the commercial seafood industry and environmental groups, who drew on different institutional logics to produce divergent and competing interpretations and action scripts. The presence of prolonged scientific uncertainty, highly institutionalized industry practices, and external actors championing institutional change in accordance with a challenger logic make this case suitable for examining the sensemaking processes involved in coping with institutional complexity.

1.1 The research topic and its significance

By the late 1980s, researchers working to develop the ‘new’ institutional theory had begun to lament the research stream’s overemphasis on processes that produced institutional conformity, and its lack of attention to change and agentic behavior (Perrow 1985; Covalleski and Dirsmith 1988; DiMaggio 1988). Since then, however, a great deal of scholarly attention has gone toward theorizing processes of institutional change, and two conceptualizations that appeared in the early 1990s, institutional

logics (Friedland and Alford 1991) and deinstitutionalization (Oliver 1992: 564), continue to underpin much work in this area, including the study presented here. In particular, a significant line of inquiry has arisen to explore how organizational actors cope with the challenge of making sense of multiple, sometimes contradictory, logics (Seo and Creed 2002; Greenwood, Raynard et al. 2011). In seeking to understand organizational actors' efforts to cope with conflicting institutional logics in a context distinguished by scientific uncertainty, this study aligns with this growing scholarly interest in situations of institutional complexity (Greenwood, Raynard et al. 2011). By incorporating cognitive dissonance to account for actors' recognition of, and responses to, puzzling circumstances, the sensemaking perspective facilitates inductive expansion of existing conceptualizations of institutional complexity, and sheds light on previously under-theorized processes of deinstitutionalization.

1.2 Research interest, question, and contribution

The project emerged from a broad research interest in institutional theories of deinstitutionalization, conflicting logics, and institutional change, particularly where corporate practices that impact the natural environment attract scrutiny by industry outsiders. Such a context seemed likely to produce interactions among organizations with different perceptions of the truth status and consequent material ramifications of contradictory logic claims. Early observations in the field revealed cognitive ambiguity, emotionality, inter-dependence, and tension among actors who struggled to generate plausible alternatives to existing arrangements in a context plagued by scientific uncertainty. Finding that most extant work on deinstitutionalization and institutional change presumed the existence of a preferred alternative, and that studies of conflicting logics did not describe actors' efforts to cope with confusion and threats

to identity in the face of disparate systems of meaning, I turned to the sensemaking literature for analytical guidance. The sensemaking perspective proved to be a useful partner to institutional theory in analyzing an institutional change project where competing logics are the subject of active efforts at understanding.

Thus, this study attempts to theorize how organizational actors engage in sensemaking and sensegiving around a new industry logic that challenges a dominant logic, and in particular, how outsiders seeking to bring about a shift toward the new logic might creatively use institutional resources to shape cognition and emotion in an adversarial collaborative sensemaking project aimed at institutionalizing the new logic in material practices. This study thus seeks to contribute to institutionalist understandings of institutional complexity and change, and to add to an emerging body of research that explores possible linkages between institutional theory and sensemaking (Weber and Glynn 2006; Nigam and Ocasio 2010).

1.3 Approach to the research question

To study the phenomenon addressed by the research question, the single-case study was selected as the design strategy. This choice allows for collection of data that is sufficiently rich, abundant, and detailed to support theoretical generalization about the intertwined processes of deinstitutionalization and sensemaking within an institutionally complex context of competing logics, where scientific uncertainty shapes the way actors with different interests author a problem and generate preferred alternatives. Furthermore, the single-case study is ontologically and epistemologically appropriate for the research question, and it supports the inductive theory-building logic underpinning the analysis presented here.

The context of the case is the ‘sustainable seafood’ discourse, which originated in the US in the early 1990s, when the cod fisheries off the northeastern coasts of North America collapsed. The sustainable seafood discourse remains active still, though data collection for this study came to a close at the end of 2012. This case study is ideal for examining how institutions and sensemaking are intertwined, in particular because scientific understandings of the precipitating event and its ramifications for global fishery management have evolved slowly; as a consequence, actors engaged in the discourse have had to cope with persistent ambiguity and uncertainty, enabling the researcher to track the processes leading from actors’ initial awareness of a new logic through to the generation and championing of preferred alternatives to institutionalized practices.

The data informing the analysis presented here include observations, documentary evidence, and interviews. This combination of sources was necessary to generate a coherent account of a narrative spanning two decades; observations revealed contemporary topics and participants, interviews provided more in-depth accounts and included interpretations of events and insights about other actors, and archival documents both provided concurrent interpretations of historical events and contextual information, as well as allowing for triangulation of findings from other data sources.

The aim of the data analysis presented here is to generate middle-range theory regarding competition between institutional logics and the sensemaking implications, using empirical evidence in a process of analytical generalization. The abductive approach used with this case involved developing a preliminary interpretive framework from established theorizations, then cycling through the data in multiple

iterations in order to identify deviation from established conceptualizations (Blaikie 2000). Through this iterative process, it was possible to build theory that provided a more satisfactory fit to the empirical material than previous theorizations would have permitted.

1.4 Document outline

This document contains eight chapters, including this Introduction. The remainder of the document is organized as follows.

Chapter two reviews the institutionalist literature to which this study aims to contribute. It traces the foundations of the theoretical stream and hones in on the development of institutional concepts key to this study: conflicting institutional logics, deinstitutionalization, collaborative processes, and institutional change.

Chapter three reviews the literature of the sensemaking perspective, which will be used to help illuminate aspects of organizational change that are currently under-theorized within the institutionalist literature. The chapter outlines the development of key concepts within the sensemaking literature, highlighting the conceptualizations of attention, identity, and sensegiving that can complement institutional accounts of change. This chapter also discusses recent attempts to bridge the two theoretical streams, to which literature the findings of this study contribute.

Chapter four describes the theoretical underpinnings of this study, describing the author's conceptual journey leading to the choice of the two literatures that are used to inform this analysis. Gaps associated with critical constructs from each literature are identified, and recent attempts to bridge the two theoretical streams are revisited.

The chapter concludes with a description of the conceptual framework that emerged from the two literatures to guide this study, and sets forth the research question.

Chapter five explains the methodological approach of this study. First situating the study within the underlying paradigm, the chapter then goes on to describe the research process. The rationale for taking an abductive approach and using a single case study design are explained, and data and data collection techniques are explicated. Analytical strategies and techniques are described and their appropriateness for extracting theoretical concepts related to the question and grounded in the data revealed.

Chapter six presents the case study data, structured temporally into periods typified by particular patterns of sensemaking and institutional context. The first section describes the circumstances leading up to the historical crisis that inspired the sustainable seafood discourse. It explicates how institutionalized assumptions about a resource can produce a precipitating event that results in the entrance of a new logic, one that competes with the dominant logic underpinning an industry. However, it also illustrates how actors attempting to interpret and respond to a serious event are constrained in their thinking by existing institutional arrangements and interpretive frames, resulting in short-term solutions that allow the underlying problem to grow. The second section presents evidence that actors can break free of their interpretive frames in order to build cognitive support for the new logic and to innovate possible solutions, in order to create the capacity for institutional change. The third section chronicles the diffusion of new material practices that support and effectively institutionalize the new logic.

Chapter seven interprets the findings of the study in relation to specific themes in the literature, extending existing theory by theorizing how actors confronted with competing institutional logics in a context marked by scientific uncertainty draw on a repertoire of sensemaking processes in their efforts to cope with dissonance and enact responses. The first section of this chapter discusses *problematizing*, describing how disparate actors engage in *sensemaking* around a disruptive event, and around the enactments of others in the field. Combining concepts from institutional theory and sensemaking thus helps to reveal the genesis of conflicting logics, and highlights the importance of the socio-historical context in explaining the appearance of dissensus. The second section of this chapter shows how interested external actors engage in *meta-sensemaking*, that is, sensemaking about what forms of sensemaking are proper and appropriate, as they work strategically to *build capacity* (Zucker 1988) for alterations that support the challenger logic. The third section shows how a group of actors engage in *sensegiving* activities that creatively deploy institutional elements to modify the cognitive and emotional investments of other actors as they work at *diffusing new practices* that align with a new logic. It further speculates that firms' adoption of these practices relates to their perceptions about legitimacy, reputation, and status.

Chapter eight aligns the theorizations derived from this case study with the theoretical gaps that guided it, as explicated in the conceptual framework. Concluding the chapter, study limitations are explored, and opportunities for future research outlined.

2 DEVELOPING INSTITUTIONAL THEORY

Over the last few decades, institutional theory has become one of the dominant approaches to the study of organizations. This chapter begins with an overview of the evolution of scholarly understandings of institutions and institutional processes. It then goes on to discuss in greater detail concepts that are particularly important for the case described here. This latter part of the chapter focuses on institutional change, deinstitutionalization, competing logics, and institutional complexity.

2.1 Institutional isomorphism: endogenous constraint and social conformity

The version of institutional theory that informs research today was initially developed in the late 1970s, but it shares with its progenitor, ‘old’ institutional theory, a desire to counter prevailing notions of organizations as purely rational actors exercising agency to respond to and shape their situations. According to researchers working within both traditions, institutional context affects organizational structure and practice (Parsons 1956), and new practices can become “infused with value beyond the technical requirements of the task at hand” (Selznick 1957: 17) However, where the older conceptualization attributed organizations’ irrational disregard for technical efficiency to highly politicized strategic action by organizational agents protecting their interests, in contrast, so-called ‘new’ institutionalism emphasizes the influence of institutional context on actors’ adoption of structures and practices based on assessments of socially-determined appropriateness.

2.1.1 *Defining institutions*

An institution can be thought of as a “more-or-less taken-for-granted repetitive social behavior that is underpinned by normative systems and cognitive understandings that give meaning to social exchange and thus enable self-reproducing social order”, behavior which does not rely on overt enforcement (Greenwood, Oliver et al. 2008: 4-5). Seeking to define the characteristics that enabled institutions to persist, Zucker adopted the ethnomethodological approach (Garfinkel 1967), which maintained a macro-level micro-level duality that said reality was socially constructed but was experienced as fact. Therefore, she said that to be institutionalized, a cultural understanding of appropriateness must be both *objective* and *exterior*: “Acts are *objective* when they are potentially repeatable by other actors without changing the common understanding of the act, while acts are *exterior* when subjective understanding of acts is reconstructed so that the acts are seen as part of the external world” (Zucker 1977: 728).

Building on Weber’s (Weber 1947) ideas of bureaucracy and the Berger and Luckmann (Berger and Luckmann 1967) notion of social construction, Meyer and Rowan (1977) proposed that appropriate organizational behavior was determined by ‘rationalized myths’, pervasive social definitions of rationality that might not be aligned with technical measures of efficiency. As these myths spread among organizations, they would tend to become more similar over time, or *isomorphic*. According to Meyer and Rowan, this isomorphism would manifest itself in three forms: separation of technical activities from institutionalized structures, or *decoupling*; ritualistic displays of confidence in the institutionalized system; and avoidance of close inspection of decoupled systems (Meyer and Rowan 1977: 360).

The seminal 1977 work by Meyer and Rowan emphasized the importance of relational networks as well as of isomorphic forces arising within a shared institutional context, but it was the latter concept that would come to dominate institutional research for many years. Building on Giddens' (1979) theory of structuration, DiMaggio and Powell (1983) steered researchers firmly away from attempts to explain changing institutional arrangements, asking “why there is such startling homogeneity of organizational forms and practices” and asserting, “we seek to explain homogeneity, not variation”. (DiMaggio and Powell 1983: 147) According to these authors, structuration was a four part process that relied on “an increase in the extent of interaction among organizations in the field; the emergence of sharply defined interorganizational structures of domination and patterns of coalition; an increase in the information load with which organizations in a field must contend; and the development of a mutual awareness among participants in a set of organizations that they are involved in a common enterprise (DiMaggio 1982)” (DiMaggio and Powell 1983: 148). This set of participants made up an organizational field, which they defined more inclusively than other contemporary approaches, calling it a “recognized area of professional life...the totality of relevant actors” (DiMaggio and Powell 1983: 148).

2.1.2 Processes of diffusion

In addition, DiMaggio and Powell proposed three mechanisms underlying isomorphic diffusion. *Coercive* isomorphism referred to pressure coming from external actors, typically the State; *mimetic* isomorphism described the adoption of practices followed by other actors based either on the idea that other actors' actions are rational, or that their actions are more legitimate; and *normative* isomorphism, which was based on

social obligation, typically associated with professionalization (DiMaggio and Powell 1983). An early attempt by Tolbert and Zucker (1983) to map institutional diffusion in an empirical study pointed toward a two-stage model that would have great influence on future research. In the first stage, actors based their adoption on rational grounds of perceived efficiency of an innovation, but those who adopted in the latter stage appeared to do so on the basis of mimetic pressures (Tolbert and Zucker 1983).

2.2 Stability disrupted: exogenous pressures and competing interests

Over time, the disproportionate focus on institutional forces producing similarity provoked a backlash, as researchers began to lament the lack of attention to change and agentic behavior (Perrow 1985; Covalenski and Dirsmith 1988; DiMaggio 1988). Influentially, DiMaggio himself expressed concern that the nascent theoretical perspective might collapse in on itself under the weight of isomorphism, calling on researchers to expand their focus to include “purposive, interest-driven, and conflictual behavior” (DiMaggio 1988: 5). These questions would have to be answered: “*How* are new organizational forms created and legitimated? *Who* has the power to legitimate a novel form? *Who* are the ‘institutional entrepreneurs’? *How* are ‘core institutions’ delegitimized?” (Greenwood, Oliver et al. 2008: 13).

Among the earliest and most influential responses to this call for research into agency and change were two seminal articles by Oliver (Oliver 1991; Oliver 1992). These papers tackled both agency, in the form of potential strategic responses to institutional pressures, and change, in the form of underlying conditions that might make the erosion or discontinuation of institutionalized practices more likely. A second key contribution to evolving constructions of change came from Friedland and Alford

(Friedland and Alford 1991), who postulated that agentic action could result due to conflicting prescriptions embedded within institutional logics, supra-organizational symbolic systems that guide practices.

2.2.1 Strategic responses to institutional pressure and their antecedents

In Oliver's 1991 article, she responded to the plea to "rectify the overly passive and conforming depiction of organizations" (Oliver 1991: 146) by bringing a resource-dependence theory perspective to conclude that organizations might respond to institutional pressures in proactive or strategic ways. Besides an explicit recognition of the criticality of resource flows to organizations, resource dependence theory provided a way to account for multiple, self-interested actors, competing demands, environmental uncertainty, and organizational interdependencies which institutional theory lacked. In contrast to institutional theory's focus on legitimacy as sufficient reward for compliance with institutional pressures, resource dependence theory recognized the advantages available through failure to comply with those pressures (Oliver 1991: 150).

In a widely-cited typology, Oliver identified five types of strategic responses organizations might pursue in response to institutional pressures, ranging in degree of active agency from passive acceptance to active resistance: acquiescence, compromise, avoidance, defiance, and manipulation. Each of these strategies was related to typical tactics employed, as shown in the table reproduced here (Table 2-1).

Table 2-1 Strategic responses to institutional processes (Oliver 1991: 152)

Strategies	Tactics	Examples
Acquiesce	Habit	Following invisible, taken-for-granted norms
	Imitate	Mimicking institutional models
	Comply	Obedying rules and accepting norms
Compromise	Balance	Balancing the expectations of multiple constituents
	Pacify	Placating and accommodating institutional elements
	Bargain	Negotiating with institutional stakeholders
Avoid	Conceal	Disguising nonconformity
	Buffer	Loosening institutional attachments
	Escape	Changing goals, activities, or domains
Defy	Dismiss	Ignoring explicit norms and values
	Challenge	Contesting rules and requirements
	Attack	Assaulting the sources of institutional pressure
Manipulate	Co-opt	Importing influential constituents
	Influence	Shaping values and criteria
	Control	Dominating institutional constituents and processes

Having developed a typology of potential organizational reactions to institutional pressures, Oliver went on in the later paper to propose that, in contrast to prevailing views that emphasized the stability of institutionalized activity, in fact, persistence might be “much more fragile and less inevitable”, that legitimacy was “vulnerable to skepticism and re-evaluation”, and thus, to sensemaking processes that might lead to *deinstitutionalization* (Oliver 1992: 581). Oliver defined *deinstitutionalization* as “the process by which the legitimacy of an established or institutionalized organizational practice erodes or discontinues...as a result of organizational challenges to or the failure of organizations to reproduce previously legitimated or taken-for-granted organizational actions” (Oliver 1992: 564). She went on to propose a set of underlying conditions that could lead to the *deinstitutionalization* of a previously stable social fact of organizational life, identifying three types of institutional pressures that could serve as triggers to sensemaking about previously stable institutional arrangements: political, functional, and social. In some cases, she theorized, these pressures might arise within the organization; in others, external factors would come into play. These antecedents are reproduced in Table 2-2.

Table 2-2 Antecedents table (Oliver 1992: 567)

Level of analysis	Political Pressures	Functional Pressures	Social Pressures
Organization	Mounting performance crisis	Changing economic utility	Increasing social fragmentation
	Conflicting internal interests	Increasing technical specificity	Decreasing historical continuity
Environment	Increasing innovation pressures	Increasing competition for resources	Changing institutional rules and values
	Changing external dependencies	Emerging events and data	Increasing structural disaggregation

Political pressures for deinstitutionalization come into play when the distribution of power among stakeholders undergoes some type of alteration, or when issues related to performance become problematic. Power distribution changes may arise due to conflicting internal interests, changes in dependency on external constituents, or changes in internal constituencies, particularly the entrance of intra-organizational entrepreneurs.

Performance discrepancies may come about when problems or crises create dissensus within the organization. Thus, a mandate from the Vatican Council was sufficient to bring about a period of re-evaluation about the belief system of a religious order (Bartunek 1984), and the *Challenger* disaster spurred conflictual sensemaking processes about NASA procedures (Starbuck and Milliken 1988).

Functional pressures, like political pressures, often provoke conscious sensemaking, arising when doubts surface regarding an institutionalized practice's instrumental value, because, as Oliver stated, "the perceived worth of an institutional practice...is not invulnerable to re-evaluation or reconsideration in technical terms" (Oliver 1992: 571). This may occur when social or economic rewards associated with the practice

evaporate, or when environmental changes result in resource scarcity or unexpected events.

In contrast to political and functional pressures, for which the underlying assumption according to Oliver is that organizational actors “consciously acknowledge the need to discard institutionalized practices and then act on this recognition” (Oliver 1992: 575), normative pressures are less likely to be recognized or acknowledged. Normative fragmentation, historical discontinuity, state and societal forces, structural shifts, and inter-organizational relationships may bring about deinstitutionalization of institutionalized practices without conscious recognition, intention, or control of the process.

Oliver (1992) further theorized that movement toward deinstitutionalization would be affected by two moderators affecting the rate (though not the likelihood) of deinstitutionalization over time: entropy and inertia. By entropy, she referred to a general tendency for organizations to become less orderly over time, what Zucker called a “gradual erosion of the[ir] taken-for-granted character” (Zucker 1988: 26). Inertia, in contrast, referred to organizations’ resistance to change. This resistance could arise even when the desire for change exists, she postulated, in particular when the organization lacked the necessary expertise or material resources to abandon the institutionalized practice.

2.2.2 Institutional logics: Meaning in practice

While Oliver’s typology illuminated organizations’ agentic responses to perceived threats and identified antecedent environmental and organizational conditions that might induce change, Friedland and Alford (Friedland and Alford 1991) sought to

understand the higher level forces that would explain both the provenance of stable institutional patterns as well as processes of institutional transformation. Emphasizing that institutions served not only as guides to material activity, but also as symbolic systems used by actors to categorize and assign meaning to their activity, they posited the existence of supra-organizational sources of belief systems and values (Friedland and Alford 1991: 232), *institutional logics*, defined as the “set of material practices and symbolic constructions” which provide organizing principles which are “available to organizations and individuals to elaborate” (Friedland and Alford 1991: 248). They proposed the existence of five logics operating at the societal level and central to Western institutions: capitalism, the state, democracy, the family, and religion. These were later re-framed and expanded by Thornton and Ocasio to six: the market, the state, the corporation, the professions, religion, and the family (Thornton and Ocasio 1999). In their model, these logics were central to an inter-institutional system that involved nested levels of analysis, with “individuals competing and negotiating, organizations in conflict and coordination, and institutions in contradiction and interdependency” (Friedland and Alford 1991: 240-241). They believed that the combination of multiple levels of analysis together with contradictory logics was vital to explanations of stability and change, and they argued that change came about when actors found themselves wrestling with incompatible logics, under which circumstances actors could be “artful in the mobilisation of *different* institutional logics to serve their purposes” [emphasis in original] (Friedland and Alford 1991: 254).

2.3 Institutional change: Projects of purposeful actors

Researchers did little to further the concepts of defender strategies, deinstitutionalization, and contradictory logics in the immediate aftermath of their

initial introduction. However, by the mid-1990s there was renewed interest in the search for a way to explain institutional change by bringing agency, interests, and power back into institutional theory, thus bridging the ‘old’ and ‘new’ institutionalisms (Powell and DiMaggio 1991; Greenwood and Hinings 1996). Researchers became keenly interested in examining the “activities of actors who have an interest in particular arrangements and who leverage resources to create new institutions or to transform existing ones” (Maguire, Hardy et al. 2004), the *institutional entrepreneurship* referred to by DiMaggio when he asserted that “new institutions arise when organized actors with sufficient resources see in them an opportunity to realize interests that they value highly” (DiMaggio 1988: 14).

2.3.1 Competing logics, entrepreneurs, and deinstitutionalization

According to the editors of a 2002 special issue of the Academy of Management Journal on institutional change, both deinstitutionalization and competing logics were important components of change processes, since “the weakening and disappearance of one set of beliefs and practices is likely to be associated with the arrival of new beliefs and practices” (Scott 2001: 184; Dacin, Goodstein et al. 2002: 46). The articles in the issue did much to advance institutional theorization of organizational change, as well as to sharpen the emergent focus on institutional entrepreneurship. Empirical accounts demonstrated that loss of utility, legitimacy, or social accord could lead actors to question established practices, as had been theorized by Oliver (Oliver 1992). This questioning could lead to political contestation by actors who are “active carriers of institutions” who “perceive the meaning of institutions and infuse their actions with meaning based upon these perceptions” (Dacin, Goodstein et al. 2002: 47). Thus we see that market pressures shifted the underlying interpretive scheme within the

textbook publishing industry from one based on an editorial logic to one based on a market logic (Thornton 2002), that politically-astute actors drew on professional values and practices in order to legitimate an expansion of professional operational boundaries (Greenwood, Suddaby et al. 2002), and that social discord resulted in institutional change in a rape crisis center in Israel as new actors shifted the organization's prevailing feminist ideology to one more in line with their own professional, therapeutic ideology, thereby enabling them to alter the interpretations of some practices and change others outright (Zilber 2002). In each of these empirical explorations of agency, actors introduced new interpretative schemes from other fields, effectively expanding the repertoire of meanings and practices available in the field undergoing change.

2.3.2 Legitimacy and political manoeuvring

The introduction of meanings and practices from outside the field raised questions of legitimacy in these new, more muscular sketches of actors engaged in change projects. Agents were seen as being attentive to the need to gain legitimacy for their projects, and as actively and creatively deploying the institutional elements in their repertoire in ways they hoped would win acceptance for their innovations. In describing how Thomas Edison laid the groundwork for eventual acceptance of his new electric lightbulb, Hargadon and Douglas argued that one determinant of an innovation's success was "how well the public, as both individuals and organizations, comprehends what the new idea is and how to respond to it" (Hargadon and Douglas 2001: 476).

Increasingly, also, institutional change projects were seen as highly political processes, in which skilful actors actively and creatively deployed the institutional elements in their repertoire in order to advance their interests (Fligstein 1997). The motivation for

this activity arose when actors found their own interests were out of alignment with the dominant interests in the field, leading them to advocate for alternative arrangements (Greenwood and Hinings 1996). In keeping with institutionalists' ideas that actors were in competition for various forms of capital (Bourdieu and Wacquant 1992; Bourdieu 1993), a stratified notion of actors' field positions took hold.

Organizations whose interests were well served by existing arrangements were considered central actors who were unlikely to instigate change. In contrast, organizations whose interests were not well served by existing arrangements were considered peripheral, and more motivated to advocate for change that would align the institutional system with their own self-interests (Leblebici, Salancik et al. 1991).

However, this explanation, that claimed actors who were motivated by misaligned interests would act as entrepreneurs, overlooked important opposing constructs that are foundations of institutional theory. First, the very peripheral position and misalignment of interests that caused these entrepreneurs to advocate for change would lessen the likelihood that they would have the legitimacy and political clout necessary to overturn arrangements that well-served, resource-rich incumbents would surely defend. Second, the reliance on muscular, self-interested change agents failed to account for these agents' own institutional conditioning, and the consequent difficulty they would face in breaking free of institutional arrangements that were, by definition, decoupled, taken-for-granted, and historically situated (Brint and Karabel 1991; Friedland and Alford 1991; Powell 1991; Powell and DiMaggio 1991; Goodrick and Salancik 1996). While entrepreneurship could account for institutional change, researchers came to realize they could not yet account for entrepreneurship itself.

2.4 Institutional change: Contradictions awakening embedded actors

Though many researchers continued to explore the nuances of institutional entrepreneurship (Garud, Hardy et al. 2007), others began to focus on the puzzling paradox at the heart of efforts to theorize the relationship between stability and change. The oft-noted ‘paradox of embedded agency’ (DiMaggio and Powell 1991; Friedland and Alford 1991; Holm 1995; Seo and Creed 2002) asks: “How can actors change institutions if their actions, intentions, and rationality are all conditioned by the very institution they wish to change?” (Holm 1995: 398)

2.4.1 Contradictory logics creating dissatisfaction

An influential attempt to address this paradox came in a paper by Seo & Creed (Seo and Creed 2002), which put forth a dialectical framework that highlighted the instability of social worlds that are constantly in a state of flux as the result of political processes of construction, maintenance, and disruption. By re-introducing more expansive understandings of individual organizational fields as both nested within larger social systems and interactive with surrounding fields (Meyer and Rowan 1977; Friedland and Alford 1991; Oliver 1991; Thornton and Ocasio 1999), Seo and Creed were able to account for actors’ dissatisfaction with existing arrangements: Since different, potentially contradictory logics could underlie each of these systems, competing interpretations and altered understandings of previously taken-for-granted institutions might arise.

According to Seo and Creed, these contradictions come from four sources, which are not mutually exclusive but instead may be interconnected: inefficiencies, inability to adapt, inter-institutional misalignment, and divergent interests. In line with the

antecedent political, functional, and social pressures proposed by Oliver (Oliver 1992), these four types of events serve as motivators to change, but are not deterministic. It is when actors come to perceive the institutional contradictions and then to consider them unacceptable that they pursue change. This latter process, involving both reflexivity and action, is defined within the dialectical perspective as *praxis* (Benson 1977), “a particular type of human agency...[that involves] political action embedded in a historical system of interconnected yet incompatible institutional arrangements” (Seo and Creed 2002: 223). According to these authors, the dialectical model sees actors whose interests are not in alignment with dominant institutional arrangements as important potential agents for change, overturning the concerns that peripheral actors lack the necessary socio-political resources to overcome incumbent defenders of the status quo. In this model, “critique, pragmatism, and collective action, rather than orthodox compliance or strategic resistance, are the central logics of action” and the potential for change “is rooted in the aptitude and opportunity for praxis” (Seo and Creed 2002: 240).

Researchers continued to explore questions key to resolving the paradox of embedded agency: Who are the change agents? How do they become motivated? What are the mechanisms they employ?

2.4.2 *Boundary breeches and sensemaking elites*

In contrast to Seo and Creed’s emphasis on action generated by marginalized actors, Greenwood and colleagues examined the role of central actors, professional associations involved in a change project in a mature field. In doing so, they determined that one factor determining the likelihood that a new practice would be adopted was its *theorization* (Strang and Meyer 1993), the “development and

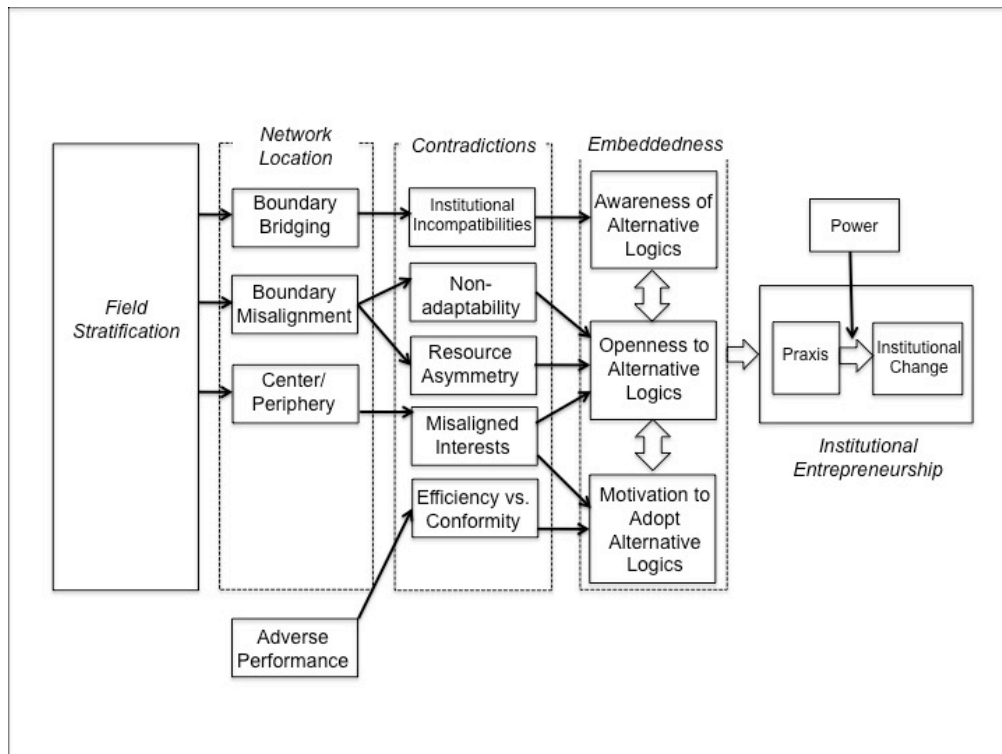
specification of abstract categories and the elaboration of chains of cause and effect” which “simplify and distill the properties of new practices and explain the outcomes they produce” (Greenwood, Suddaby et al. 2002: 60). In the setting they studied, theorization was not a simple linear stop on the path to diffusion, but was part of an iterative process that only eventually resulted in shared understanding among the field’s actors. The professional association played a pivotal role in legitimating the new institutional form they examined, first, during theorization, by contributing normative or moral legitimacy to the innovation by associating it with the values and duties of the profession, and then, during its diffusion, by helping it attain cognitive legitimacy. In essence, the professional association served as a space for social construction, a community in which members could make sense of changing circumstances and innovations through intra-professional discourse and theorization. (Greenwood, Suddaby et al. 2002: 74)

Later, Greenwood and Suddaby went on to apply the Seo and Creed dialectical framework (Seo and Creed 2002) to provide an explanation for the entrepreneurial activities aimed at introducing a new organizational form by actors seemingly privileged by the existing institutional arrangements, elite accounting firms (Greenwood and Suddaby 2006). They did so by applying network location theory to refine theorization about the organizational field. In particular, they found that actors who interact across multiple fields are exposed to contradictions in institutional logics that effectively lower their embeddedness and make them more receptive to change.

The process model they developed (reproduced here in Figure 2-1) invoked four dynamics, three of them related to field characteristics, to explain elite accounting firms’ decision to introduce a contested new form. The first, adverse performance, is

not structurally defined like the other three, but is similar to and associated with the inefficiency antecedent identified by Seo and Creed. The second, boundary-bridging, is associated with actors who operate in multiple fields and are thus exposed to institutional incompatibilities. The third, boundary misalignment, can occur when these bridging actors' interests become less aligned with dominant institutions, rendering them less motivated to conform to existing constraints. The fourth, resource asymmetry, occurs when certain actors' power increases relative to the regulatory bodies that would constrain them, ensuring they are less bound to do so. The conclusions reached by Greenwood and Suddaby and by Seo and Creed indicate that agency by embedded actors is made possible when their embeddedness is reduced—either because they are exposed to contradictory logics or because their interests become less aligned with those of the dominant center of the field.

Figure 2-1 Process model of institutional entrepreneurship (Greenwood and Suddaby 2006: 41)



2.4.3 Sensegiving legitimacy: battles for meaning

The growing emphasis on disembedded actors engaged in political contestation led researchers to look to social movement theory for help in understanding how such contestation is actualized (Lounsbury, Ventresca et al. 2003; Rao, Monin et al. 2003). Notions of political contestation were reflected in accounts of “institutional war” (Hoffman 1999: 352), in which motivated actors utilized *framing* (Snow and Benford 1992; Benford 1993; Benford and Snow 2000) strategies to manipulate their audience’s interpretations in “battles of meaning” (Hargrave and Van de Ven 2006: 870). The concept of framing brings a discursive element into considerations of deinstitutionalization and reinstitutionalization, one which introduces a new resource which can be utilized to alter power relations in a field, that of interpretive, sensegiving legitimacy. However, such legitimacy can be questioned, resulting in a dialectical battle over interpretation that has been referred to as a ‘framing contest’ (Goffman 1974; Ryan 1991; Kaplan 2008), as incumbents attempt to defend the status quo through strategic manoeuvres (Oliver 1991).

2.5 Institutional work: Creating, maintaining, and disrupting

Under the umbrella term, *institutional work*, Lawrence and Suddaby (Lawrence and Suddaby 2006) attempted to delineate a common framework underlying not just institutional entrepreneurship research (which focused mostly on institutional creation), but also research that focused on actors engaged in transformation projects and in the maintenance of existing institutions. Defining institutional work as “the purposive action of individuals and organizations aimed at creating, maintaining, and disrupting institutions” (Lawrence and Suddaby 2006: 215), they argued for an increased understanding of how the actions of individuals and organizations affect

institutions, in contrast to the dominant focus on how institutions affect the action of individuals and organizations. Finding their own definition of institutions most similar to that of Jepperson (Jepperson 1991), they asserted that institutions are “the product (intentional or otherwise) of purposive action.” (Lawrence and Suddaby 2006: 216). Stepping away from the prevailing depictions of heroic individual actors embarked on institutional projects, Lawrence and Suddaby asserted that multiple actors engage in institutional work, and that there was a critical need to “understand the ways in which disparate sets of actors, each pursuing their own vision, can become co-ordinated in a common project” (Lawrence and Suddaby 2006: 249).

2.5.1 Purposive action, contextually constrained

Drawing on the sociology of practice perspective (Bourdieu 1977; Giddens 1984), Lawrence and Suddaby contrasted practice and process: Whereas the process lens common to institutional studies focused on the institutions themselves, “what happens to them; how they are transformed; what states they take on and in what order”, a practice focus would instead describe “the intelligent activities of individuals who are working to effect those events and achieve that outcome” (Lawrence and Suddaby 2006: 219). While thus rejecting the depiction of actors as cultural dopes (Hirsch and Lounsbury 1997), they emphasized that actions are institutionally embedded and actors’ creative toolkits are contextually determined, thereby steering clear of endorsing the long-discarded rational actor model.

2.5.2 Nested logics and complex interrelations

Whereas process-oriented research tended to view actors’ institutional projects as discrete, relatively linear endeavours, Lawrence and Suddaby (2006) emphasized the

complexity of institutional work, both in terms of inter-field interactions and temporal instability. Adopting Holm's (Holm 1995) nested view of institutions, they asserted that "researchers must shed the unfortunate structural assumption that an actor engages only in a single organizational field...it is really the intersection and contestation of multiple logics within nested fields that provide actors the resources to engage in [institutional work]" (Lawrence and Suddaby 2006: 248). They note further that, while Seo and Creed (2002) credited institutional contradictions with the ability to spur agents to undertake change projects, it is also possible that "institutional contradictions will engender a host of practices aimed not at institutional transformation, but at repairing or concealing those contradictions" (Lawrence and Suddaby 2006: 248), and diffusion is likely to include conflict, persuasive work, experimentation, modification, and changes to inter-connected institutional elements. A greater acknowledgement of institutional work would, in their view, enable researchers to "avoid the subjective illusion of institutional outcomes and unpack the relational and interactive moments of institutional production" (Lawrence and Suddaby 2006: 249).

De-emphasizing outcomes and emphasizing interactive institutional production brings institutionalism closer to the sensemaking perspective that sees actors attempting to understand and act appropriately in response to unexpected events where information is incomplete, where meanings are fraught with ambiguity, and where solutions are contingent and experimental. In stark contrast to muscular institutional entrepreneurs, sensemakers do not bring a ready-made solution to their attempts to cope with the alterations in the institutional landscape that force them to set aside their rote performances. Even sensegiving is likely to be hesitant and provisional when

situations are poorly understood, as in the case being examined in this study. In such instances, where solutions are unclear, actors may deploy institutional elements creatively as they attempt to cope with uncertainty and confusion.

2.6 Institutional work: Implications for workplace, workers, and work

The emphasis on relations between actors that is seen in the institutional work framework of Lawrence and Suddaby (2006) raises three questions that are of relevance here: 1) Where is the work to be done, i.e., what is the field? 2) Who is a legitimate worker? 3) What does the work entail? Recent re-conceptualizations of core concepts of institutional theory address these questions in ways that can inform research into institutional work, particularly as it relates to sensemaking and sensegiving. In particular, researchers have found it necessary to redefine and expand their conceptualizations of the organizational field, in terms of emergence, legitimate actors, boundaries, internal structure, and collaboration.

2.6.1 *The field*

The organizational field (Scott 1991) has been a central concept in organizational theory, and early research viewed fields as relatively static. These early fields focused on a common technology or market, consisting of a limited and relatively homogenous group of organizational actors, thereby laying the foundation for isomorphism to dominate. Yet, as early as 1991, in trying to explain how change might arise and diffuse in an isomorphic field, Leblebici, Salancik, Copay and King looked to flows at the field-level. Stating that institutional isomorphism “renders self-interests irrelevant”, they concluded that, “change in existing practices becomes possible only as a result of forces outside of a social system in equilibrium” (Leblebici,

Salancik et al. 1991: 336). Leblebici et al called for an expansion of organizational field boundaries to include actors not previously recognized as wielding agency, emphasizing that what they envisioned was an inter-organizational construct: “the historically specific practices and transactions produced by network, cultural, and historical actors and their actions” (Leblebici, Salancik et al. 1991: 338). Other researchers reached the same conclusions, so that, over time, the field “became seen as *dynamic* and capable of moving towards something other than isomorphism; evolving both through the entry or exit of particular organizations or populations (Barnett & Carroll, 1993; Hoffman, 1999; Scott, Reuf, Mendel and Caronna, 2000) and through an alteration of the interaction patterns and power balances among them (Brint & Karabel, 1991; Greenwood & Hinings, 1996)” (Wooten and Hoffman 2008: 135) .

In a complete break with institutional theory’s initial assumption that field formation occurred around technologies or markets, Hoffman (1999) introduced the novel idea that fields in fact form around issues, and he expanded the list of relevant actors to include interested external actors, such as activists and the media. In Hoffman’s view, “fields become centers of debates in which competing interests negotiate over issue interpretation” (Hoffman 1999: 351). This revision of the field locus and composition created the potential for the emerging dialectical perspective, which saw the field as an arena for interest-driven political conflict arising out of contradictory institutional logics (Seo and Creed 2002). In this vision, the field was the site of discourse-based work (Phillips, Lawrence et al. 2004; Maguire and Hardy 2009), in which actors used rhetoric strategically in sensegiving activities that aimed to persuasively build cognitive legitimacy for their preferred institutional projects (Suddaby and Greenwood 2005).

However, to a certain extent the dialectical perspective applied to an issue-based field perpetuated the notion of the heroic, individual entrepreneur engaging in institutional projects that are pre-defined and relatively linear. In failing to account for the fact that actors who undertake institutional work are varied, multiple, inter-connected, and engaged with one another in practical dealings, dialectical explanations provide an incomplete view of “the ways in which disparate sets of actors, each pursuing their own vision, can become co-ordinated in a common project” (Lawrence and Suddaby 2006: 249). In fact, institutional work can involve processes like joint experimentation, knowledge creation, and mutually negotiated understandings, and these products of sensemaking may arise through collective searches for meaning that do not necessarily emerge from contestation. Recognizing that discourse may be a collective accomplishment of multiple actors, Lawrence and Suddaby (2006) point toward dialogical analysis as a potentially fruitful avenue for improving our understanding, though it has seldom been used in institutional research. (Lawrence and Suddaby 2006)

A dialogic perspective could be implicit in a recent re-conceptualization of the organizational field itself, as a *relational space* (Wooten and Hoffman 2008: 138). According to these researchers, fields are “richly contextualized spaces” for sensemaking, in which organizations interact “in an effort to develop collective understandings regarding matters that are consequential for organization and field-level activities” (Wooten and Hoffman 2008: 138).

The importance of relational spaces to processes of institutional change has been explored by Kellogg in an analysis that compared the microinstitutional change processes that followed the passage of a new regulation that reformed rules governing

surgical resident training in the US (Kellogg 2009). Her use of the term ‘relational space’ builds on the construct of ‘free spaces’ from social movement theory (Polletta 1999), areas (physical or virtual) that are apart from those actors who would defend the status quo, a space where challengers to the status quo can interact. In addition to these requirements for isolation and interaction, Kellogg maintained that a third dimension was needed for the space to facilitate change, namely, the inclusion of representatives from all areas affected by the change. These three dimensions, isolation, interaction, and inclusion, make up a subset of free spaces that she called ‘relational spaces’ (659).

2.6.2 *Participants*

Viewing fields as relational spaces where success is at least partly determined by the inclusion of an appropriate roster of participants raises questions regarding who will be attracted to the field, and who will be deemed legitimate to engage in sensemaking and sensegiving activities within the relational space. In the Wooten and Hoffman conceptualization, fields arise when organizations “begin to take note of one another...one actor takes note of another and through this process of referencing one another, actors bring a field into existence” (Wooten and Hoffman 2008: 138). The idea that it is actors taking note of one another that brings a field into existence can be seen as complementary to past research that has focused on how critical events attract (or do not) industry attention (Hoffman and Ocasio 2001). This research builds on previous work that has linked institutional change with shocks (Fligstein 1991) or jolts (Meyer 1982), “contextually dramatic happenings that focus sustained public attention and invite the collective definition or redefinition of social problems (Pride 1995)” (Hoffman and Ocasio 2001: 414).

Trying to explain why it is that some events elicit high levels of sustained attention from industry, whereas others do not, Hoffman and Ocasio (2001) highlighted the sensegiving legitimacy of the press. Their analysis began with three assumptions from attention-based theories of organizational action: selective attention, situated cognition, and structural determination. Selective attention (Simon 1947; Ocasio 2001) suggests not only that actors do not attend to external events or situations equally, but also that the objective characteristics of the event do not determine the attention paid to it. Rather, according to this principle, it is the event's *enactment* (Weick 1979; Ocasio 2001) that determines its salience, and salience is what drives attention. Situated cognition (Suchman 1987; Ocasio 1997) highlights the importance of the channels of communication to which actors attend. Structural determination posits that individuals' attention and sensemaking about an event is shaped by their group affiliations; in particular, according to Ocasio, it is the rules of the game, status of the players, social identity and structural position, and available resources, including technology, that determine how much attention will be paid to an event (Ocasio 1997).

In their comparative study of industry attention to a variety of events related to the chemical industry's impact on the natural environment, Hoffman and Ocasio (2001) found that, while media coverage was related to industry attention, it was not the quantity of the coverage, but rather, the type of coverage, that is, its enactment, that determined the attention paid. In particular, they found that attributions of accountability to the industry were more likely to trigger attention by the industry. Attention was also related to industry perceptions about the magnitude of the threat to their image, but of even more salience were threats to their identity—for example, the

self-perception of the US petrochemical industry in the 1950s was that their work was vital to the nation and was a force for good in the lives of individual Americans who benefited from their products, so enactments that contradicted this positive identity were likely to attract industry attention (Hoffman and Ocasio 2001: 416). Hoffman and Ocasio proposed that industry perceptions of critics' differing levels of sensegiving legitimacy also had a profound effect on the attention paid to an event. Noting the chemical industry's indifference to the criticisms levelled at them on the first Earth Day versus its continued contestation of the science-based attack in *Silent Spring*, Hoffman and Ocasio opined that the Earth Day event did not garner attention because "student activists were viewed as political actors uninformed by science, and the industry's scientific identity was not directly threatened" (Hoffman and Ocasio 2001: 430-431).

While highly useful in identifying factors involved in attracting and sustaining industry attention to events, including the impact of sensegivers' legitimacy in the eyes of those they would influence, one question not examined in the Hoffman and Ocasio study is why some events spark prolonged engagement by the activist community, whereas others do not. It is therefore not clear if the same factors apply in drawing activists' attention to industry targets. Nor do they explore the effects of ongoing, divergent event interpretation by issue stakeholders, and their efforts to increase their legitimacy as sensemakers and sensegivers with others in the field.

While also acknowledging the power of the press in both provoking and shaping sensemaking among industry actors, Nigam and Ocasio (2010) went on to point to the perceived legitimacy of prominent institutional actors as sensegivers (Nigam and Ocasio 2010). Saying that the emergence of a new institutional logic in the US

healthcare system could not be explained fully by political conflict and competing interests, these authors emphasized the role of *cognitive context*, “contextual factors that shape how sensegiving efforts are interpreted or received” (Nigam and Ocasio 2010: 838), in which “sensegiving efforts by embedded agents feed into sensemaking efforts on the part of diverse actors within a field (Maitlis 2005)” (Nigam and Ocasio 2010: 839), with the result that dominant actors in fact changed their beliefs.

Importantly, Nigam and Ocasio also found that the significance of an event did not necessarily fade upon the deinstitutionalization of a logic, but could persist over a long period of time as actors continued to engage in sensemaking about the event. In their examination of the erosion of the logic of physician authority in the US health care field, they noted that its deinstitutionalization was followed by a prolonged period of sensemaking before the new managed care logic was consolidated, during which “internal contradictions between professional, community, market, state, and bureaucratic logics intensified as new practices, norms, and commitments collided with persistent features of the logic of physician authority (Seo and Creed 2002)” (Nigam and Ocasio 2010: 830).

2.6.3 Making sense of contradictory and competing logics

Actors labour to interpret and act on events, and diverse stakeholders’ interpretations of the same event may be constructed using different, potentially contradictory institutional logics (Seo and Creed 2002; Greenwood, Raynard et al. 2011).

Institutional logics, first theorized by Friedland and Alford (Friedland and Alford 1991), are the “taken-for-granted resilient social prescriptions that enable actors to make sense of their situation (Greenwood, Diaz et al. 2010: 521)” which “underpin the appropriateness of organizational practices in given settings and at particular

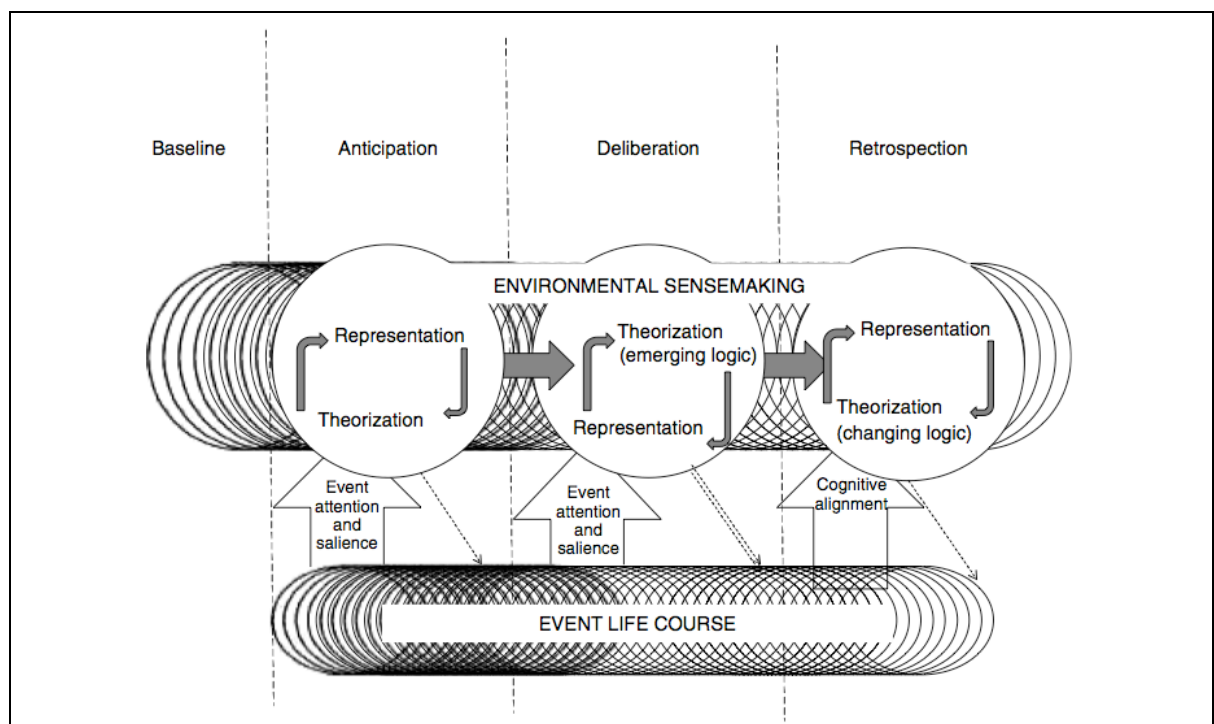
historical moments (Greenwood, Diaz et al. 2010: 522)". A significant line of inquiry has arisen to explore how organizational actors cope with the challenge of making sense of multiple, sometimes contradictory, logics (Seo and Creed 2002; Greenwood, Raynard et al. 2011). How actors interpret events and champion their interpretations with others is a highly significant organizational activity: "Organizational survival may even be at stake" (Greenwood, Raynard et al. 2011: 319).

Early research often examined historical processes of change in which a dominant institutional logic was overtaken by a challenger. Thus, for example, upstart nouvelle cuisine overturned traditional French gastronomy (Rao, Monin et al. 2003), medical professionalism was supplanted by business-like Canadian healthcare (Reay and Hinings 2005), and textbook publishing lost its editorial focus and became dominated by a market logic (Thornton and Ocasio 1999).

An example of this approach that is especially useful in the context of the analysis presented in this thesis can be seen in the recent attempt by Nigam and Ocasio (2010) to discover the mechanisms involved when event attention results in institutional change. These authors combined the institutional and sensemaking (Weick 1995; Weick, Sutcliffe et al. 2005) approaches in their study of the transition in US healthcare from a physician authority logic to a managed care logic (Nigam and Ocasio 2010), developing a process model (reproduced in Figure 2-2) to describe how events can catalyze cognitive processes in such a way that institutional logics are transformed. Key to their theorizing was the notion that a salient event triggers sensemaking about the broader organizational field as well as the event itself, "context-specific sensemaking" (Nigam and Ocasio 2010: 825). Further, Nigam and Ocasio concurred with Greenwood et al (Greenwood, Suddaby et al. 2002) that

abstract theorization plays an important role in institutional logic change, but they also identified a second mechanism in play, *representation*, which “focuses on specific features of the environment and concrete examples of institutional actors interrelating in novel ways” (Nigam and Ocasio 2010: 826) , and these extracted cues (Weick 1995), in an iterative and evolving process, lead to new theorization. In this conceptualization, and in keeping with the sensemaking perspective (Weick 1995), sensemaking does not only include cognitive interpretation, but enactment, here seen in the form of experimentation and partial solutions.

Figure 2-2 Process model of event attention and environmental sensemaking (Nigam and Ocasio 2010: 825)



The assumption underlying these narratives is that competition is limited to two logics, and, while prolonged sensemaking and sensegiving followed in the aftermath of the event described in Nigam and Ocasio (2010), ultimately competing logics’ coexistence was initially only considered transitional (Greenwood, Raynard et al.

2011: 322). More recently, however, researchers have begun to explore the implications of multiple logics co-existing over prolonged periods (Hoffman 1999; Reay and Hinings 2009), including the multiplicity captured as ‘constellations’ of logics in Goodrick and Reay (Goodrick and Reay 2011). Work within this stream has demonstrated, for example, that multiple logics may diffuse unevenly through a field, and that actors advance their interests by adopting selective elements so that variations emerge (Purdy and Gray 2009), and it has also attended to the influence of non-market institutions and logics (Greenwood, Diaz et al. 2010).

The research that underpins this thesis contributes to this academic stream by exploring how sensemaking and sensegiving work can result in a new logic that comes to be viewed as a plausible (Weick 1995) competitor to a dominant institutional logic that underpins collective activity at a field level. While the fundamental logics are mutually exclusive, they persist over a prolonged period of time, in part because additional logics come into play, so that the dominant logic is both reinforced and degraded.

Importantly, if a new logic is to take hold, material practices must change to align with it (Davis and Marquis 2005): “Mere cognitive agreement around a logic is insufficient to establish institutionalization”, but it is difficult for new practices to emerge if “the knowledge base for practice is uncertain (Goodrick and Salancik, 1996)” (Purdy and Gray 2009: 357). The shift from simple models of logic change to ones that preclude the relief provided when the field reforms around a “winning logic” (Reay and Hinings 2009: 632), models that emphasize multiplicity and endurance, implies that coping with such complexity, and determining appropriate practices, will involve a great deal of institutional work. This work is likely to be highly relational, as well,

since logics exist at multiple levels and are interdependent, even when conflictual (Friedland and Alford 1991). In the study outlined here, prolonged processes of interrelated sensemaking and sensegiving ensued as champions of the new logic attempted to overcome the inertia (Oliver 1992) of existing institutionalized practices in order to make it material and thus strengthen its hold. By describing these processes, this research contributes to theorization about how actors cope with unresolved logic multiplicity.

2.7 Sensemaking and sensegiving as collective institutional work

The developments discussed in the previous section lead to the conceptualization of sensemaking and sensegiving as forms of institutional work, undertaken when an event evolves into an issue, performed by a wide variety of actors, who interact over time, within a relational space. In this formulation, institutional change might arise as a result of collective action involving political conflict that arises from actors' reactions to institutional contradictions (Seo and Creed 2002; Lounsbury, Ventresca et al. 2003; Hargrave and Van de Ven 2006; Maguire and Hardy 2009), but it is also the case that contextual factors may facilitate changes in belief that make institutional change more consensual and collaborative (Nigam and Ocasio 2010). Collective explanations line up with the call by Lawrence, Suddaby and Beca to examine agency as a distributed phenomenon, "accomplished through the coordinated and uncoordinated efforts of a potentially large number of actors" (Lawrence, Suddaby et al. 2011).

2.7.1 Collaborating to cope with complexity and confusion

Collaborations form an important locus for coordinated action, particularly in the type of sensemaking case presented in this thesis, "when the problems faced by

organizations are complex and multi-faceted...such as the environment” (Phillips, Lawrence et al. 2000: 39). Inherently dialogic, a collaboration is a “cooperative, interorganizational relationship that is negotiated in an ongoing communicative process (Lawrence, Hardy et al. 2002: 282)” within networks of organizations. Importantly for linking collective sensemaking to institutional change, collaborative networks are known to facilitate not just inter-organizational learning, but creation of new knowledge (Powell, Koput et al. 1996), which “grows out of the sort of ongoing social interaction that occurs in ongoing collaborations (Hardy, Phillips et al. 2003: 326)”.

Collaborative processes have begun to draw the attention of institutional scholars, but still remain largely unexplored. An exception can be found in Dorado (2005), in which she theorized that three processes of agency could lead to institutional change: institutional entrepreneurship, partaking, and convening (Dorado 2005). In this formulation, she attempted to reconcile the two seemingly dissonant prevailing models: *institutional entrepreneurship*, in which active and aware change agents leverage resources (Rao 1998; Lounsbury 2001), and the opposing model, that emphasizes unaware embedded agents whose imperfect reproductions of institutionalized behaviors accumulate over time to produce change (Giddens 1984; Barley and Tolbert 1997), a process she labelled *partaking*. To these two dominant conceptualizations she added a third process, *convening*, in which institutional change is “jumpstarted by the creation of collaborative arrangements”, further speculating that “convening may be the only process that can generate change in what Trist (1983) labels problem domains—i.e. organizational fields defined by problems too many-sided and complex for any one individual to handle” (Dorado 2005: 386). These

domains “may be too uncertain (complex and unstable) to permit strategic action (Milliken 1987) or comfortably accommodate routine behaviors (Emirbayer and Mische 1998)” (Dorado 2005: 387). As in the entrepreneurial model, convening is seen as a strategic form of agency, but it differs inasmuch as the object of actors’ advocacy is not a particular change project, but rather “the desirability and viability of collaborating to jumpstart the development of a solution to a problem (Waddock 1993; Brown and Ashman 1996)” (Dorado 2005: 390). These agents are politically skilful, in the manner of entrepreneurs, but, according to Dorado, their success depends also on their appearing to be unbiased, credible, and knowledgeable about the problem (Gray 1985).

Dorado proposes three possible agentic behaviors: routine, strategic, and sensemaking, which she attempts to link to actors’ temporal orientation. She asserts that routine behavior is past-oriented, sensemaking is present-oriented, and strategic action is future oriented, but in trying to predict, then, that routine behavior and sensemaking can only produce change through partaking, i.e., cumulative accretions of unintended alterations, her logic is inconsistent and unconvincing. Problematically, she makes the claim that sensemaking is probable under conditions of uncertainty, when actors “will construct, filter, frame, and create facticity (Turner 1987; Weick 1995: 14), which will help them to define the adequate context or space for action (Schön 1983)” (Dorado 2005: 389), yet fails to recognize that these are the very conditions she has identified as conducive to collaboration. Dorado’s theorization, while a valuable beginning, awaits empirical verification, and she herself seems to indicate some uncertainty about the nature of change processes in situations where uncertainty is high, emphasizing the need for future research on this topic. Because

the empirical case presented here examines sensemaking processes under conditions of high uncertainty, it will help to refine and clarify the nature of the relationship between sensemaking, as an agentic behavior, and collaboration, as a process for strategic change.

2.7.2 *Cognitive dissonance in collaboration: Agreeing about how to disagree*

Though empirical examples of collaborative processes have thus far been rare in institutionalism, Reay and Hinings (2009) have presented a useful depiction of disparate actors in the Canadian health care system trying to cope cooperatively with the demands of competing logics (Reay and Hinings 2009). In their article explicating the processes involved in sustaining competing logics, Reay and Hinings described a successful application of one type of ‘non-trust’ collaboration, a case based on *pragmatic collaboration*, in which “groups work together because they see no other way to accomplish particular tasks” (Reay & Hinings 2009: 631). Reay and Hinings found that having a common purpose for the collaboration could be sufficient for success, even in the absence of a common identity.

With the notable exception of the Reay and Hinings work, ‘non-trust’ collaboration has not been well-studied, and while those authors shed light on the mechanisms involved in pragmatic collaboration, little is known about the type of collective process in which sensemaking and sensegiving take place among actors who do not share an understanding of the fundamental nature of the problem they face, a situation described by psychologist Daniel Kahneman as “adversarial collaboration” (Kahneman 2003). The particular type of adversarial collaboration examined in the case study presented in this thesis is one which fits the strict Lawrence et al definition

because it “relies on neither market nor hierarchical mechanisms of control (Lawrence, Hardy et al. 2002: 282)”, bringing together participants who “remain relatively autonomous and must be convinced to act even though there is no legitimate authority that can demand co-operation” (Phillips, Lawrence et al. 2000: 25). Previous research has suggested that institutional change is less likely where collaborative relations do not involve strong ties (Lawrence, Hardy et al. 2002), yet change is seen in the case being examined in this study, which hinges on adversarial collaboration.

While Reay and Hinings determined that, in the case they examined, common identity was unnecessary to successful collaboration, it is not clear if that is the case where adversarial collaboration is concerned; active identity legitimation (Wry, Lounsbury et al. 2011) and rework (Lok 2010) might be necessary. According to Phillips and his colleagues, in collaborative arrangements negotiations over roles and objectives that are normally already institutionalized within market- and authority-based relationships become explicit objects of sensemaking among participants, in which “organizations work to overcome the unstructured nature of the collaborative relationships, and in so doing they socially construct new institutional forms which they then disseminate within their institutional fields” (Phillips, Lawrence et al. 2000: 27). These authors’ view is that institutional rules and resources serve as resources to actors negotiating their collaboration, acting as building blocks in at least three necessary processes: problem definition, membership, and response practices. Problem definition is especially crucial, because “the framing of the issue limits the potential outcome of the collaboration and plays an important role in determining who has a legitimate case for membership” (Phillips, Lawrence et al. 2000: 31). While

dominant members are likely to have greater power in imposing their own rules and resources, dominance can arise from multiple dimensions, including formal authority, access to resources, or discursive legitimacy: Discursive legitimacy has been seen to be a significant source of influence in interactions between corporations and environmental groups, “where the environmentalists are able to represent the collaboration as legitimately interested in ecological issues (e.g. Westley and Vredenburg, 1991)” (Phillips, Lawrence et al. 2000: 33).

2.7.3 *Emotional work in adversarial collaboration*

One weakness of existing theorizations about collaborative processes of institutional change is that, by prioritizing the cognitive and political labor involved, the role of emotion is ignored. Though the micro-level processes and effects of emotion in organizational life have drawn considerable attention from researchers in recent years (Fineman 2006), the topic has traditionally attracted little interest among institutionalists. However, recently work has begun to emerge that explores the emotional side of agency (Creed, DeJordy et al. 2010), addressing the criticism by DiMaggio and Powell (1991) that the theory’s so-called ‘cognitive turn’ occluded interest in affective elements of action. Scott, too, recognized that institutional pressures are experienced not only cognitively, but emotionally, and suggested that emotional elements be examined as a possible ‘fourth pillar’ of institutionalism (Scott 2001). Recent theorization in this area suggests that emotional investment or disinvestment in a dominant institutional order may be a critical factor in institutional change (Voronov and Vince 2012), but it awaits empirical verification.

Though the idea that emotional investment plays a role in institutional change has yet to be demonstrated empirically, it is intuitively attractive. After all, relations occur

between people, acting out their roles, as agents of their organizations, and their relations are negotiated and expressed through discourse, which expresses not only the products of cognition, but also of emotion.

Intuition also points toward a link between emotional investment or disinvestment and identity concerns. Institutional research has produced conflicting findings where identity is concerned. Some studies indicate that organizations that combine institutional logics in new ways must create a common organizational identity that strikes a balance between the logics being combined (Glynn and Lounsbury 2005; Hardy, Lawrence et al. 2005; Battilana and Dorado 2010), and the same has been said of those who seek to collaborate (Hardy, Lawrence et al. 2005), yet common identity was not found to be important in the case documented by Reay and Hinings (Reay and Hinings 2009). These last authors speculated that the discrepancy between their findings on common identity might have arisen because of the pragmatic nature of the collaboration studied, in which one set of actors held significant expertise that the other set of actors relied on to achieve desired outcomes, but this is an area that needs further empirical examination and theoretical elaboration. For example, in the Reay and Hinings case, the actors championing different logics had little choice but to collaborate, as they were jointly responsible to higher-level authorities who were able to mandate certain outcomes. In contrast, the actors examined in the case presented here bring different logics and identities to a voluntary collaboration, undertaken without an external mandate. Existing models do not account for this type of adversarial sensemaking project, and consequently, there is much to learn about the implications for identity and emotion. Do adversaries maintain their identities, or create new joint identities, or forge some sort of hybrid arrangement? According to

Wry, Lounsbury et al., legitimacy issues arise in relation to identity construction, and a clear defining story about the group's purpose and core practices is associated with greater legitimacy (Wry, Lounsbury et al. 2011). How might adversaries construct such a story? What is the path from illegitimacy to legitimacy, and how do plausibility and credibility relate to that legitimacy? Finally, what emotional work might they undertake to support this identity work?

The idea is also congruent with the sensemaking perspective, for although the cognitive aims of sensemaking and sensegiving processes are typically emphasized in academic accounts, it is also widely acknowledged that individuals' capacity for sensemaking is affected by emotion (Weick 1993), and sensegivers' targets' willingness to 'sensetake' is influenced by affective factors (Gioia and Chittipeddi 1991) as well as purely cognitive assessments. The case that will be examined here offers an opportunity to explore an empirical example in which emotional processes are in play, both during the initial stage, of movement away from a logic of inexhaustibility and toward a logic of collapse, and in the latter stage, typified by adversarial collaboration.

This analysis builds on emerging research by social movement scholars into the emotional side of activism, while diverging in important ways. Activists are known to have access to emotional repertoires which they use strategically (Alinsky 1971; Whittier 2001), and institutionalized rules provide guidance regarding what is appropriate and what is not (Hochschild 1979). Accordingly, activist survivors of child abuse are encouraged to display a different range of emotions in their internal therapy-directed dealings than when appealing to the state for victim compensation (Whittier 2001). On the other hand, displaying emotion at all may be considered inappropriate, as when highly professionalized social movements exert emotional

labour in order to “create the appearance of disinterestedness or objectivity” (Goodwin, Jasper et al. 2001: 15). In general, the social movement literature emphasizes the strategic provocation of negative emotions in external targets, and the effortful creation and maintenance of positive emotions among members. The empirical case examined in this paper goes beyond this view based in traditional conceptualizations of social movements to demonstrate how actors may strategically invoke institutionalized interactional elements from the larger social field, manipulating the emotional experience of adversarial collaborative sensemaking in order to recruit targeted actors to their cause.

To summarize, sensegivers may attend to the emotion they elicit and engage in sensemaking around it; they may re-frame the content of their discourse, or shift its target, in order to alter the emotion it elicits. They may also call on a repertoire of institutionalized ‘process logics’ to alter the emotional context within the relational space; guided by those process logics, they may employ a wide variety of practices, rituals, etc. that are themselves institutions borrowed from other settings. Kellogg’s study of relational spaces described some work of this type, as those attempting institutional change “generated relational capacities for collective action” (Kellogg 2009: 704) Here I will explore how actors engaged in collaborative sensemaking, i.e., sensemaking and sensegiving within a relational field, may creatively deploy different combinations of framing and process logics to make change appear both rational and emotionally acceptable, especially to actors who are deemed to have greater power in the field. This will contribute to institutional theory by illuminating the mechanisms by which “disparate sets of actors, each pursuing their own vision, can become co-ordinated in a common project” (Lawrence and Suddaby 2006: 249), where

competing logics co-exist, actors are adversaries, and collaboration is voluntary.

Adopting the point of view that organizational fields can be relational spaces where adversaries act together to engage in collective sensemaking and sensegiving about events and try to engender field-level change leads to the questions that guide this research and whose theorization will contribute to institutional theory: How is it that actors engage in the institutional work of sensemaking and sensegiving in order to make a new logic plausible, and how do they creatively use institutional resources to shape cognition and emotion in an adversarial collaborative sensemaking project aimed at institutionalizing the new logic in material practices?

3 THEMES FROM THE SENSEMAKING LITERATURE

This chapter discusses the development of the sensemaking perspective and highlights particular concepts from the literature that will inform the data analysis in this study. It begins with a review of the theoretical antecedents of sensemaking, followed by a discussion of its core tenets, as theorized by Karl Weick. The third section describes the emphasis within the sensemaking literature on crises and change events, viewed as contexts in which sensemaking processes are most readily observed. In the next section, the fundamentally social, relational nature of the sensemaking perspective is explored. Finally, the chapter concludes with a discussion of recent efforts to bridge the sensemaking perspective and institutional theory.

3.1 Theoretical roots of the organizational sensemaking perspective

Like institutional theory, scholarly theorizations of sensemaking arose to challenge conventional views of actor rationality. However, where the initial focus of institutional theory was on the processes that led institutional elements to become taken-for-granted, emphasizing how historical and cultural context led to decoupling of organizational practices from considerations of rational efficiency, sensemaking highlighted the disruption of such taken-for-granted states, exploring how actors generate plausible meanings to rationalize their actions in response to unexpected events that interrupt their routines. Thus, while institutional theorists DiMaggio and Powell asked, “why there is such startling homogeneity of organizational forms and practices” (DiMaggio and Powell 1983: 147), sensemaking scholars sought to understand variation, arising as a product of actors’ different perceptions and interpretations.

3.1.1 Bounded rationality and information overload

The roots of the sensemaking program lie in work on cognition in organizations that began with the introduction of the behavioral approach to decision making under conditions of uncertainty (March and Simon 1958; Cyert and March 1963). The behavioral approach built on Simon's notion of 'bounded rationality' (Simon 1957), which took issue with the view held within traditional economics that saw individuals as rational decision makers, acting with perfect knowledge, replacing it instead with a perspective that acknowledged the limited capacity of individuals to locate, absorb, and act upon information, given the vast flow that was available. The concept of bounded rationality led researchers to examine the variation observed among organizations responding to similar environments, with studies initially taking a computational view of information processing by firms, in which "the problem that organizations face is one of searching and processing relevant information when such search is costly and decision makers are boundedly rational" (Lant 2002: 344).

Early work on cognition focused on how organizations obtain and use information, with a view toward developing normative prescriptions for ways organizations might gather and process information most effectively. Eventually, though, researchers began to acknowledge the role of perceptual subjectivity in organizational information processing (Lant 2002). Importantly, studies in the 1970s and early 1980s illustrated differences in how groups perceived uncertainty in the environment (Duncan 1972), how different entities perceived, interpreted, and responded strategically to the same events in different ways (Kiesler and Sproull 1982), and, paradoxically, how organizations tended to institutionalize their existing state of knowledge when they established information management systems (Starbuck 1976). Environmental

uncertainty, actor variability, and organizational inertia pointed to the inherent ambiguity of perceptual processes.

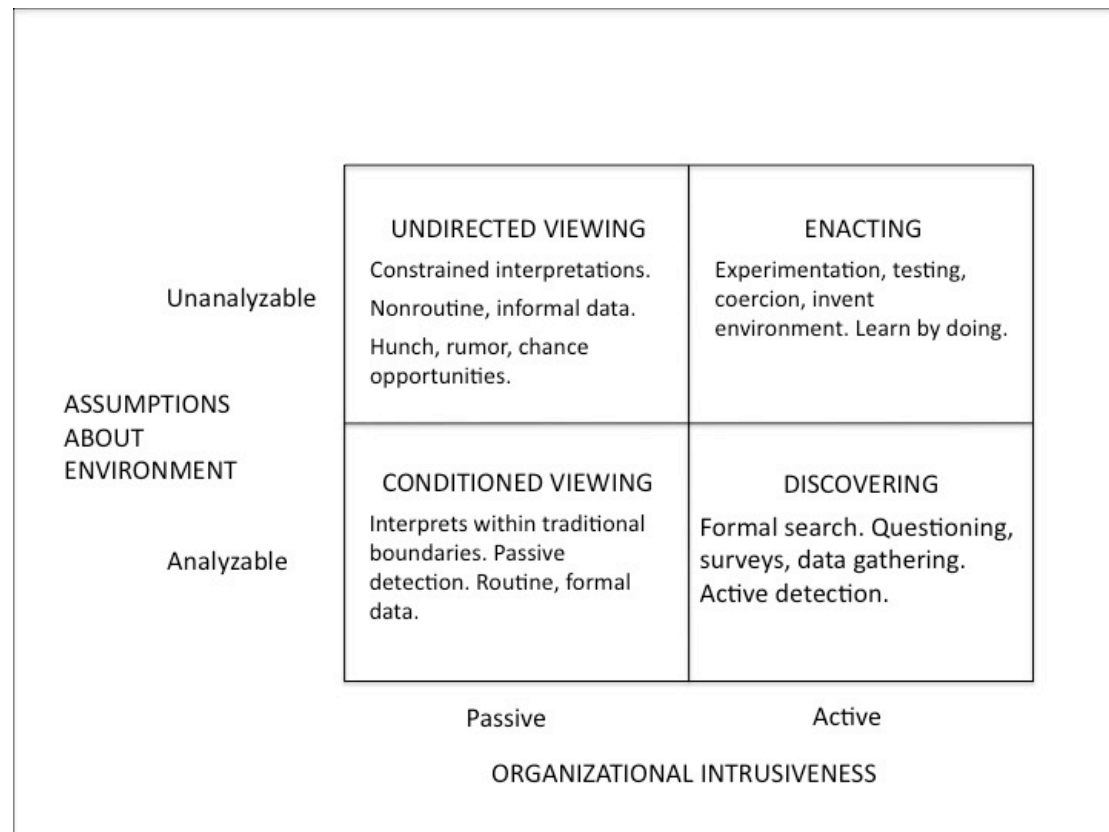
3.1.2 Organizations as systems of interpretation

The early work on cognition that emphasized the need to manage huge flows of information theorized the organization's task as a computational one, but over time, scholars began to explore processes of meaning-making, or interpretation. In reality, for organizations, problems of computation and interpretation co-exist—it is impossible to escape either the dilemma of ignorance or the dilemma of ambiguity (March 2000). Nevertheless, a view of organizations as systems of interpretation, rather than systems of information processing (Lant 2002) began to predominate. The key development in this evolution occurred in 1979, when the publication of a revised version of Karl Weick's 1969 book, *The Social Psychology of Organizations* (Weick 1979) launched a major shift in cognitive approaches to organizational studies, drawing on recent insights from the field of social psychology. One of Weick's critical insights was that environments are *enacted*—that is, actors, both within and outside the organization, assign meanings to events in their environment, and then act in ways that affect that environment. This contrasted with the notion that events are concrete realities with objective interpretations, in which the main challenge for organizations is to harness an overwhelming flow of information.

The concept of enactment was further developed as one of four possible interpretive modes that made up the Daft and Weick (1984) comprehensive model of organizations as interpretive systems, illustrated in the authors' graphic reproduced in Figure 3-1. According to Daft and Weick, "Organizations must make interpretations. Managers literally must wade into the ocean of events that surround the organization

and actively try to make sense of them...Interpretation is the process of translating these events, of developing models for understanding, of bringing out meaning, and of assembling conceptual schemes among key managers” (Daft and Weick 1984: 286). In their comprehensive model, organizations’ beliefs about their environment, that is, whether it is possible to usefully analyze the environment or not, are key to their strategies for managing information. Organizations that consider the environment analyzable conduct their efforts in ways that align with older computationally-oriented views of organizational cognition; in contrast, those that consider the environment unanalyzable emphasize subjective, interpretive approaches, reacting to chance opportunities and *enacting* responses in the form of experimentation and learning by doing, interpreting the environment through these iterative interactions. Thus the model was a hybrid one; organizations might take the sort of structured approach to managing information that aligned with older computational models, but their interactions with their environment might also be unstructured, emphasizing interpretation over bulk data processing. In this, the Daft and Weick model offered a significant departure from the earlier computational approach.

Figure 3-1 Model of organizational interpretation modes (Daft and Weick 1984: 289)



The concepts of enactment, and of organizations as interpretive systems, catalyzed a new body of research into organizational processes of interpretation (Lant 2002).

Strategic choice, a key concern of information processing research, began to be supplanted by a preoccupation with how meanings were formed and shared. Leaders and managers were seen to actively construct mental models to interpret their competitive environments (Porac, Thomas et al. 1989), and their influence on organizational outcomes was achieved by shaping the interpretations of others, rather than through direct action (Pfeffer 1981; Bartunek 1984; Smircich and Stubbart 1985; Gioia and Chittipeddi 1991).

Another focus of research aimed to explain the influence of meaning, knowledge, and beliefs on the production of organized action by groups. The empirical findings of

Donnellon et al. (1986) showed that members of organizations did not have to share beliefs about an action in order to execute it, though an effective communication process was necessary (Donnellon, Gray et al. 1986). By breaking down shared meaning into two components, consensus on an issue's framing and consensus on the content of interpretations, Fiol was able to show that agreement on interpretive content was the expendable aspect of shared meaning; however, she found that groups do have to agree at the symbolic level of shared frames in order to participate in collective action (Fiol 1994). In their analysis of aircraft carrier operations, Weick and Roberts (1993) moved sensemaking toward a more relational conceptualization than the existing emphasis on cognition, as they developed the concept of *collective mind* to explain how a system of *heedful interrelating* could enable groups to produce organized action in the absence of shared beliefs or knowledge, so long as they acted in accordance with a common set of rules about how to relate to one another (Weick and Roberts 1993). Thus, effective communication mechanisms, shared frames, and attentive interrelating among members emerged as required components of organized group action, while researchers' earlier assumption, that shared beliefs were necessary, was discarded.

3.2 The sensemaking program of research

The idea of sensemaking, with regard to organizations, was first seen in Weick's 1979 *Social Psychology of Organizing*, and by 1995, when Weick's *Sensemaking in Organizations* (Weick 1995) appeared, the concept had undergone substantial development. In *Sensemaking in Organizations*, Weick identified seven characteristics of sensemaking commonly seen in the sensemaking literature, which he proposed could be used as a rough guideline for research, and which he felt distinguished sensemaking from other

processes such as understanding, interpretation, and attribution (Weick 1995).

According to Weick, the process of sensemaking is: grounded in identity construction; retrospective; enactive of sensible environments; social; ongoing; focused on and by extracted cues; and driven by plausibility rather than accuracy.

3.2.1 Grounded in identity construction

At its core, sensemaking is preoccupied with *identity*, or rather, identities, since sensemakers establish and maintain multiple identities. The sensemaker is “an ongoing puzzle undergoing continual redefinition, coincident with presenting some self to others and trying to decide which self is appropriate” (Weick 1995: 20).

External actors are essential to the interpretation of self, as Dutton and Dukerich discovered in their study of employee reactions to the New York Port Authority’s attempts to cope with the homeless in their facilities (Dutton and Dukerich 1991). The Dutton and Dukerich analysis also highlighted the conflation of individual identity with organizational identity. As Chatman et al. (1986) explained, “When we look at individual behavior in organizations, we are actually seeing two entities: the individual as himself and the individual as representative of his collectivity”, concluding that “individual behavior is more “macro” than we usually recognize” (p. 211, in Weick 1995, p. 23). Weick notes that “controlled, intentional sensemaking is triggered by a failure to confirm one’s self” and goes so far as to propose that interpretation may center on self rather than events: “How can I know who I am until I see what they do?” (Weick 1995: 23)

3.2.2 *Retrospective*

Sensemaking has a strong temporal component, inasmuch as it is always *retrospective*. This stems from its basis in *attention*, limited to that which already exists, that is, events that have already occurred. The view backward in time is influenced by what is occurring (and quickly becoming past) during the sensemaking, and it is also subject to the editing and degradation that is characteristic of all memory. Situational context is critical in determining which past experiences will require interpretation, and shapes their perceived meaning. The retrospective nature of sensemaking is the source of ambiguity and confusion, since by definition the sensemaker was not attending to the event when it occurred: thus it is that “the elapsed experience appears to be equivocal, not because it makes no sense at all, but because it makes many different kinds of sense (Weick 1995: 27)”. This ambiguity may lead sensemakers to seek ways to restore “the *feeling* of order, clarity, and rationality”, at which point “further retrospective processing stops (Weick 1995: 29)” [emphasis in original].

3.2.3 *Enactive of sensible environments*

In saying that sensemaking is *enactive of sensible environments*, Weick draws attention to the endogenous nature of events. Action is an antecedent to interpretation, and actors are often implicated in the construction of the challenges they encounter. In this formulation, people “act, and in doing so create the materials that become the constraints and opportunities they face (Weick 1995: 31)”. This calls into play a relational aspect to sensemaking, as well, as the environment is not detached from and external to any actor, but is enacted by, and with, multiple sensemakers.

3.2.4 Social

Furthering sensemaking's grounding in relational processes, Weick characterized it as essentially *social*, and rejected the idea that sensemaking implied an individual level of analysis. Its emphasis on identity, and identity's corollary, image, ensures that sensemaking always involves an audience, whether physically present or imagined.

Other actors also are the source of events that provoke surprise and spark sensemaking. However, the social nature of sensemaking does not depend on shared understandings; shared experience may suffice (Czarniawska-Joerges 1992), and joint action may arise “on the basis of compromise, out of duress, because they may use one another in achieving their respective ends, because it is the sensible thing to do, or out of sheer necessity...In very large measure, society becomes the formation of *workable* relations (p. 76)”. (Blumer 1969, in (Weick 1995: 43))

3.2.5 Ongoing

Sensemaking is a social construction process (Maitlis and Sonenshein 2010: 551); it is what occurs as actors generate plausible meanings to rationalize their actions in response to unexpected events that interrupt their routines (Weick 1995; Weick, Sutcliffe et al. 2005). This is not meant to imply, however, that sensemaking has a beginning and an end: In the Weickian perspective, “lived experience itself is first pure *durée* (Weber and Glynn 2006: 1647)”, and sensemaking is *ongoing*. Sensemaking is experienced as episodic by actors, however, when their expectations are interrupted by salient events. In these circumstances, they find they must strive to re-interpret taken-for-granted understandings in light of an altered contextual landscape, generating plausible actions as they feel their way along. Thus a key question in

sensemaking is, what is a salient event? Another then arises, how do I cope with this new development?

3.2.6 Focused on and by extracted cues

Since people are “always in the middle of things”, how do they “chop moments out of continuous flows and extract cues from those moments” (Weick 1995: 43)? Drawing on the ideas of social psychologist Floyd Henry Allport and those of sociologist Erving Goffman, among others, Weick described ‘how events became interlocked’ (Czarniawska 2006: 1669): “The substance of sensemaking starts with three elements; a frame, a cue, and a connection...A cue in a frame is what makes sense, not the cue alone or the frame alone” (Weick 1995: 110). In this model, frames are abstractions of past experience. They are used to differentiate among events, to determine their relevance, that is, to determine whether the events are worthy of attention. Those deemed worthy of attention are cues that bring on interpretation. Frames can be viewed as “enactments of situations that people will act upon” (Czarniawska 2006: 1670). Sensemaking focuses on the meaning that is made of cues using frames, specifically, on the connections that are formed, and on the social structures that result from these interpretations. This emphasis on connections sets sensemaking apart from programs that focus on strategic choice; it concerns “the interplay of action and interpretation rather than the influence of evaluation on choice”. (Weick, Sutcliffe et al. 2005: 409)

Cues are sometimes interpreted as problems, and, from the sensemaking perspective, “once something is labelled a problem, that is when the problem starts (Weick 1984: 44)”. Accordingly, problems are “constructed from the materials of problematic situations which are puzzling, troubling, and uncertain. In order to convert a

problematic situation to a problem, a practitioner must do a certain kind of work. He must make sense of an uncertain situation that initially makes no sense...Problem setting is a process in which, interactively, we name the things to which we will attend and frame the context in which we will attend to them (Schön, 1983, p. 40, in Weick, 1995, p. 9)". Accordingly, "sensemaking is about authoring as well as interpretation, creation as well as discovery." (Weick 1995: 8)

3.2.7 Driven by plausibility rather than accuracy

Grounded in the view that boundedly rational actors are challenged by overwhelming flows of information, sensemaking is fundamentally pragmatic in intent, *driven by plausibility rather than accuracy*. With a confluence of cues and meanings, attempts to establish accurate perceptions are likely to founder, forestalling action that would be 'good enough'. According to Weick, the difficulty in achieving a shared understanding of accuracy is compounded by sensemakers' interactions and interdependencies, and by their tendency to judge seemingly objective questions in interpersonal terms, in which "global accuracy and object perception tend to be translated into questions of intentions and personalities (Weick 1995: 59)". This characteristic points toward the importance assigned to *action* in the sensemaking perspective, often illustrated by Weick in a story of how a military unit lost in the icy Alps found their way back to their comrades using a map one of the soldiers found in his pocket—a map that turned out to be not of the Alps, but of the Pyrenees. Concluding that "processes of sensemaking tend to be forgiving", Weick seems to privilege action over cognition when he proposes that perhaps, "when you are lost, any old map will do (Weick 1995: 54)".

3.3 Sensemaking events: ways of seeing and not seeing

The very ubiquity of sensemaking, and the embeddedness of those who seek to research it, make it difficult to pin down for analytic purposes. One tactic commonly used by researchers to illuminate and reveal sensemaking processes has been to focus on situations of crisis and change, when altered circumstances heighten actors' awareness and require them to rethink their expectations. These crises and change events are the rough equivalent of the jolts and shocks discussed in the institutional theory literature, though the sensemaking perspective does not insist that they arise exogenously, but in contrast often seeks to explain how these events may arise endogenously, through sensemaking conflicts and failures.

3.3.1 Sensemaking in crises: Extreme events as empirical context

One of the earliest and most famous examples from the crisis literature is Weick's 1988 paper examining sensemaking within the context of the 1984 Bhopal industrial disaster, when a Union Carbide gas leak resulted in thousands of deaths and injuries (Weick 1988). This paper was part of an emerging research focus on human contributions to technological failures, and in it, Weick made the point that organizational crises are "enacted rather than encountered" (Maitlis and Sonenshein 2010: 552). Here, he developed three important concepts, commitment, capacity, and expectations, to describe how actors in a crisis affect its unfolding through their actions. Weick claimed that public commitment to a policy or course of action can make other options unimaginable. Capacity, or the lack thereof, determines which events actors acknowledge as cues: "people see those events they feel they have the capacity to do something about" (Weick 1988: 311). Organizational expectations tend to become self-fulfilling prophecies. This inability to make sense of events for which

there is no ready-at-hand solution is evident at supra-organizational institutional levels, as well, as Weick has repeatedly illustrated with the tale of physicians' persistent misdiagnosis of cases of child abuse as 'brittle bone' syndrome until social workers began to join treatment teams: social workers had systems for addressing child abuse, whereas up until that time, physicians did not, and their lack of a way of treating the problem made them effectively blind to it (Westrum 1993; Weick 1995; Weick 2006).

Weick's analysis of the catastrophic fire at Mann Gulch (Weick 1993) is a cautionary corollary to his paper on heedful interrelating among aircraft carrier crews. Published just a few months later, it told a very different story of relational sensemaking, one in which actors were unable to sustain a *collective mind* (Weick and Roberts 1993) and lost their lives as a result. Where the teams on aircraft carriers successfully followed institutionalized rules about how they related to one another, when the Mann Gulch firefighters' social roles became misaligned with the challenge they faced, they lacked the relational connections and logics that would have helped them cope with the sudden loss of meaning. Weick calls this collapse of meaning, '*vu jàdè*', the opposite of *déjà vu*: "I've never been here before, I have no idea where I am, and I have no idea who can help me." (Weick 1993: 633-634) The juxtaposition of the two papers illustrated how "social roles and relationships provide a basis for sensemaking", without which "sensemaking can be difficult or impossible, leading to confusion and distress" (Maitlis 2005: 22).

The crisis literature includes many such gripping examples of how computation and interpretation problems can co-exist, and can be amplified by failures of attention and communication. In their analysis of the Roskilde Festival disaster, at which nine people were killed when the crowd surged out of control, Vendelo and Rerup (2009)

blamed a lack of ‘attentional coherence’ (Rerup 2009) for the disaster, as security guards failed to coordinate information about the tragedy they saw unfolding (Vendelo and Rerup 2009). Reviewing the sensemaking processes that culminated in the Columbia space shuttle disaster, Dunbar and Garud (2009) concluded that, in this case, the individuals assessing the threat used a variety of knowledge sources, leading to ‘interpretive indeterminacy’ which occurs “as individuals draw on different knowledge bases to develop different understandings about what is happening and what should be done to prevent crisis.” (Dunbar and Garud 2009: 557).

Reviewing the crisis literature that followed in the wake of Weick’s 1988 analysis of the Bhopal disaster, Maitlis and Sonenshein identified the emergence of three major themes (Maitlis and Sonenshein 2010). First, positive statements, particularly those made publicly, that a crisis situation is ordinary, or under control, can prevent people from bracketing contradictory cues (Weick 1993; Weick and Sutcliffe 2003; Kayes 2004). This implies a need for greater pessimism, with the memorable suggestion from Landau and Chisholm that we should ‘institutionalize disappointment’ to protect against organizational self-deception (Landau and Chisholm 1995). The second theme is one relating to a tendency for individuals involved in collective sensemaking, where conditions are “fast-moving and frightening” (Maitlis and Sonenshein 2010: 555), to mistakenly assume that others have interpreted the event already, and they can therefore take their cues from those other actors (Dunbar and Garud 2009; Vendelo and Rerup 2009). The third theme, which has been the subject of less research than the first two, relates to institutional effects on sensemaking, in which institutional and organizational logics affect actors’ ability to notice cues, in some cases allowing them to go on with an ordinary routine which “enacts and re-enacts shared

understandings...which in turn recreate structures, identities, and expectations that enable and constrain certain collective practices” (Maitlis and Sonenshein 2010: 557), but which may also provoke reassessment of taken-for-granted understandings (Weber and Glynn 2006).

3.3.2 Sensemaking around change: Moving meaning between levels

Where the sensemaking literature on change is concerned, much has focused on programs of strategic change. It has examined the sensemaking processes through which strategic change is generated by leaders (Gioia and Chittipeddi 1991; Gioia, Thomas et al. 1994), disseminated and championed between organizational levels (Gioia and Chittipeddi 1991), interpreted and translated by middle managers (Balogun and Johnson 2004; Balogun and Johnson 2005; Beck and Plowman 2009), and received and made sense of at other levels of the organization (Bartunek 1984).

While the crisis and change literature have not been integrated, the two streams do share many similarities, particularly in regard to the emotions both crisis and change can generate, such as confusion, anxiety, and fear. Both crisis and change interrupt actors’ routines, requiring them to “re-enact their environments” (Maitlis and Sonenshein 2010: 558) and cope with changes in social context, identities, and cues. Neither are their differences as great as is commonly understood; “although we sometimes think of crises as occurring very quickly and change unfolding over long periods, a crisis can also be enacted very slowly, and a change can occur in highly pressurized conditions” (Maitlis and Sonenshein 2010: 552). Furthermore, coping with a crisis involves change—said differently, failing to notice the need for change is what allows a crisis to build (Nadler and Tushman 1995). Also, those actors who

institute a change may take the action in response to an event they perceive to be an organizational crisis or threat (Gioia and Chittipeddi 1991).

3.4 Sensemakers: Multiplicity, sharing, and conflict

Sensemaking, as described by Weick, is fundamentally social. Yet, sensemaking shares with institutional theory a ‘levels of analysis’ problem: whereas in institutional theory, scholars struggle to understand how field-level institutions are constructed, maintained, challenged, and repaired by individuals, sensemaking scholars are challenged to explain how the sensemaking of individuals aggregates into collective understanding. Nevertheless, sensemaking theorists have examined relational processes of sensemaking and sensegiving, where identity appears to play a key role.

3.4.1 Making sense of levels: Getting from the individual to the collective

Examinations of the flows of sensemaking among different organizational levels shed light on the multi-vocal character of sensemaking processes, yet the relationships and sensemaking flows between levels are still poorly understood. At an abstract level, Weick contends that sensemaking and organization constitute one another: “people organize to make sense of equivocal inputs and enact this sense back into the world to make that world more orderly” (Weick, Sutcliffe et al. 2005: 410), making organizations “the result of the structuring of events/acts, not the other way around” (Czarniawska 2006: 1666). Higher still on the collective scale, at the inter-organizational level, many researchers believe that industries are “enacted fields...knitted together by collective beliefs” (Porac, Ventresca et al. 2002: 593), as was described in Porac et al.’s depiction of a cognitive community of Scottish knitwear manufacturers, engaged in interorganizational sensemaking that defined the

boundaries of what they perceived to be their industry (Porac, Thomas et al. 1989). Yet others disagree with any attempt to extend individual psychology to the larger collective (Nonaka and Takeuchi 1995). Though it is the sensemaking that is done by individuals which results in the development of organizations and other social entities, the mechanism by which cognition and sensemaking flows from the level of individuals to the collective is not understood, and this has led to a ‘levels of analysis’ problem that has been discussed at length in the literature (Weick 1995; Lant 2002; Porac, Ventresca et al. 2002).

Theresa Lant argues that this divide has arisen partly because researchers have mistakenly looked for “cognitive homogeneity among members of a collective as evidence of collective cognition” which then “quickly results in a quagmire of how much consensus is enough to claim a collective belief system exists” (Lant 2002: 359). Noting that previous research has shown that shared beliefs are not a prerequisite for collective action (Donnellon, Gray et al. 1986; Weick and Roberts 1993; Fiol 1994), she contends that “a lack of consensus does not negate the existence of a collective whose actions are guided by a set of principles of interaction.” (Lant 2002: 360) Lant also dismisses the notion that individual cognition is simply aggregated into collective cognition, pointing out that group interactions may lead to higher or lower levels of knowledge creation, as with synergism and groupthink. To move forward without resorting to the simplistic aggregative perspective, Lant proposes that research adopt the lens of ‘situated cognition’ (Brown and Duguid 1991; Greeno and Moore 1993), which places human cognition within its larger context of an enabling and constraining cultural system, that has embedded within it prior thinking (Lant 2002). According to Lant, “The more we understand both the human mind and

organizations as inextricably embedded in context, rather than contained within artificial but convenient containers, the more we will be able to escape the levels of analysis trap.” (Lant 2002: 360) This view is echoed by Porac, Ventresca et al., who urge researchers to adopt a more contextual, processual perspective to collective cognition: “We should move from the notion of ‘shared’ cognition as an overlap of knowledge representations to ‘sharing’ cognition as a dynamic phenomenon that is situated in concrete circumstances (Porac, Ventresca et al. 2002: 595-596)”.

Weick points to identity as a possible bridge between the individual and the collective, quoting Chatman et al. (1986): “The individual not only acts on behalf of the organization in the usual agency sense, but he also acts, more subtly, “as the organization” when he embodies the values, beliefs, and goals of the collectivity...individual behavior is more “macro” than we usually recognize” (Chatman, Bell et al. 1986: 211), in Weick 1995: 23): In this view, organizational image is entwined with identity. Individuals engage in sensemaking with other actors, and are influenced not only by others’ actions, but by the way their own actions are received by others—“identities are constituted out of the process of interaction” (Weick 1995: 18-19). When self-images are threatened, actors may be motivated to try to redefine their organizational identity (Weick 1995), as was seen among employees of the New York Port Authority trying to make sense of the organization’s response to a growing homeless problem in the terminal (Dutton and Dukerich 1991). Because actors have multiple identities, they are able to engage in bricolage, drawing on different institutional logics not only to effect institutional change (Seo and Creed 2002), but also to transform their organizational identity.

3.4.2 Sensegiving: Actors influencing actors

Studies of cross-level sensemaking processes led to research into sensegiving, through which organizational actors attempt to influence the sensemaking of others (Gioia and Chittipeddi 1991; Maitlis 2005; Maitlis and Lawrence 2007). The seminal paper in this research stream came from Gioia and Chittipeddi (1991), in which they coined the term “sensegiving” to describe the “process of attempting to influence the sensemaking and meaning construction of others toward a preferred redefinition of organizational reality” (Gioia and Chittipeddi 1991: 442). Sensegiving, in its focus on convergent interpretation, thus differs from other more direct forms of influence such as coercion (Lawrence, Mauws et al. 2005: 62).

The Gioia and Chittipeddi paper traced the interpretive processes around a strategic change project driven by the president of a large public university. They identified four distinct temporal phases to the project, beginning with an *envisioning* effort, sensemaking undertaken by the president to outline a new identity for the institution, since “discontinuation of an existing interpretive scheme...requires some revised scheme to take its place (Ranson, Hinings and Greenwood, 1980)” (Gioia and Chittipeddi 1991: 434). In the next phase, *signalling*, the president shifted to sensegiving, communicating his vision of the new identity, to become a ‘top 10 public university’. This created instability among wary recipients of sensegiving, and led to a third stage of collective sensemaking within the community, labelled *re-envisioning*. During this active and conflict-ridden stage, participants attempted to understand, refine, and amend the new identity, and determine what material changes it implied: “What was this ambiguous phrase supposed to mean? What did it imply about changes in behavior, process, and structure?” (Gioia and Chittipeddi 1991: 442).

Finally, during the last phase, *energizing*, the president returned to a sensegiving approach as he attempted to build commitment among a wider audience.

By conceptualizing sensegiving as a complementary, interrelated process to sensemaking, Gioia and Chittipeddi expanded sensemaking's theoretical boundaries to acknowledge its dialectical and dialogical aspects. The processes they described took place in an expansive relational space that included not only the university president and other administrators, but also the wider group of university stakeholders, both internal and external, providing a context rich with opposition and collaboration. Sensemaking and sensegiving were ongoing and mutually constitutive, taking place in an "iterative, sequential, and to some extent reciprocal fashion" (Gioia and Chittipeddi 1991: 442) among an expanding group of participants, as the authors illustrated in Figure 3-2, reproduced here.

Figure 3-2 The sequential and reciprocal cycle of sensemaking and sensegiving to expanding audiences (Gioia and Chittipeddi 1991: 443)



The sensegiving approach has been developed further in a series of papers by Maitlis and Lawrence that examine sensemaking processes in three UK-based orchestras. Focusing on the under-theorized social processes at the heart of sensemaking and sensegiving, Maitlis sought to extend our understanding beyond high pressure situations of crisis and change (Weick 1993; Rerup 2009; Vendelo and Rerup 2009), or tightly coupled social systems in which shared accounts were essential to sensemaking (Weick and Roberts 1993). In a 2005 paper, Maitlis explored processes

of multi-vocal, interactive sensemaking and sensegiving among leaders and stakeholders within the context of symphony orchestras. She found that the process of collective sensemaking, in terms of levels of animation and control, was affected by who the sensegivers were (that is, leaders or other stakeholders), with leader sensegiving associated with more controlled situations and stakeholder sensegiving associated with greater animation (Maitlis 2005). Animation was reflected in a more intense flow of information among stakeholders, as well as a more consistently active and temporally extended period of sensemaking. She found further that how these process characteristics were combined affected outcomes, in terms of the forms collective sensemaking took, and she identified four patterns: guided, fragmented, restricted, and minimal. Guided sensemaking emerged when the process was both controlled and animated; fragmented sensemaking occurred in animated encounters absent leader control; restricted sensemaking occurred in a process that was controlled but not animated; and minimal sensemaking was the outcome in the absence of both animation and control. (Maitlis 2005: 32)

Based on these findings, Maitlis suggested scholars consider whether the different forms of sensemaking might be related to organizational or industry-level context, due to the different types of outcomes they produced in the form of accounts, that is, descriptions of the issues under consideration and their contexts. In particular, she speculated that guided sensemaking, characterized by animated, controlled processes, might yield integrated accounts that represented a consensus view, thus helping to depoliticize stakeholders' approaches. In contrast, she speculated that because fragmented processes, those animated but lacking control, yield a wide range of differing accounts, they might be more effective in resolving complex problems

requiring experimentation (Maitlis 2005: 47). Such contextual effects on processes of collective sensemaking have yet to be explored empirically.

Maitlis and Lawrence expanded her earlier scope of inquiry in a paper that examined the conditions associated with sensegiving, noting that “stakeholders and leaders do not always engage in sensegiving, even around issues that matter to them (Dutton, Ashford, Lawrence, & Miner-Rubino, 2002; Maitlis, 2005), but scholars lack a good understanding of why this is so” (Maitlis and Lawrence 2007: 57). Acknowledging Weick’s argument that surprise and confusion lead to sensemaking, they asserted that sensegiving arose under different conditions than sensemaking. They specifically sought to unveil the motivations for sensegiving, or triggers, and the circumstances that facilitate sensegiving, or enablers. In general, they found that sensegiving was triggered by a gap in organizational sensemaking processes, perceived or anticipated. They found sensegiving was enabled by rhetorical capability and “the presence of process facilitators—organizational routines, practices, and structures that provide the time and opportunity to engage in sensegiving” (Maitlis and Lawrence 2007: 58).

Breaking their findings down by sensegiver category, they identified two sets of conditions that seemed to trigger sensegiving by stakeholders who were not leaders: perceived importance of an issue, and lack of confidence in leader competence. Issues were perceived as important if they affected the organization’s performance or viability, or if they affected the stakeholders’ work environment, job security, or compensation. Three enabling conditions were theorized: stakeholders’ relevant expertise, legitimacy, and opportunity. Expertise was gauged to involve a combination of professional experience and training, whereas legitimacy derived most often from stakeholders’ roles, for example, as formal representatives, but also from

organizational norms regarding the appropriateness of stakeholder participation in decision making. Opportunity was determined by the availability of appropriate fora such as formal meetings or ad hoc consultations.

In contrast to non-leader stakeholders, leaders only engaged in sensegiving when they felt an issue was uncertain, and associated with complex stakeholder interests. Issues were considered uncertain when they were ambiguous or unpredictable. Complexity of stakeholder interests was determined by the number of stakeholders and the diversity of their interests. Leaders' issue-related expertise, determined, as with non-leader stakeholders, by professional experience and training, enabled sensegiving, as did those leaders' historical performance on related issues.

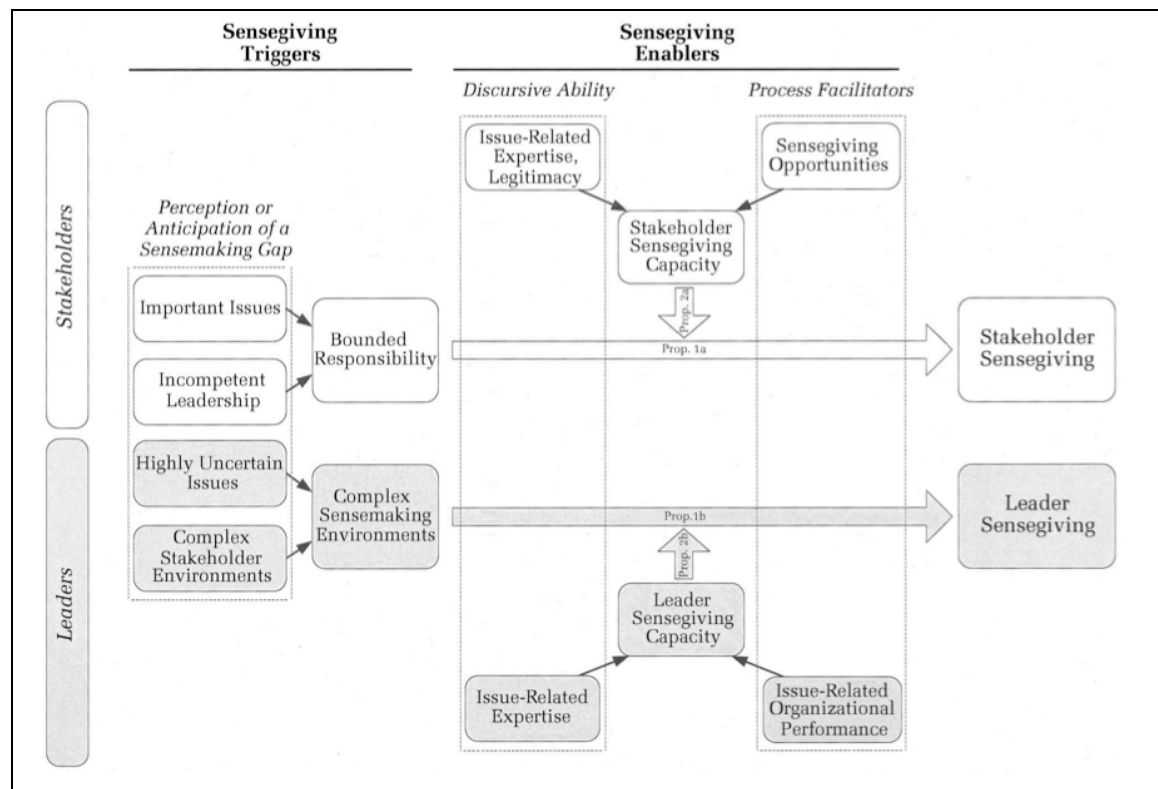
The conditions of sensegiving were outlined by Maitlis and Lawrence in a diagram reproduced here in Figure 3-3. The Maitlis and Lawrence model associates triggers and enablers with leaders and non-leader stakeholders. In this interpretation, they further aggregate their findings by noting that the perception of a sensemaking gap triggers sensegiving by both leaders and stakeholders. The actors' own discursive capacity and their differing contextual circumstances then serve as enablers to sensegiving.

While Maitlis and Lawrence coined the term *bounded responsibility* to describe non-leader stakeholders' engagement, it could just as easily be applied to leaders, since they, too, only engaged in sensegiving in the presence of particular triggers. According to Maitlis and Lawrence, "stakeholders showed limited motivation to construct meaning for others, doing so only when they perceived a need to take some responsibility for an issue" (Maitlis and Lawrence 2007: 76), but leaders showed

similar restraint in their sensegiving. In fact, one thing that is striking about their findings is the degree of ‘relational intelligence’ displayed by both leaders and non-leader stakeholders, inasmuch as their perceptions of their own and each other’s competence and legitimacy seemingly were as important in their decision to engage in sensegiving as their perceptions of the issue’s importance, complexity, or personal relevance.

Maitlis and Lawrence noted a strategic implication of these findings, namely, that stakeholders and leaders might work to affect conditions related to sensegiving in ways that would influence others’ sensegiving, perhaps minimizing triggers and enablers in order to more closely control the sensemaking and decision making around an issue. Yet, in proposing the concept of bounded responsibility, they at the same time questioned strictly dialectical explanations, asserting that strictly political accounts of sensegiving might overestimate stakeholders’ engagement, since sensegiving only occurred when, first, a gap was perceived, and second, the sensemaker felt qualified to interpret the issue.

Figure 3-3 Conditions associated with sensegiving in organizations (Maitlis and Lawrence 2007: 78)



Ultimately, Maitlis and Lawrence turned to the emerging practice perspective as a possible avenue for exploring sensegiving, saying that the characteristic enablers they identified—expertise, legitimacy and opportunity—“suggest an image of sensegiving that is highly situated, embedded in the relational identities of actors and in the social and technological contexts in which actors are operating. They also asserted that sensegiving is a “highly institutionalized form of social practice, with context-specific rules and resources”, as sensegivers “must tell sensible stories (drawing on relevant expertise) at the right time and place (opportunity) and occupy a social position that leads others to listen (legitimacy)” (Maitlis and Lawrence 2007: 79). Thus, without making a direct link between sensemaking and institutional theory, Maitlis and Lawrence nonetheless alluded to the two theoretical streams’ common interest in legitimacy, competent performance of institutionalized roles, and social policing of

those performances. These themes have been further developed in recent attempts by organizational scholars to bridge sensemaking with institutional theory, as discussed in the next section.

3.5 Bridging perspectives: Sensemakers and institutions

Until recently, sensemaking and institutional theory have produced divergent streams of scholarship. Where institutional theory has emphasized macro-level effects, and has struggled to account for individual agency, the sensemaking perspective has emphasized local practice of individuals and organizations, at the expense of accounting for the influence of a larger social and historical context. Yet, in their influential paper connecting the sensemaking and institutional theoretical streams, Weber and Glynn (2006) argued that the two were naturally related, since “the new institutionalism, like sensemaking, is fundamentally concerned with the link between meaning and action” (Weber and Glynn 2006: 1655). This is a promising new direction for sensemaking and institutional theory research, but it is an area that scholars have only just begun to explore.

3.5.1 Institutions as sensemaking feedstock

Noting that Weick’s sensemaking perspective has been criticized for neglecting the role played by larger historical and social contexts in sensemaking, Weber and Glynn launched a new direction in sensemaking research by conjoining institutional theory with sensemaking. In doing so, they sought to expand the limited conception within organizational studies of institutional effects on sensemaking (Weber and Glynn 2006). While it has been widely acknowledged that institutions can act as internalized cognitive constraints, Weber and Glynn used Weick’s seven properties that

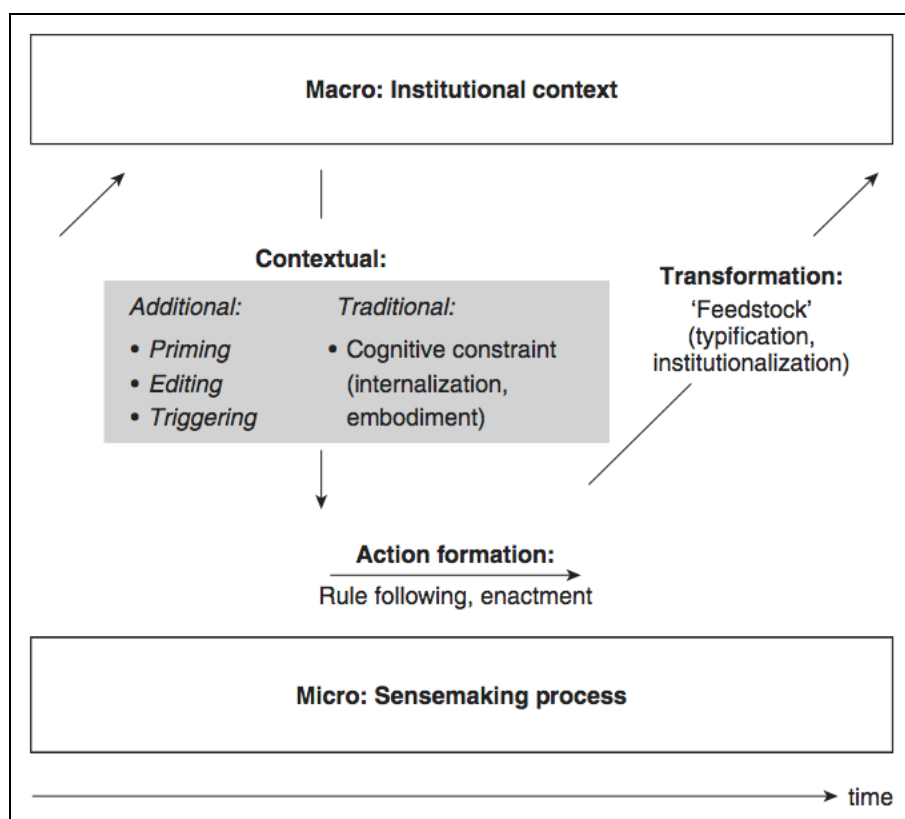
characterize sensemaking processes (Weick 1995: chapter 2) to explore how institutions may elicit sensemaking, as well. If these macro institutional constructs can prompt and act as resources to micro-level sensemaking, it also provides a clue to the ‘embedded agency’ conundrum within institutional theory (Seo and Creed 2002), because “actors make sense *with* institutions, not outside them and despite them” (Weber and Glynn 2006: 1642). In this view, institutions are part of the sensemaker’s toolkit.

Previous attention to the relationship between sensemaking and institutions has emphasized constraint, inasmuch as taken-for-granted institutions limit sensemaking. One notable example in this vein was Wicks’ (2002) study of the 1992 Westray mine disaster, which took a micro-institutional approach to examine how it was that institutional influences at the regulative, normative, and cognitive levels created an organizational context in which participants became blind to the cues that might have prevented the 1992 explosion that claimed 26 lives. In this example of failed sensemaking, in which interpretations of risk became decoupled from unfolding circumstances, Maitlis and Sonenshein asserted that members enacted the crisis by “engaging, unwittingly, in ‘institutional work’ (Lawrence et al., 2009) that maintains the rules and norms that provide the bedrock for a situation in which crisis is almost inevitable” (Maitlis and Sonenshein 2010: 557).

Another noted link between the two theoretical streams has been a transformational one, with sensemaking envisioned as the “feedstock for institutionalization” (Weick 1995: 35). However, in a break from these perspectives, Weber and Glynn proposed an inverse transformation process, asserting that, in fact, “*institutions may be the feedstock for sensemaking*” (Weber and Glynn 2006: 1655) [emphasis in original]. These authors

drew on a social mechanisms framework (Barley and Tolbert 1997; Hedstrom and Swedberg 1998), reproduced in Figure 3-4, to illustrate how “institutions are antecedent to (as contextual mechanisms) and emergent from sensemaking (via transformational mechanisms)” (Weber and Glynn 2006: 1640). In this theorization, the contextual component of sensemaking is more complex than typically thought: the expanded set of contextual mechanisms move beyond constraint, to include priming, editing, and triggering. According to these authors, this amendment makes deviance, and therefore institutional change, plausible.

Figure 3-4 Mechanisms relating institutional context to sensemaking (Weber and Glynn 2006: 1641)



Weber and Glynn assert that, “actors make sense *with* institutions, not outside them and despite them” (Weber and Glynn 2006: 1642). In line with this theorization, institutions affect sensemaking processes in three ways: as building blocks; as guides to enactment; and as the substance, or accomplishment, of enactments (1644).

Questioning the linear path from cognition to action implied within institutional constraint, Weber and Glynn turned to the Weick view of sensemaking that builds on dissonance theory and a dual-processing model of cognition. This foundation is epitomized in the central question, “how do I know what I think before I see what I say?”, which captures the relationship between ‘fast’, or intuitive thinking, and ‘slow’, or rational thinking (Kahneman 2003). Intuitive thinking relies on heuristics and prior experience to generate near-automatic responses; in this primitive system, cognition is subconscious until the point of final output. In contrast, rational thinking is analytical and time-consuming; the rational mind is able to review the ‘fast’ response and question the assumptions that led to it. Thus, *retrospective* in nature, built on *extracted cues* and *plausibility* (Weick 1995), sensemaking admits variation as different identities and frames come into play in cognitive processing that is at times automatic, emphasizing speed-to-action, and at other times reasoned and deliberate (Kahneman 2003).

Because sensemaking is *ongoing* and *retrospective*, it has no beginning or end: “People are always in the middle of things, which become things, only when those people focus on the past from some point of view” (Weick 1995: 43). Weber and Glynn propose that this ongoing-ness connects sensemaking to institutions diachronically, implying that the institutions themselves are not static structures, but require constant re-enactment, a view that supports institutional notions of entropy (Oliver 1992) and maintenance (Lawrence and Suddaby 2006). In fact, while institutional theory’s emphasis on

isomorphism has led to an expressed assumption that institutions constrain sensemaking, the idea that institutional factors may in fact trigger sensemaking has a long implied history within the literature, particularly where there are conflicting logics or identities (Hoffman 1999; Hoffman and Ocasio 2001; Seo and Creed 2002). Thus, just as Seo and Creed (2002) proposed that institutional change arises when actors come to perceive institutional contradictions and consider them unacceptable, sensemaking is said to be invoked when actors experience a loss of meaning when institutionalized expectations reveal gaps, ambiguities, contradictions, and multiplicities (Goffman 1974, in Weber and Glynn 2006: 1654).

Where institutions provide the substance of sensemaking, the authors suggest that a combination of typified identities and frames approximates ‘role’ for sensemakers, and frames and actions (the latter defined as “typified expectations of performance or conduct” (Weber and Glynn 2006: 1644)) approximate the notion of ‘script’. These institutional elements may come together in unexpected ways, leading to “surprise, emotions and sensemaking” (p.1645), as actors turn to identity to answer the fundamental sensemaking question, *who am I?*, and draw on frames to answer the corresponding question, *what is going on here?* (Goffman 1974, in Weber and Glynn 2006: 1646). In any given situation, there may be many plausible institutionalized roles and action scripts; the actor looks to the immediate situation to determine which norm to follow. Thus, in this model, it is the situational context, rather than the macro setting, that primes sensemaking.

At the more macro level, access to the sensemaking cues themselves may be institutionally constrained, as “institutionalized social interaction structures and symbolic boundaries among actors are the key factors in juxtaposing actors to other

actors, cues, identities, frames and action expectations” (Weber and Glynn 2006: 1650). Other actors are crucial to sensemaking processes that maintain, create, or change institutions. Because roles and scripts are institutionalized, actors do not just draw on them for guidance in their own enactments, but also use them to gauge the actions of others, and thus “institutions serve to edit, modify or amend the emerging sense in social interactions” (Weber and Glynn 2006: 1652). While practical, competent performances of identity in accordance with a script effectively enact institutions, reinforcing their externalization in a circular fashion, the deviation that priming enables may lead to ‘social policing’ if external audiences question the legitimacy of the deviant enactment: “Sense may be in the eye of the beholder, but beholders vote and the majority rules” (Weick 1995: 6).

Identity and image are, in fact, linchpins that connect sensemaking with institutional theory. Sensemaking’s base in dissonance theory introduces the possibility of deviation, a problematic conundrum in institutional theory, but because both theoretical streams are informed by ethnomethodology, they share core ideas about identity and image: “The emphasis in ethnomethodology on accounting for what one does in the presence of other people to prove social competence and the rationality of actions is very much like the self-justification of dissonance theory, which is also directed at real or imagined auditors (Weick 1995: 13).”

3.5.2 Sensemaking and competing institutional logics

Though the Weber and Glynn paper has attracted a good deal of attention among management scholars, thus far there have been only a few attempts to flesh out its proposals empirically. An important and useful exploration came in a 2010 effort by Nigam and Ocasio (2010) to trace the emergence of a new institutional logic in the US

healthcare system. They concluded that *cognitive context*, here conceived of as the situated nature of sensemakers' interpretations of sensegivers' theorizations, based on their own experiences of critical events, was a key factor in how sensegivers' messages were received by other parties. They also argued that sensemaking involved not only cognitive interpretation, but enactment, taking the form of experimentation and partial solutions (Nigam and Ocasio 2010). These enacted interpretations were, in effect, a form of sensegiving, materialized.

In an account of two microfinance organizations' divergent efforts to create a functioning hybrid organization that combined banking and social development logics, Battilana and Dorado (2010) touched indirectly on the connection between institutions and sensemaking. In contrast to the cognitive focus of Nigam and Ocasio, these authors explained attempts to balance competing logics in terms of socialization processes. In particular, they linked the management of plural logics with organizational identity work, and noted that "the generation of new identities does not occur in an institutional vacuum (Weber & Glynn, 2006) but builds on, or is hindered by, tensions, overlaps, and cracks among logics (Battilana and Dorado 2010: 1436)". This is an indirect linkage to sensemaking, but an important one nonetheless, since identity is at the very core of sensemaking.

In the analysis presented here, I join Weber and Glynn (2006) in attempting to bridge the theoretical divide between institutional theory and sensemaking, but I theorize that sensemaking may not just serve as a prerequisite for institutional change (Weber and Glynn 2006), but may in fact take a nested form, as a kind of 'problem within a problem', one that may require participants to create new institutions to facilitate sensemaking and sensegiving, and to creatively deploy existing institutions to generate

partial solutions and experiments (Nigam and Ocasio 2010) as part of the interpretive process. This concept is somewhat related to theorization by Vlaar and colleagues, in their paper proposing that *formalization*, broadly defined to include contracts, rules, procedures, and processes of codification and enforcement, serves as a facilitator of sensemaking in interorganizational relationships (Vlaar, Van den Bosch et al. 2006). It differs from their proposal, though, not only in its empirical grounding, but also inasmuch as the case discussed here describes creative bricolage of institutional elements among sensemaking adversaries. Following Battilana and Dorado (2010), as well, this research examines how institutions may inform processes of socialization and identity work (Battilana and Dorado 2010), as sensemaking actors attempt to break free of the institutionally-derived roles and scripts that would imprison them in irresolvable political conflict. In the case I describe, actors engage in intentional efforts to defuse political conflict, taking on different roles, writing different scripts, and creating new institutions for the purpose of engaging in collective sensemaking and sensegiving.

3.5.3 The missing link? Emotion in sensemaking around competing logics

The Weber and Glynn (2006) argument that institutions are the feedstock for sensemaking essentially asserts that institutions are carriers of meaning, including emotional significance: According to Weber and Glynn, “unexpected feedback to others’ enactments causes surprise, emotional arousal and efforts to restore sense”, reactions that would not ensue “were there not strong expectations in the first place”(Weber and Glynn 2006: 1651), expectations generated by institutional elements. Given that organizational actors are “active carriers of institutions” who “perceive the meaning of institutions and infuse their actions with meaning based

upon these perceptions” (Dacin, Goodstein et al. 2002: 47), is it not likely that they might actively attempt to alter emotional investment as well as cognitive investment in particular institutional arrangements by deploying emotionally-laden institutional elements? This concept complicates the Weber and Glynn model by introducing an element of agency; the choice of institutional element to deploy is one made by perceptive actors who understand, though perhaps at a subconscious level, that institutions carry emotional significance as well as cognitive meaning.

In contrast to institutional theory, which is only beginning to explore the role of emotion in structuration processes, the sensemaking perspective has from its early days acknowledged affective effects explicitly. This is particularly evident in studies of crisis and high reliability operations, in which fast-moving, complex situations bring negative emotions such as confusion and fear to the foreground, threatening effective cognitive processing. In these accounts, emotionality is strongly related to ties among actors, and in particular, assumptions about others’ sensemaking legitimacy, that is to say, their competence at making sense of an event: for example, in his account of the Mann Gulch fire, Weick referenced the fear of the crew and lack of trust in their leader, and drew on Freud’s claim that panic did not cause organized groups to disintegrate, but rather, it was the loss or lack of emotional ties, in the face of obstacles, that caused individuals to panic (Weick 1993).

Organizational change, too, inflicts heavy demands on individuals, as it requires changes in belief structures, identity, and values (Gioia, Thomas et al. 1994). Gioia and Chittipeddi alluded to the affective impact of the university president’s sensegiving efforts within the organization, noting that the launch of his campaign “was fraught with uncertainty, ambiguity, and emotionality on the part of the

organization's members because of a palpable concern about the initially obscure, but apparently significant, changes implied" (Gioia and Chittipeddi 1991: 444).

Nevertheless, in spite of sensemaking scholars' frequent acknowledgement that sensemaking involves both emotion and cognition, the nature of their relationship and their consequences for sensemaking remain underexplored. Weick himself, referring to his 1988 analysis of the Bhopal disaster, said his original work was overly "cool and cognitive", whereas "a newer interpretation of crisis sensemaking at Bhopal would highlight the morale, emotional tone, and energy associated with plant operations" (Weick 2010: 545). Sensemaking is grounded in dissonance theory, and thus departs from strictly cognitive approaches since it readily accommodates the idea that "conflict, affect, motivation, and instability are legitimate antecedents of change" (Weick 1995: 12).

In their review of the sensemaking literature focused on crisis and change, Maitlis and Sonenshein asserted that the impact of emotion had been under theorized, at least within those contexts, and they singled out 'self-conscious' emotions, those based on actors' beliefs about how others view them, as significantly affecting sensemaking. Emotions like guilt, embarrassment, and pride "play a central role in guiding behavior", especially when sensemakers "believe their actions may have contributed to the unfolding crisis...or when they feel unfairly affected by the changes taking place" (Maitlis and Sonenshein 2010: 569). In comparing the likely effect of negative and positive emotions on sensemaking, they speculated that, while negative emotions were likely to pose a greater impediment than positive ones, in fact, "intensity is the critical dimension determining the adaptive or maladaptive effect of emotion on sensemaking" (Maitlis and Sonenshein 2010: 570). If intensity is indeed an important

factor, it introduces questions about how actors engaging in collective sensemaking processes might seek to alter the saturation of the emotional environment in order to influence others' sensemaking: Do institutionalized elements act as emotional signifiers, that is, carriers of emotion? If they do, how might they be deployed as part of the sensemaker's toolkit? What implications might there be for identity construction, maintenance, and alteration?

Identity, in particular, is central to sensemaking (Weick 1995), and threats to identity are likely to elicit a wide range of negative emotions, most memorably illustrated in Weick's account of the 'drop your tools' moment in the Mann Gulch fire (Weick 1993), when the crew lost its sense of collective identity and underwent "a collective existential crisis" (Maitlis and Sonenshein 2010: 563) that led to catastrophe.

Organizational actors may also react with anxiety, fear, anger, and doubt when facing more ordinary change, if it appears incongruent with an existing sense of organizational identity (Fiol 2002; Corley and Gioia 2004). Further, since organizational actors draw on multiple identities (Weick 1995), discord may surface when a proposed change conflicts with actors' ethics, beliefs, or social identities (Sonenshein 2009). Organizational discord, in which meanings are not shared, enables "competing enactments" (Maitlis and Sonenshein 2010: 559) to arise and co-exist. According to Weick, arguing is a "vehicle for sensemaking" (Weick 1995: 137) when it takes the form of "debative cooperation" in (Schmidt 1991: 88-96 in Weick 1995: 136). In contrast, anger is an impediment, not only because it brings communication to a halt, but because it "degrades the quality of the argumentation through narrowed attention as a result of heightened arousal" (Weick 1995: 138).

To summarize, recently scholars have begun to explore possible linkages between institutional theory and sensemaking, and this study seeks to advance our understanding of how these two theoretical streams may inform and relate to one another. This will contribute to institutional theory by shedding light on questions of embedded agency, and will enrich the sensemaking perspective by demonstrating ways in which actors draw upon institutionalized elements available within the larger social and historical context to inform their interpretive enactments. In particular, I will seek to demonstrate how identity, image, and emotion provide a link between sensemaking and institutional theory: if identity and image are the linchpins that connect the two perspectives, does emotion act as a catalyst in institutional change processes?

4 THE CONCEPTUAL FRAMEWORK

In this chapter I discuss the conceptual framework that guides this study, the “idea context” (Maxwell 1996: 33) in which it is positioned. The project emerged from a broad research interest in institutional theories of deinstitutionalization, conflicting logics, and institutional change, with an intuition that these concepts were likely to be most transparent in interactions occurring among organizations with different perceptions of the truth status and consequent material ramifications of contradictory logic claims.

A review of the institutionalist literature revealed current debates that might be engaged empirically in a way that would contribute to the academic conversation. Informed by an awareness that firms and the activist organizations they encounter frequently view the causes and solutions to environmental crises very differently, that their interactions are often accessible to researchers since they are typically conducted to a great extent in the public sphere, and that for some time there has existed active debate about firms’ use of ocean food resources, I conducted a pilot study of the seafood industry and its environmental critics. The data from that preliminary fieldwork implied that competing logics existed, change projects were under way, and institutional processes associated with deinstitutionalization were present. However, extant field-level dialectical explanations did not offer sufficient explanatory value for the interpersonal and inter-organizational dynamics I observed. Consequently, I turned to the sensemaking literature, finding in that research stream theoretical support for the cognitive ambiguity, emotionality, inter-dependence, and tension witnessed in field interactions among actors, both acting as individuals and as part of collectives. A more robust notion thus emerged, of sensemaking as a form of

institutional work, performed in relational fields in which disparate actors struggle to cope with competing logics, sometimes in conflict but sometimes also in collaborative arrangements, and this conceptualization then guided further data collection. In this fashion, the conceptual framework developed after gaps were identified in two literatures where the potential for synthesis was high but underexplored, in which concepts from each could be combined fruitfully to illuminate fieldwork observations, and which consequently, could contribute to both institutional and sensemaking theory.

The material presented in this chapter builds on the previous two chapters and clarifies the specific focus of this research. The review in chapter two traced in detail the development of institutional concepts key to this study: conflicting institutional logics, deinstitutionalization, collaborative processes, and institutional change. Chapter three chronicled the development of the sensemaking perspective, particularly its explanations of attention, identity, and sensegiving, and discussed the newly emerging research that attempts to bridge the institutionalist and sensemaking perspectives. In this chapter, I focus on the specific gaps this study relates to in both literatures, as well as the theoretical aims to be achieved by synthesizing the two research streams.

4.1 Institutional theory: Gaps and calls for research in the current literature

Institutional change processes have attracted a great deal of attention from scholars in recent years, yet several key aspects remain undertheorized. In particular, both deinstitutionalization and institutional complexity would benefit from theorizing that is empirically grounded. Two additional areas of potential import have come to light

in the context of the case of outsider-driven change studied here: processes of embedding agency, and the related relational work such processes may involve.

4.1.1 Deinstitutionalization: Problematizing as a precursor to project promotion

Understanding deinstitutionalization is critical to understanding institutional change, but although Oliver introduced the concept of deinstitutionalization in 1991, it remains poorly understood by institutionalists (Oliver 1991). In fact, of the six stages of institutionalization suggested by Greenwood, Suddaby and Hinings (2002) (precipitating jolts, deinstitutionalization, preinstitutionalization, theorization, diffusion, and re-institutionalization), Greenwood, Oliver, Sahlin, and Suddaby assert that deinstitutionalization has received the least scholarly attention (Greenwood, Oliver et al. 2008). Empirical studies of the phenomenon have been particularly rare (Ahmadjian and Robinson 2001; Scott 2001).

One exception to this trend was a recent in-depth empirical analysis by Maguire and Hardy (2009) of the discontinuation of the pesticide DDT, a case of outsider-driven deinstitutionalization (Maguire and Hardy 2009). In this discourse-based analysis that built on the idea of theorization as developed by Greenwood, Suddaby and Hinings (2002), Maguire and Hardy emphasized processes of translation, in which outsiders engaged in ‘disruptive institutional work’, aimed at three goals aligned with institutionalism’s three pillars (Scott 1995), “‘undermining assumptions and beliefs’ about practices; ‘disassociating moral foundations’ from practices; and ‘disconnecting sanctions from practices through changes in legal or professional regulations’” (Lawrence and Suddaby 2006: 235, in Maguire and Hardy 2009) (168). This disruptive work was met with what the authors referred to as ‘defensive institutional

work' by insiders wishing to maintain the status quo, highly political activities that roughly align with Oliver's (1991) defensive strategies of avoidance, defiance, and manipulation. While Maguire and Hardy did thus shed light on important aspects of defensive work, Oliver's (1991) strategies still remain underexplored; the less politicized responses of acquiescence and compromise are especially poorly understood, as well as movement from one stage to another within her typology of responses. Noting the general paucity of studies of deinstitutionalization, Maguire and Hardy called for research that would engage with and extend their contribution, and asserted that environmental topics would be particularly suitable, as they are important from a societal point of view and can also offer the methodological benefit of real-time data collection.

An additional limitation of existing institutional accounts of deinstitutionalization projects has been a tendency to disregard the role of capacity, for both outsiders and insiders. Oliver (1992) theorized that one moderator affecting movement toward deinstitutionalization might be inertia, that is, organizations' resistance to change, and she proposed that desire for change might be insufficient when the organization lacked the necessary expertise or material resources to abandon the institutionalized practice (Oliver 1992). However, while lack of capacity is implied in the 'functional pressures' proposed by Oliver (1992) and in the 'inability to adapt' identified by Seo and Creed (2002), generally speaking, institutionalists' accounts have tended to assume the existence and technical feasibility of a preferred alternative. The emergence of new arrangements has not been thoroughly explored (Mizruchi and Fein 1999), and recently Lawrence, Suddaby, and Leca (2011) have called for research into this stage within the context of institutional work (Lawrence, Suddaby et

al. 2011). The highly politicized perspectives frequently found within institutional accounts of deinstitutionalization have tended to ignore actors' early, exploratory attempts to understand and react to perceived problems, and to generate alternatives when faced with these changing circumstances. By assuming the existence of a preferred alternative to the status quo, these accounts overlook the importance of capacity, for both change agents and defenders. In fact, in their suggestions for future research, Maguire and Hardy implicitly allude to this weakness when they point scholars toward settings where the scientific facts are unclear, to determine if the institutional work differs "when actors' primary aim is the problematization of existing practices as opposed to the promotion of new practices" (Maguire and Hardy 2009: 174).

4.1.2 Institutional logics: Coping with complexity

Where institutional logic conflicts are concerned, previous research has mainly focused on binary processes of replacement, in which deinstitutionalization of the dominant logic is considered necessary for the ascendancy of the challenging logic (Thornton 2002; Rao, Monin et al. 2003). Recently, though, researchers have begun to explore the implications of institutional complexity (Greenwood, Raynard et al. 2011), including the coping mechanisms required and organizational ramifications involved when multiple contradictory logics co-exist over prolonged periods (Hoffman 1999; Reay and Hinings 2009). However, these efforts are in early stages, and a great deal of work, particularly in the form of empirical research, remains to be done to understand how tensions are managed and how equilibrium may be accomplished, maintained, and disrupted.

For example, little is understood about temporal dynamics, including those that might transpire as additional logics come into play, with the potential to reinforce or, alternatively, degrade competing logics. In the model Greenwood et al (2002) provided, delineating the six stages of institutionalization, movement flowed in one direction, beginning with a jolt and culminating in reinstitutionalization. In cases of institutional complexity, though, movement might shift, flowing back and forth as new and old theorizations vie for precedence (Greenwood, Suddaby et al. 2002). Factors that might introduce new theorizations and this sort of ‘logic wobble’ could include new knowledge, altered contexts (Nigam and Ocasio 2010), and persuasive rhetoric (Suddaby and Greenwood 2005). In particular, new knowledge or subsequent related jolts might create a sort of ‘aftershock’ to a jolting event, shifting or concentrating actors’ attention, and interacting with and amplifying contextual interpretations and rhetorical persuasiveness. While Nigam and Ocasio (2010) were able to link event attention to changes in institutional logics, they called for additional research into “the interactions between event attention and other potential drivers of change in institutional logics”, as well as refinement of the mechanisms of convergence through examinations of specific actors’ discourse (Nigam and Ocasio 2010: 840). Aftershocks may contribute to convergence and should be considered as possible drivers of change.

4.1.3 Adversarial collaboration as institutional work

Importantly, since new logics require materialization to achieve institutionalization (Davis and Marquis 2005), theoretical explanations are needed to understand how the capacity to materialize logics affects how a new logic thrives or is discarded (Purdy and Gray 2009: 357), and how actors might work to build that capacity. At least in

some circumstances, this might be accomplished through collaboration, which is known to facilitate the creation of new knowledge (Powell, Koput et al. 1996). Collaborative processes have begun to draw the attention of institutional scholars (Hardy, Lawrence et al. 2005), but still remain largely unexamined. In particular, Reay and Hinings (2009) have called for more research into ‘non-trust’ collaboration, such as the case of ‘pragmatic collaboration’ they studied. There is a further need to examine these theorizations in settings where the collaboration is more voluntary than that seen in the Reay and Hinings study of actors involved in providing health care. In particular, institutionalists have not looked at collaboration among actors who do not share an understanding of the fundamental nature of the problem they face, a situation described by psychologist Daniel Kahneman as “adversarial collaboration” (Kahneman 2003). The particular type of adversarial collaboration examined in the case study presented in this thesis is one which fits the strict Lawrence, Hardy, and Phillips definition because it “relies on neither market nor hierarchical mechanisms of control (Lawrence, Hardy et al. 2002: 282)”, bringing together participants who “remain relatively autonomous and must be convinced to act even though there is no legitimate authority that can demand co-operation” (Phillips, Lawrence et al. 2000: 25).

Collaborations can potentially engage actors in many forms of institutional work, all the more so in the case of adversarial collaboration, which brings disrupters and defenders together to attempt to negotiate convergence around institutionally complex circumstances. In this setting, “disparate sets of actors, each pursuing their own vision, can become co-ordinated in a common project” (Lawrence and Suddaby 2006: 249), purposeful action aimed at altering institutional arrangements. In the institutional

work perspective, agency often manifests itself as a distributed phenomenon, and Lawrence et al (2011) identify a consequence for scholars: “Distributed agency invites researchers to explore how individual actors contribute to institutional change, how those contributions combine, how actors respond to one another’s efforts, and how the accumulation of those contributions leads to a path of institutional change or stability (Garud & Karnøe, 2003).” (Lawrence, Suddaby et al. 2011: 55-56). In this micro-level view of institutions, “it is the intersection and contestation of multiple logics within nested fields that provide actors the resources to engage in [institutional work]”, but at the same time, institutional contradictions may “engender a host of practices aimed not at institutional transformation, but at repairing or concealing those contradictions” (Lawrence and Suddaby 2006: 248).

4.1.4 Institutional change: Embedded agency, or embedding agency?

Institutionalists’ almost exclusive focus on agents (whether entrepreneurs, embedded actors, or governing bodies) in recent research may have hampered progress in explaining change. While actors may prefer taken-for-granted institutional arrangements, they can and do question them, and this empirically observed phenomenon has led to explanations of ‘heroic’ entrepreneurs resolutely diffusing their innovations on the one hand, and, on the other, to accounts in which embedded actors suddenly awaken to their own conflicts of interest and begin to champion alternative arrangements. Agents’ attempts at change are often directed toward convincing the state, regulators, or professional societies to enact laws, rules, and norms in support of their projects (Lawrence and Suddaby 2006), and accomplishing these types of goals is seen as evidence of successful institutionalization of the project.

The difficulties encountered by institutional theorists attempting to account for change may in fact be rooted in an overemphasis on dialectical explanations. An underlying cause of this may be the reification of the concept of decoupling, which, in broad terms, manifests itself in the literature as an implicit assumption that actors are utterly preoccupied with social legitimacy and almost completely disinterested in concerns of technical efficiency. In this view, change projects are resolutely political, only tangentially related to new scientific understandings or technical progress, for example. In trying to explain politically-driven change processes, institutionalists have drawn on concepts from social movement theory such as framing (Snow and Benford 1992; Benford 1993; Benford and Snow 2000), and Lawrence and Suddaby (2006) have called for research that emphasizes actors' ability to "mobilize competing frames or interpretations" over their "power to mobilize resources" (Lawrence and Suddaby 2006: 244). Yet one weakness of these dialectical explanations that is of particular concern in cases where conflicting logics indicate an as-yet-unfulfilled need to generate a preferred alternative is that they privilege coercion to the exclusion of convergence, and the processes described often have less to do with change, and more to do with 'framing contests' (Goffman 1974; Ryan 1991; Kaplan 2008), in which incumbents attempt to defend the status quo through strategic manoeuvres (Oliver 1991). In fact, research has shown that firms are resourceful in their defensive manoeuvres (Maguire and Hardy 2009), and that even when change projects result in government regulation, the highest institutional level of coercion, firms tend to comply with the letter of the law rather than its spirit (Edelman 1992). Thus, for true change to occur, it must ultimately be embedded, even if the project itself is outsider-driven.

If all true change is embedded, it implies that ‘embedding agency’ is a phenomenon that needs to be explored: how do agents work to build motivation and capacity in others whose interests have traditionally been satisfied by existing arrangements? An even more elemental question is why they do so: why it is that some events spark prolonged engagement by outsiders, whereas other, similar events do not? Once engaged, how do outsiders manage to recruit insiders to their change projects? When the emphasis shifts from coercion to convergence, researchers must look for collective searches for meaning, and in terms of institutional work, this may involve processes like joint experimentation, knowledge creation, and mutually negotiated understandings. Cognitive legitimacy increases in importance in this perspective (Hoffman and Ocasio 2001), and, particularly when driven by outsiders, embedding agency is likely to depend on relational resources as much or more than interpretive or political resources.

4.1.5 Shaping the change environment: Using institutional resources in relational work

Shifting the view of institutional change from one that emphasizes embedded agents to one that focuses on the process of embedding opens up a potential line of inquiry into how external actors might deploy institutional resources to achieve their aims. Weber and Glynn (2006) proposed that institutions can be used as building blocks, as guides to enactment, and as the substance, or accomplishment, of enactments (Weber and Glynn 2006: 1644). As theorized, these are cognitive constructs; it still remains to be investigated how institutions might serve relational purposes. In particular, the role of emotion, essentially ignored by institutionalists until very recently, needs to be addressed. Voronov and Vince (2012) have claimed that cognitive disinvestment in a dominant institutional order may be insufficient to bring about change if actors

remain emotionally invested in it (Voronov and Vince 2012); this claim needs to be examined empirically, and extended to show how emotional investment or disinvestment occurs. Institutional theorists acknowledge that actors are “active carriers of institutions” who “perceive the meaning of institutions and infuse their actions with meaning based upon these perceptions” (Dacin, Goodstein et al. 2002: 47); it remains to be explored the extent to which actors ‘carry’ affective aspects of institutions.

4.2 Sensemaking: Gaps and calls for research in the current literature

Sensemaking theory offers rich descriptions of how actors come to take note of events and how they participate in processes of interrelated sensemaking, but its lack of grounding in a historical, cultural, and institutional context is problematic. Legitimacy concerns underpin actors’ sensemaking efforts, but such identity-related awareness of social evaluations remains underexplored. In particular, while many studies within this theoretical stream acknowledge that emotion plays some role in sensemaking processes, there has been very little empirical exploration of affect.

4.2.1 Attention: Creating a problem

The sensemaking perspective beams a spotlight on the manner in which a taken-for-granted state of affairs is disrupted by unexpected events that interrupt actors’ routines, providing the rich explanations of psychological processes of attention and interrelating that are missing from institutional theory. The sensemaking lens has been criticized, however, for its lack of grounding in historical and cultural context (Taylor and van Every 2000; Weber and Glynn 2006). Nigam and Ocasio (2010) have gone some way toward integrating event attention with institutional context, but little has

been done to illuminate the earliest stages of attention to unexpected events (or jolts, to use the institutional term), in particular, the underlying contextual conditions that lead actors to discover their dissatisfaction with the status quo.

Within the sensemaking perspective, a key determinant of actors' engagement is the perceived salience of a given event: Events serve as cues, and their salience is determined by connecting the cues to frames, defined within the sensemaking literature as abstractions of past experience (Czarniawska 2006). In the literature, these frames are just assumed, with the implication being that their genesis is the sole result of individuals' personal histories. Yet it is clear that individuals often draw on shared frames, and it is reasonable to assume that those shared frames are shaped by a given historical, cultural, and institutional context. The idea that frames include shared elements means scholars must ask what frames are available and activated in empirical contexts, and also, how and under what circumstances such frames might change. Given that frames guide sensemakers as they 'author' problems, the provenance and mutability of those frames is highly significant.

4.2.2 Enacting identity: Performing for the mirror

While event attention has attracted a fair amount of scholarship, Weick's provocative proposal that interpretation may center on self rather than events (Weick 1995: 23) has not been adequately addressed by researchers. In fact, Weick emphasizes its importance further, pointing to identity as a possible bridge between the individual and the collective (Weick 1995), in which actors use the reflected images of their current performances to guide their future enactments: "identities are constituted out of the process of interaction" (Weick 1995: 18-19). This exposes an important link between sensemaking and institutional theory, inasmuch as for both, legitimacy

concerns are critical. In sensemaking, this manifests itself in the search for plausibility at the expense of accuracy. Thus, those engaged in collective efforts may simply mimic the actions of others, assuming (perhaps incorrectly) that they have already assessed the situation and devised an appropriate solution (Dunbar and Garud 2009; Vendelo and Rerup 2009), or in contrast, they might reject interpretations if the authors are deemed not credible, whether the interpretations are objectively correct or not (Weick 1993). The sensemaker's concern with plausibility over accuracy reflects in part a belief that he or she is a capable judge of others' competence and credibility (and vice versa), but misjudgements lay the ground for unintentional change. Even the adoption of others' appropriate solutions may bring about change, since in adopting them sensemakers come into contact with the frames or theorizations used to construct them, which they then may repurpose in other settings.

If research gaps around issues of identity and image are in clear evidence, less still has been said about how historical and cultural factors might be reflected in processes of interrelating. Weick and Roberts demonstrated that, in the absence of shared beliefs, organized action through 'heedful interrelating' was possible so long as the group followed a common set of rules about how to relate to one another (Weick and Roberts 1993), but, with the exception of Weber and Glynn (2006), sensemaking scholars have not explored how these sorts of relational guidelines might draw on institutional elements available to knowledgeable and creative sensemakers. There is a particular need to build on the Weber and Glynn theorizations with empirical research.

These ideas have powerful implications for sensemaking's 'levels of analysis' problem, which inverts the criticisms often levelled at institutional theory. Whereas institutional

theory has struggled to extend its concepts from the upper levels of field and organization down to the level of individual action, sensemaking has offered compelling theorizations at the level of individuals, operating within the confines of organizations, but has not been able to extend its reach further, to the supra-organizational levels comfortably addressed by institutionalists. Exploring the ramifications of legitimacy as an umbrella concept important to both theoretical streams holds potential for illuminating the relationships between micro, meso, and macro levels of analysis.

4.2.3 Sensegiving: Expertise and social competence as sources of legitimacy

Within the sensemaking family of concepts, legitimacy concerns are most evident in studies of sensegiving, where agents attempting to persuade others to their preferred alternative must first convince them they have done a credible job of sensemaking. Whereas dialectical accounts tend to take for granted agents' motivation to engage in these behaviors, glossing over the discomfort actors are likely to feel at offering their attempts up for judgement by others, Maitlis and Lawrence (2007) have demonstrated that stakeholders frequently choose *not* to engage in sensegiving. Calling sensegivers' ambivalent attitude toward engagement 'bounded responsibility', they noted that sensegiving was only taken on when actors believed a sensegiving gap existed which they had the expertise to fill. Thus, in contrast to studies of event attention, these researchers provided important insights into event *inattention*, but much more research is needed to understand how actors decide which events require their attention, and what type of action they will pursue. In particular, the Maitlis and Lawrence work focused on the internal sensegiving processes of relatively homogeneous organizations engaged in common and well-charted pursuits, in which

stakeholders' fundamental legitimacy as participants in sensemaking was unquestioned. What remains poorly understood are the characteristics and contextual circumstances of events that attract external sensemakers to the field, and the means they use to achieve legitimacy as sensemakers and sensegivers among the field's existing constituents, especially where stakeholders are adversaries, and problems are ill-defined.

In particular, Maitlis and Lawrence (2007) proposed that the characteristic enablers they identified—expertise, legitimacy and opportunity—implied that actors' relational identities and adherence to institutionalized social practices were key components of successful sensegiving. What this finding also implies is that stakeholders engage in 'sensemaking about sensemaking', inasmuch as they compare and rank themselves, and creatively manage the social relationships needed for sensemaking and sensegiving. This 'meta-sensemaking' is likely to be even more evident in cases of outsider engagement, but it is a topic which has yet to be examined.

4.2.4 Sensemaking with emotion: Adjusting the intensity

Though the sensemaking lens has always acknowledged that emotion plays a role in sensemakers' efforts, affective elements have been assumed rather than explicitly explored by researchers. Consequently, the interplay of cognition and emotion in sensemaking processes is poorly understood, and it follows that efforts to change cognition by changing emotion have not been studied. In their recent call for greater attention to emotion in sensemaking research, Maitlis and Sonenshein (2010) have pointed toward intensity of emotion as an especially important, but unexplored dimension of sensemaking. If intensity is indeed an important factor, it introduces questions about how actors engaging in collective sensemaking processes might seek to

alter the saturation of the emotional environment in order to influence others' sensemaking, a question that would especially benefit from empirical exploration.

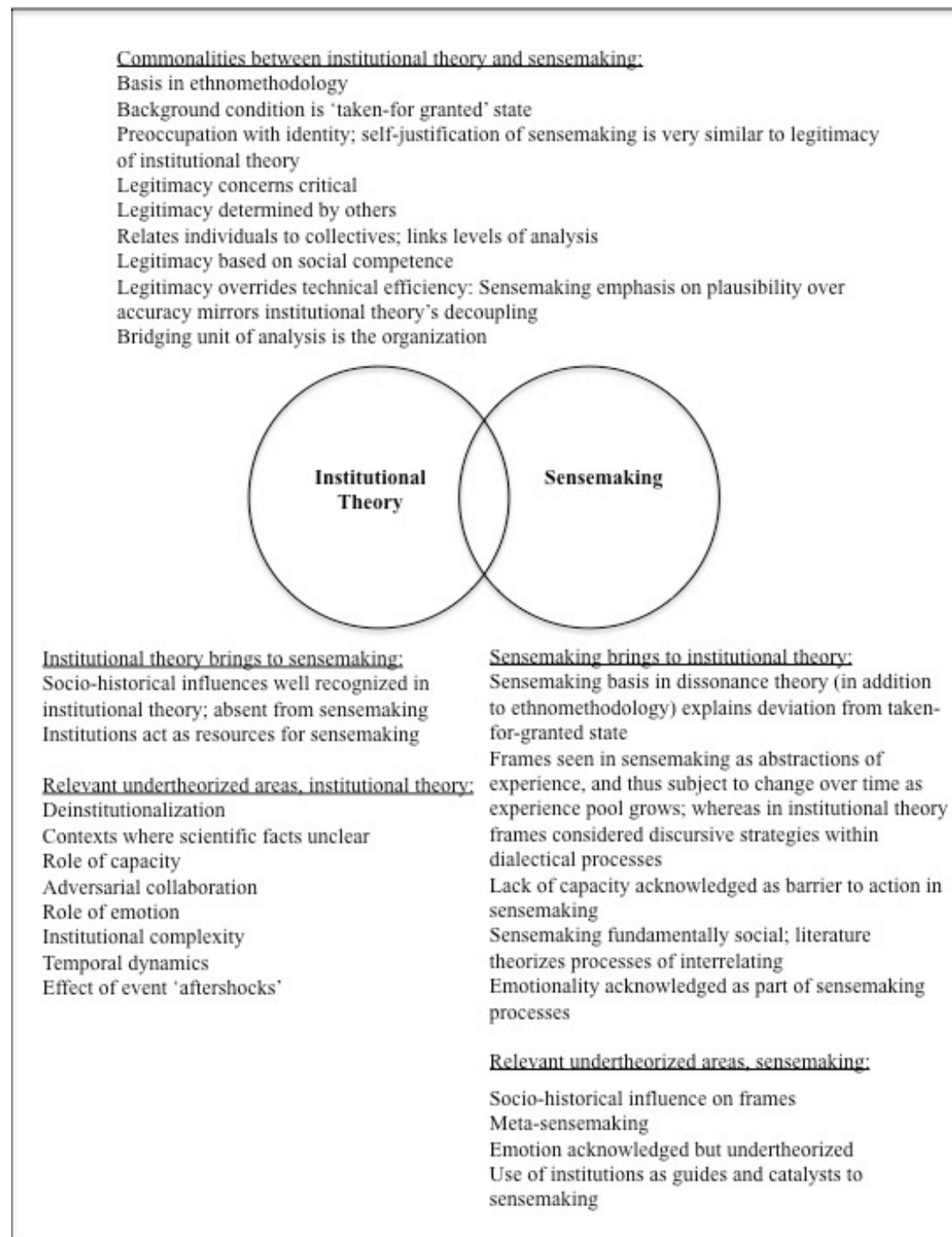
4.3 The research question and its theoretical contributions

This study seeks to contribute to institutionalist understandings of institutional complexity and change, and to add to an emerging body of research that explores possible linkages between institutional theory and sensemaking (Weber and Glynn 2006; Nigam and Ocasio 2010). Based on preliminary fieldwork, an early interest in deinstitutionalization, conflicting logics, and institutional change evolved into a focus on how these field level concepts would materialize in the work of individuals, acting as representatives of organizations, in processes of adversarial collaboration aimed at increasing understanding of a thorny problem that has defied efforts at definition, much less resolution. Finding that extant work on deinstitutionalization and institutional change presumed the existence of a preferred alternative to existing arrangements, and that studies of conflicting logics had yet to grapple with this sort of organized project for weighing disparate systems of meaning, I turned to the sensemaking literature for guidance on these earliest moments of institutional change, when competing logics are the subject of active efforts at understanding. The sensemaking lens was also somewhat more advanced in its conceptualization of affective elements in sensemaking, supporting attempts to theorize the observed phenomena in this study in which actors engaged in significant effort to alter an emotional climate typified by lack of trust or mutual respect.

The two theoretical streams are informed by ethnomethodology, and this provides a common ontological base that supports their combination. Significantly, they share

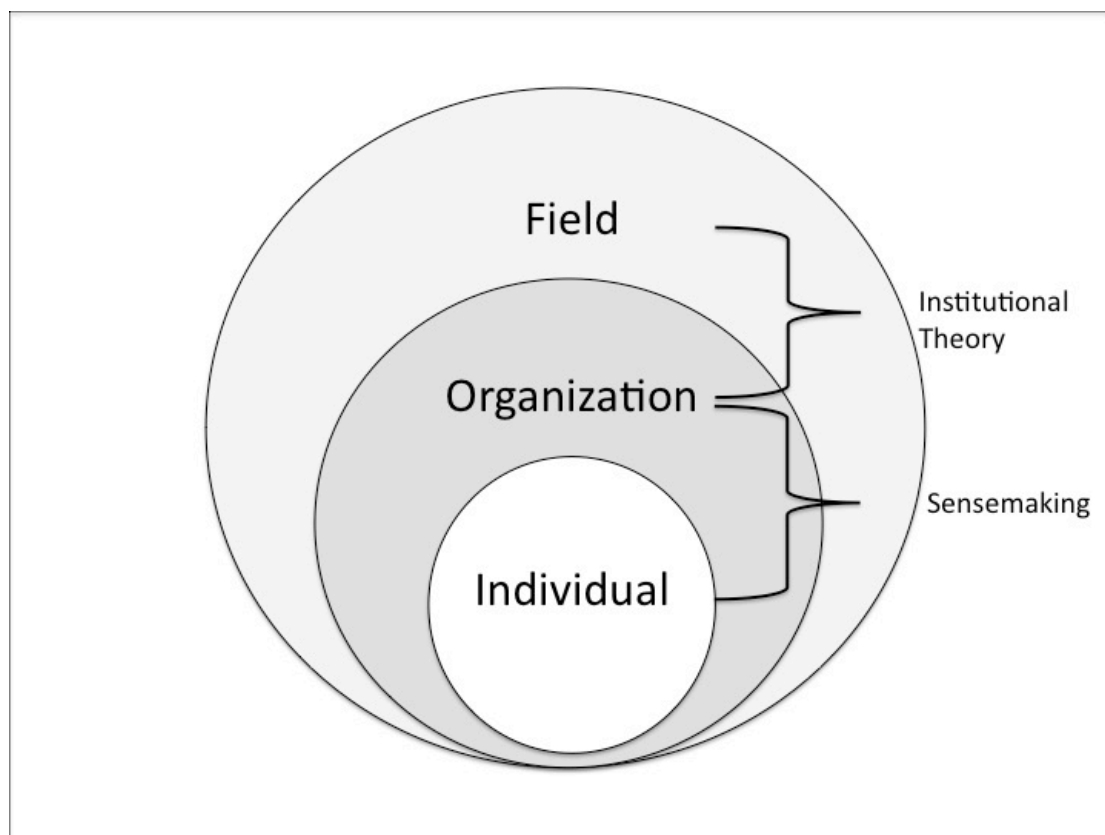
core ideas about identity and image; in particular, they each conceive of legitimacy as determined by others (real or imagined), based on one's demonstrated social competence (Weick 1995). Both also assume a background condition that is 'taken-for-granted', however, sensemaking's base in dissonance theory introduces the prospect of disruption and the possibility of institutional deviation. Conceptually, this makes it a particularly powerful companion to institutional theory, since institutional theory's emphasis on isomorphism has historically made the 'breakthrough' instances in which deviation and change emerge out of the 'taken-for-granted' institutional circumstances problematic. See Figure 4-1 for a summary of ways the two theories complement one another.

Figure 4-1 Rationales for combining institutional theory and sensemaking



Furthermore, sensemaking has been most thoroughly theorized at the level of the individual, the weak spot of institutional theory. While both theoretical streams have suffered from a 'levels of analysis' problem, given that their levels overlap (see Figure 4-2), there is great potential for scholars to use the tools and key concepts from each in a symbiotic way that would help bridge the levels gap.

Figure 4-2 Bridge between theories at organizational unit of analysis



Thus, the view of organizational fields as relational spaces where adversaries act together to engage in collective sensemaking and sensegiving about events and try to engender field-level change led me to the research questions that guide this study:

How is it that individual actors engage in the institutional work of sensemaking and sensegiving in order to reduce the credibility of a dominant logic and make a new logic plausible, and how do they

creatively use institutional resources to shape cognition and emotion in an adversarial collaborative sensemaking project aimed at institutionalizing the new logic in material practices?

5 METHODOLOGY

This chapter describes the research strategy chosen for this study. Here I argue for the appropriateness of a qualitative approach for exploring the social phenomena this research addresses, given the theoretical perspective embodied in the research question. I discuss the knowledge claims that underpin it, and the decision to adopt a case study design, in which I combined ethnographic and discourse-based data collection and analysis techniques. The chapter further shows how the research question warranted the collection of data from multiple sources using this complementary set of research methods, and demonstrates that this is in alignment with the underlying epistemological and ontological assumptions.

5.1 Research paradigm

Within social science, the use of a qualitative approach reflects a set of assumptions about the nature of reality (ontology) and about the ways it is possible to understand the social world (epistemology) (Morgan and Smircich 1980; 2003; Crotty 2003). A sound epistemological link should exist between the research question, the research strategy, and the specific methods used to collect data (Creswell 2003; Suddaby 2006).

The perspectives underpinning social science research range along a continuum from objectivist to subjectivist (Morgan and Smircich 1980). Objectivist (also referred to as positivist) stances view reality as external to human understanding, phenomenal and concrete, where the quest for knowledge is one of discovery through the deduction of relationships among discrete variables. Hypothesized relationships are tested by applying methods of inquiry that generate results presumed to be probabilistically generalizable to the larger world. In contrast, the subjectivist perspective assumes that

reality apart from human interpretation is unknowable. Here, reality has no meaning until humans ascribe their understandings to it. Lying between these two extremes is constructionism, which rejects the idea of objective reality, but stops short of a notion of meaningless reality, acknowledging instead an interactive process of meaning construction that involves human engagement with reality (Crotty 2003: 8-9). This meaning making is a social process, the result of human interaction within a social context that is historically-situated (Berger and Luckmann 1967); it is a collective accomplishment, but one which is varied and shifting.

Researchers working with a social constructionist perspective hold different beliefs about whether this paradigm describes “the construction of social reality” or “the social construction of reality” (Crotty 2003: 54). Strong social constructionist approaches contend that “all reality is socially constructed” (Crotty 2003: 54); in contrast, weaker versions of social constructionism hold that only social realities are socially constructed. Unlike many institutionalist studies, which address purely constructed phenomena such as the behavior of the accounting or legal professions (e.g., Greenwood, Suddaby et al. 2002; Smets, Morris et al. 2012), the study described here is more weakly constructionist in nature; while the sensemaking of those studied assumes a contextually-situated, socially constructed form, it is constrained by the events in the natural world it seeks to interpret. This aligns with philosopher John Searle’s assertion that “the structure of institutional facts reveals that they are logically dependent on brute facts. To suppose that all facts are institutional [i.e., social] would produce an infinite regress or circularity in the account of institutional facts. In order that some facts are institutional, there must be other facts that are brute [i.e., physical, biological, natural]” (Searle 1995). On the continuum shown in Table 5-1, the study

lies predominantly in the column shaded in dark grey, which assumes social reality is socially constructed, but incorporates elements of the column shaded in light grey, which is based on a reality constructed through symbolic discourse.

Table 5-1 Network of basic assumptions characterizing the subjective-objective debate within social science (Morgan and Smircich 1980: 492)

Core Ontological Assumptions	Subjective Approaches to Social Science reality as a projection of human imagination	reality as a social construction	reality as a realm of symbolic discourse	reality as a contextual field of information	reality as a concrete process	Objectivist Approaches to Social Science reality as a concrete structure
Assumptions about Human Nature	man as pure spirit, consciousness, being	man as a social constructor, the symbol creator	man as an actor, the symbol user	man as an information processor	man as an adaptor	man as a responder
Basic Epistemological Stance	to obtain phenomenological insight, revelation	to understand how social reality is created	to understand patterns of symbolic discourse	to map contexts	to study systems, process, change	to construct a positivist science
Some Favored Metaphors	transcendental	language game, accomplishment, text	theater, culture	cybernetic	organism	machine
Research Methods	exploration of pure subjectivity	hermeneutics	symbolic analysis	contextual analysis of Gestalten	historical analysis	lab experiments, surveys

Where positivistic inquiry aims to identify universal truths about the social world using methods derived from the natural sciences, the constructionist ontology girding the study described here leads to an interpretivist approach, which gives rise to the use of different methods. In this approach, when seeking to understand the development of cultural phenomena, the researcher “*looks for culturally derived and historically situated interpretations of the social life-world*” (Crotty 2003: 67) [emphasis in original]. This produces Giddens’ so-called double hermeneutic (Giddens 1976), in which, as Blaikie put it, “the social world is already interpreted before the social scientist arrives” (Blaikie 2000: 36). The work of the researcher seeking to understand socially constructed phenomena is thus, in essence, to interpret the interpretations of the study’s participants, and this necessarily influences the choice of research strategy.

Participants' understandings are multiple and varied, and this requires the researcher to embrace their complexity rather than attempt to prematurely categorize or otherwise reduce the data. In this type of research, the goal is "to rely as much as possible on the participants' view of the situation being studied" (Creswell 2003: 8). The quantitative methods typically employed in positivist approaches are often not as well suited to capturing the complexity of social arrangements as are qualitative methods that allow participants to describe their understandings richly and that enable the researcher to situate this human meaning-making in its relevant socio-historical context. Qualitative approaches are a logical choice when attempting to address "'how' questions—rather than 'how many'; for understanding the world from the perspective of those studied (i.e., informants); and for examining and articulating processes" (Pratt 2009: 856).

Another factor to consider in determining an appropriate research design is the position of the research question in regard to previous accounts: Edmondson and McManus suggest that the defining underlying condition to a particular research question is the state of prior theory. They identify three archetypes of methodological fit, nascent, intermediate, and mature, corresponding to the question's relation to prior theory: the implications of these different archetypes are outlined in Table 5-2.

Table 5-2 Three archetypes of methodological fit in field research (Edmondson and McManus 2007: 1160)

State of Prior Theory and Research	Nascent	Intermediate	Mature
Research questions	Open-ended inquiry about a phenomenon of interest	Proposed relationships between new and established constructs	Focused questions and/or hypotheses relating existing constructs
Type of data collected	Qualitative, initially open-ended data that need to be interpreted for meaning	Hybrid (both qualitative and quantitative)	Quantitative data; focused measures where extent or amount is meaningful
Illustrative methods for collecting data	Interviews; observations; obtaining documents or other material from field sites relevant to the phenomena of interest	Interviews; observations; surveys; obtaining material from field sites relevant to the phenomena of interest	Surveys; interviews or observations designed to be systematically coded and quantified; obtaining data from field sites that measure the extent or amount of salient constructs
Constructs and measures	Typically new constructs, few formal measures	Typically one or more new constructs and/or new measures	Typically relying heavily on existing constructs and measures
Goal of data analyses	Pattern identification	Preliminary or exploratory testing of new propositions and/or new constructs	Formal hypothesis testing
Data analysis methods	Thematic content analysis coding for evidence of constructs	Content analysis, exploratory statistics, and preliminary tests	Statistical inference, standard statistical analyses
Theoretical contribution	A suggestive theory, often an invitation for further work on the issue or set of issues opened up by the study	A provisional theory, often one that integrates previously separate bodies of work	A supported theory that may add specificity, new mechanisms, or new boundaries to existing theories

According to these scholars, mature theory is characterized by well-developed constructs and precise models, with research questions tending to relate to specific aspects of existing theories, leading to the use of a hypothesis-testing approach that typically relies on quantitative data. Intermediate theory tends to generate tentative constructs, and often attempts to relate the new constructs to existing theorizations; quantitative, qualitative, or mixed methods may be appropriate. Nascent theory examines little-theorized topics and asks how and why questions using qualitative methods (Edmondson and McManus 2007: 1158). The study outlined here falls into

this last category, addressing phenomena that are not yet well understood; under these circumstances, Edmondson and McManus postulate that, “where theory is nascent or immature, researchers do not know what issues may emerge from the data and so avoid hypothesizing specific relationships between variables.” (Edmondson and McManus 2007: 1162). Thus, for reasons of ontological and epistemological appropriateness as well as the state of prior theory, a qualitative approach was chosen for this study.

5.2 Research strategy

To study the phenomenon addressed by the research question, the single-case study was selected as the design strategy. This choice allows for collection of data that is sufficiently rich, abundant, and detailed to support theoretical generalization about the intertwined processes of institutionalization and sensemaking within a context of competing logics around productive use of a natural resource. Furthermore, the single-case study is ontologically and epistemologically appropriate for the research question, and it supports the inductive theory-building logic underpinning the analysis presented here.

5.2.1 Case study design

Case studies are well-suited to research that seeks to examine ‘how’ and ‘why’ questions concerning real-life contemporary events and processes in depth in a holistic manner. Careful study of a single case results in an intimate engagement with the phenomenon of interest which can lead to deep contextual understandings conducive to identifying theoretical relationships (Dyer and Wilkins 1991). In particular, they are a logical choice when the researcher is examining a phenomenon characterized by

complexity, one that cannot be separated from its context, as they are able to capture multiple participants' voices and situate their interpretations in a particular socio-historical milieu (Marshall and Rossman 1999; Creswell 2003; Yin 2009). The phenomenon researched in the study described here displays just this complexity, for both empirical and theoretical reasons. Empirically, the case involves an interplay of evolving, varied interpretations of conflicting, nested, and competing logics among a disparate group of agents. Theoretically, institutional processes related to the co-existence of multiple institutional logics are not yet well understood, and the sensemaking perspective has only very rarely been used in efforts to theorize these mechanisms. The use of a case study here is particularly appropriate for institutionalist research, heeding a call from Suddaby to “incorporate interpretivist methods that pay serious attention to the subjective ways in which actors experience institutions”, specifically, “to return to the rich case studies of early organizational institutionalists” (Suddaby 2010: 15).

While the case study format has been criticized because the resulting theorizations are not scientifically—that is to say, statistically—generalizable, that is an objectivist perspective that is not relevant to a constructionist investigation. Furthermore, Yin counters that case studies “are generalizable to theoretical populations and not to populations or universes”, so called analytical generalization (Yin 2009: 15). This study of phenomena that are not yet well understood seeks to expand theory, and is thus aligned with the case study's strengths.

To explore these processes, I have chosen an exploratory, embedded single case study (Yin 2009). It is exploratory for the reasons described in section 5.1: This study addresses phenomena that are not yet well understood. As one of only a few attempts

to describe deinstitutionalization processes, and one of even fewer efforts to combine institutional and sensemaking theories empirically, it is exploratory in nature, and thus appropriate for a case study approach, where the research objective is to develop a deep understanding of the mechanisms involved in the unfolding of a particular phenomenon. The decision to focus on a single case, with embedded subunits, flows from the particular characteristics of the research question, and is not undertaken without due consideration.

The decision to use a single case is a significant one, since researchers have been told that “multiple-case designs may be preferred over single-case designs” (Yin 2009: 61), and advised that “with fewer than 4 cases, it is often difficult to generate theory with much complexity, and its empirical grounding is likely to be unconvincing” (Eisenhardt 1989: 545). Yet, the replication logic espoused by Eisenhardt and others, which relates the cases within a multiple-case design to “a series of related laboratory experiments” (Eisenhardt and Graebner 2007: 25) has also been contested as “paradoxical because although its purported purpose is theory generation, it includes many of the attributes of hypothesis-testing research”, and unsuited to generating the “paradigm-challenging or paradigm-creating theoretical advancements...of traditional case study researchers” (Dyer and Wilkins 1991: 615, 617). Of particular relevance here, single-case designs have been defended for their suitability for investigating longitudinal phenomena: In longitudinal case studies, a single case is examined at multiple points in time, with the goal of exploring changing conditions (Yin 2009: 49). According to Siggelkow, “The ability to get closer to theoretical constructs is particularly important in the context of longitudinal research that tries to unravel the underlying dynamics of phenomena that play out over time” (Siggelkow

2007: 22). A specific type of single case, the extended case study, is especially well-suited for research that attempts to interpret and contextualize organizational phenomena unfolding over time across multiple levels (Broadfoot, Deetz et al. 2004). This design empowers the researcher to “demonstrate how the micro practices of a social situation under examination are shaped by, shape and condition the external forces operating around and through the interaction and context” (Broadfoot, Deetz et al. 2004: 198).

In the research described in these pages, I offer a refined approach to the single case design, by distinguishing four embedded sub-cases (Yin 2009), thereby acknowledging the ‘voices’ of diverse categories of organizational actors, with the intent of teasing out and illuminating the variation in the data. In doing so, I maximize variation by bringing to the forefront different perspectives regarding the phenomenon that is the focus of this study, thereby reinforcing the results through within-case comparison (Maxwell 1996). This was a logical and even necessary step here, because the discourse being examined required a focus on disparate, often conflicting perspectives and interpretations.

To reduce the risks associated with using a single case design, the researcher must be careful to select an empirical setting that is suitably rich and surprising—a ‘talking pig’, to employ a phrase used by Siggelkow (Siggelkow 2007: 20). In the case study presented here, theoretical sampling was informed by a specific gap identified in the literature, a theoretical grounding in what Glaser and Strauss referred to as ‘substantive theory’ (Glaser and Strauss 1967); namely, I wished to learn more about the types of processes theorized by Maguire and Hardy in their discourse-based analysis of the deinstitutionalization of the pesticide DDT between 1962 and 1972

(Maguire and Hardy 2009). The Maguire and Hardy paper examined text-based discourse in a case of dialectical contestation of existing practices around a chemical increasingly associated with negative environmental consequences. They concluded that processes of ‘translation’ resulted in the weakening of the ‘institutional pillars’ (Scott 2001) that had supported the use of DDT, eventually deinstitutionalizing the practice. My own case selection was guided by curiosity about a question raised within the Maguire and Hardy piece, namely what might happen in a case characterized by scientific uncertainty, one in which old practices had come into question without there being an alternative immediately at hand. I was also curious regarding the possible role of groups I felt remained under-theorized in such a process, such as academic scientists and environmental non-governmental organizations. I was suspicious, too, that the type of process they identified might unfold differently in a more recent historical context, or where there was a less clearly defined initiating event, or a more distributed form of agency. I limited my search for an appropriate case to contemporary instances of conflict over corporate exploitation of the natural environment, for both theoretical and personal reasons; in the first instance, my desire to examine a case of outsider-driven deinstitutionalization characterized by scientific uncertainty necessitated that the phenomenon of interest be both poorly understood and the subject of contestation, characteristics common to environmental issues; and, in the second instance, my educational background in Environmental Studies meant not only that I had an interest in such topics, but also that I had specialized expertise in the area to feel confident in my ability to interpret my findings. The result of this search was that I selected as my case the development of the ‘sustainable seafood’ discourse, particularly as it unfolded in the United States.

Having decided upon the ‘sustainable seafood’ discourse as my focus of study, I undertook preliminary research in the field, and this informed my decision to adopt an embedded case design, focusing on particular classes of organizations as sub-cases. The embedded case design further ameliorates concerns that the single case design strategy will not be theoretically fruitful (Eisenhardt 1989). It is especially useful when the researcher hopes to theorize across levels of analysis (Yin 2009) and across multiple, disparate organizations, as in this study. The sampling decisions are presented in Table 5-3.

Table 5-3 Multi-level sampling decisions in an embedded single-case design

Sampling Level	Sampling Decision	Sampling Rationale
Institutional Context	Seafood industry	Mature, highly institutionalized industry, where regulation problematic, science uncertain, production practices contested on environmental grounds
Single Case	Sustainable seafood discourse	Active, sustained dialogue among stakeholders over prolonged time period
Embedded Case	Active ‘conversant’ categories in discourse: Firms, environmental non-governmental organizations, fishery scientists, and government bodies	Most influential and engaged categories in discourse; key stakeholders
Individual voices	Influential texts and elite individuals with insider-knowledge of historical development of movement, from each embedded case area	Historical progression of sensemaking by groups with disparate interests and perspectives, as revealed in contemporaneous texts, narratives of remembrance by key influencers

5.2.2 Research context: The institutional field of ‘sustainable seafood’ discourse

According to Davis and Marquis (2005), by the 1990s research in organization theory had become predominantly problem-driven rather than paradigm-driven. By this, they meant that, whereas research in the 1960s, 70s, and 80s focused on testing hypotheses around theory that was meant to be generalizable, research in the ensuing

decades has started with the question, “why is it that...?”, its primary purpose being to explain “events in the world” (Davis and Marquis 2005: 334), whether or not they can be pegged to existing theory. Institutionalists’ evolving conceptualizations of the institutional field have likewise moved away from early definitions that fit the theoretical focus on buttressing theories of isomorphism. Where those institutional fields were viewed as static, and limited to homogenous collections of actors linked through narrowly limited technologies or markets, recent conceptualizations have drawn a more expansive picture.

A key shift occurred when Hoffman (1999) proposed that fields could form around issues. In postulating that corporate environmentalism could be seen as an organizational field, Hoffman aimed to re-introduce mechanisms of change into a theoretical stream preoccupied with isomorphism. In this theorization, “fields become centers of debates in which competing interests negotiate over issue interpretation” (p. 351), and change occurs as new directions develop within the debate over time. Due to developments in the debate, the field itself undergoes reconfiguration, with actors entering and exiting the discourse around the issue (Hoffman 1999).

More recently, Wooten and Hoffman (2008) have proposed that researchers should begin to think of fields even more expansively, as relational spaces, and to focus their studies on settings “where problems of organizing are debated among disparate actors” (Wooten and Hoffman 2008: 143). This recasting opens theoretical space for scholars interested in expanding institutional theory so that it not only describes processes of isomorphism, and of change based on dialectical processes of ‘debate’ and contestation, but also uncovers processes of interrelating, and even collaborating, around issues and topics of organizational interest, including affective elements that

have only recently been acknowledged at all by institutionalists. Using such a lens, it becomes possible to imagine the field as a theoretical space in which actors not only debate issues, but also engage in less politically-fraught processes of dialogue, in which rhetorical claims to cognitive legitimacy are not privileged at the expense of the relational processes of identity projection and social evaluation. This awareness of self and others is inherent in processes of sensemaking, when actors struggle to make sense of ambiguous, confusing events. In this recasting of the institutional field, it should be possible to examine discourse around a particular issue in a way that reveals traces of not just cognitive work, but relational work, as well. Accordingly, I have chosen as my single case a relational field containing the ‘sustainable seafood’ discourse, according membership in the field to those groups and organizations that have been actively engaged in field-level sensemaking about problems said to be associated with seafood resources. Because my aim is to illuminate processes of sensemaking, where actors interact with one another around their enacted interpretations, I refer to this particular kind of relational field as a ‘sensemaking field’.

I limited my analysis temporally and geographically. Temporally, I focused on a twenty-year time period beginning in 1992, when it became widely known that the cod fisheries off the northeastern coasts of North America had collapsed.

Geographically, I focused on the discourse in and around the US seafood market, for two reasons. First, the US is a major producer and importer of seafood, in 2008 ranking sixth in the world on the former dimension, and second in the world on the latter (FAO Fisheries and Aquaculture Department 2010). Second, the precipitating event, the precipitous decline in cod stocks, occurred in US waters and contiguous

Canadian ones, and thus it has been at the epicenter of the discourse that arose (Seafood Choices Alliance 2008: 3).

Given this emphasis on sensemaking discourse around a particular problem, it was logical to choose as embedded sub-units the ‘conversants’ in the evolving dialogue. I focus here on four key groups: the seafood industry; academic fishery science; government; and environmental non-governmental organizations (ENGOS). Notably absent from this list is the end consumer; this is because, until very recently, consumers have played only a very small role in the evolving discourse. The following sections provide an overview of the selected groups.

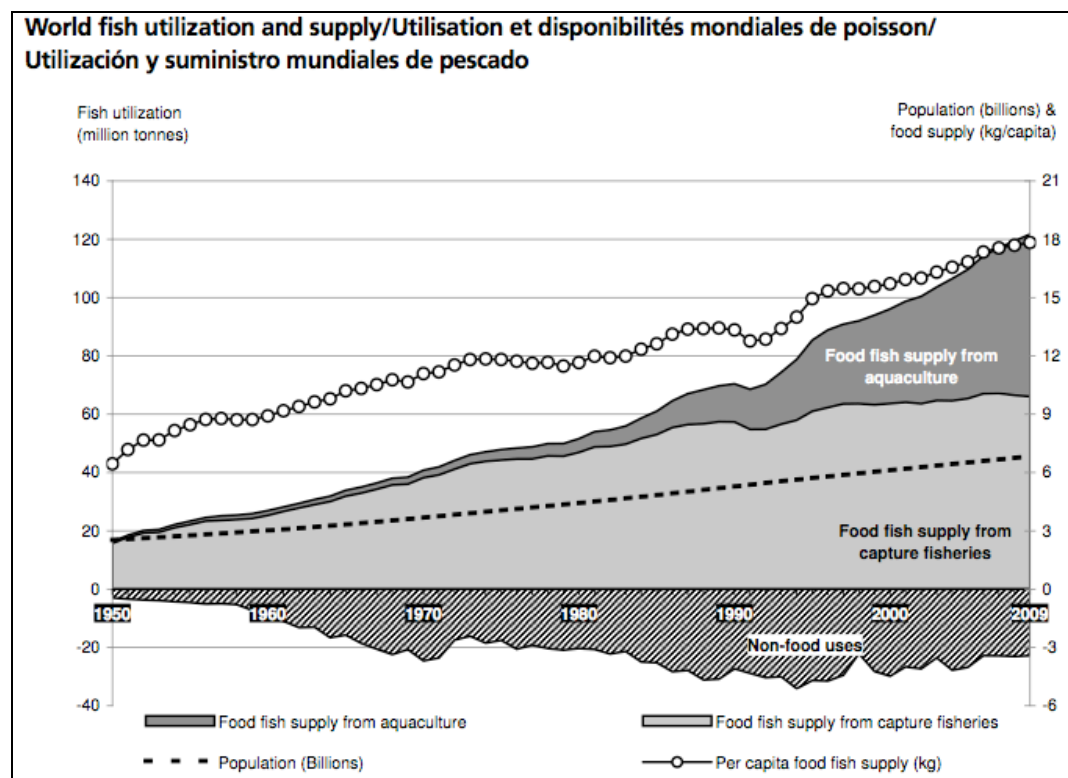
5.2.2.1 Single case: Seafood industry

The seafood industry can be said to be America’s oldest; the Pilgrims chose America as a suitable location for a colony “chiefly for the hope of present profit to be made by the fish that was found in that country” (Kurlansky 1997: 67). Historically, ocean seafood stocks, particularly species like the codfish targeted by the Pilgrims, have been so abundant that they were considered a virtually infinite resource. Near the end of the nineteenth century, English naturalist Thomas Huxley went so far as to call cod fisheries “inexhaustible” (Huxley 1883). This description seemed particularly apt when applied to cod in the waters off the northeast coast of North America, where the fish were sufficiently plentiful that in 1497, New World explorer John Cabot reported, "the sea there is full of fish that can be taken not only with nets but with fishing-baskets" (Pringle 1997).

In 1895, a dozen years after Huxley’s pronouncement, the waters of New England yielded 60,000 tons of cod to fishermen navigating sailing schooners and small dories,

and codfish stocks remained robust. However, in 1905, the invention of the otter trawl proved the start of a series of technological advances which produced the ever increasing yields that eventually resulted in the collapse of the fishery. Two developments that were perhaps the most significant occurred in the beginning and middle of the twentieth century: the development of frozen food technology in 1925; and the invention of the factory ship in 1954. The latter was particularly transformative, for these enormous, integrated vessels were capable of catching the equivalent of a season's effort for a sixteenth century boat, a hundred tons, in a single hour (Ellis 2003). It is possible to see the rapid increase in world landings which occurred in the decades following the introduction of the factory ship in Figure 5-1 (Food and Agriculture Organization 2011).

Figure 5-1 World fish utilization and supply (Food and Agriculture Organization 2011: iv)



By 1992, however, as a result of this increased fishing effort, the cod biomass in Canadian waters had declined to one percent of the historic highs measured in the early 1960's: By 1994, cod was considered commercially (though not biologically) extinct in Canadian waters. The situation was slightly better in the US, where fisheries officials became aware of the problem before the situation had deteriorated as thoroughly as it had done in Canada. Even so, when the US National Marine Fisheries Service (NMFS) assessed fish stocks in 1994 prior to declaring a groundfish moratorium in US waters, it discovered cod levels on Georges Bank were just forty percent of their 1990 levels (Kurlansky 1997).

The collapse and closure of the North Atlantic cod fisheries in Newfoundland and New England sent ripples of fear through the North American seafood supply chain. Entire fishing communities disappeared, as an estimated 40,000 workers lost their jobs on ships and in processing factories (Clover 2006). The processing firms that survived began hunting the globe for new sources of fish, and replaced locally-caught cod with Pacific, Norwegian, and Russian cod, as well as similar species such as pollock. In the two decades following the cod collapse, the US has turned ever increasingly to global markets to meet domestic seafood demand. Imports, both wild-caught and farmed, now account for nearly ninety percent of the national supply; at the time of the cod collapse, the proportions were approximately equal (The David and Lucile Packard Foundation 2007).

Today, approximately one half of total world production (144.6 million metric tons in 2009) is destined for the global market (FAO Fisheries and Aquaculture Department 2010). Seafood is now produced through two methods: wild capture and aquaculture ('fish farming'). Globally, the two production methods each supply roughly half the

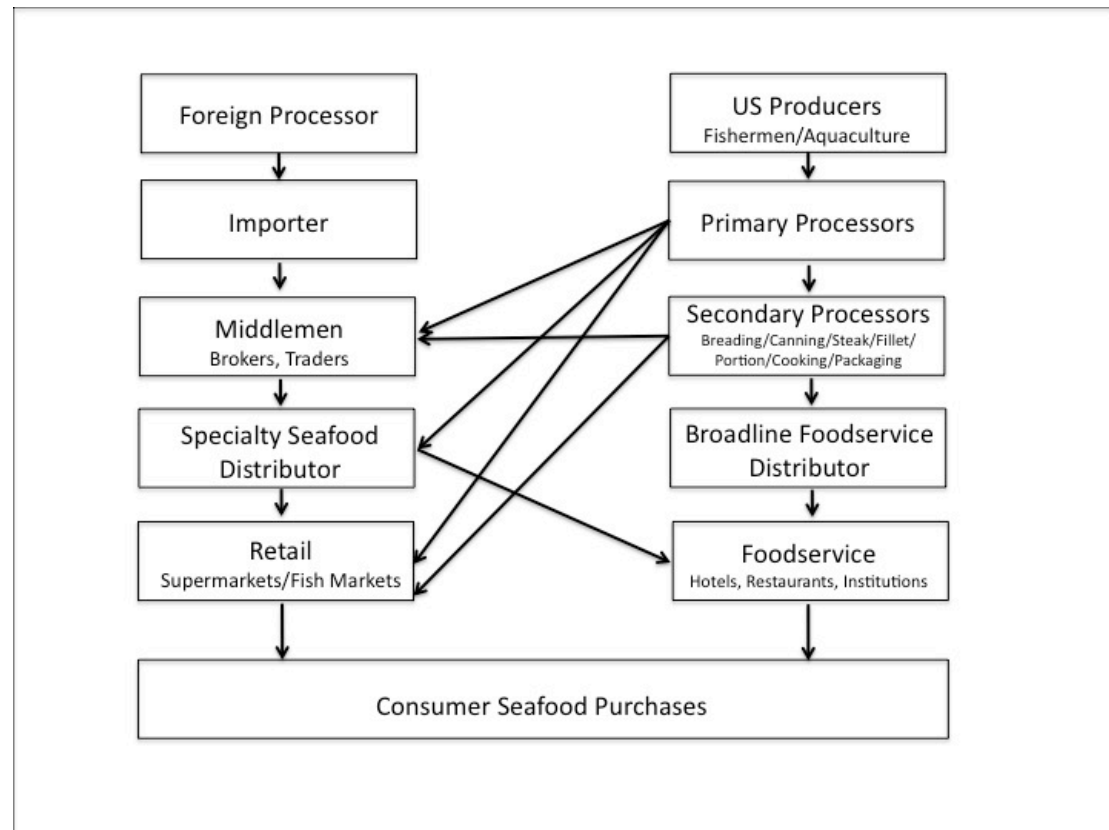
total supply. In the US, however, most internal production still comes from capture fisheries; there is relatively low internal aquaculture production capacity. The US commercial fleet consists of more than 20,000 vessels greater than five net tons, and nearly 50,000 smaller boats. Most of these are owned by independent owner operators (The David and Lucile Packard Foundation 2007: 84).

In the US, more than \$30 billion worth of seafood sales are transacted each year at the wholesale level, and, at the retail level, more than \$80 billion changes hands (The David and Lucile Packard Foundation 2007; National Marine Fisheries Service 2009). Unlike land-based animal protein sources, commercial seafood supplies are extremely varied, particularly where capture fisheries are concerned: Though an estimated third of the volume produced comes from the most popular twelve species, the total number of species brought to market exceeds two hundred (The David and Lucile Packard Foundation 2007: 16).

This variety of species has affected industry structure, which is highly fragmented and diverse. The value chain that leads to the US consumer is depicted below in Figure 5-2. At the upstream levels where harvesting, processing, and importing occur, firms usually specialize in a small subset of the total number of species, from a limited number of regions. There are nearly a thousand processing companies in the US, for example, and imports come from many more thousands of processors in nearly 200 countries around the world. Most US firms are owner operated, and in fact, none of

the larger US seafood companies is publicly traded¹ (The David and Lucile Packard Foundation 2007).

Figure 5-2 US seafood value chain (The David and Lucile Packard Foundation 2007: 77)



Seafood provides roughly fifteen percent of animal protein consumption by humans worldwide, but the proportion is much smaller in the US—whereas global per capita consumption is about 17 kilos, US per capita seafood consumption is only about 7 kilos. This, however, represents an increase of nearly 2 kilos during the period between 1972 and 1987, when it reached its peak. The increase is believed to have occurred due to several factors, including improvements to air shipment techniques,

¹ There has been some limited investment in US seafood firms by international investors, primarily Japanese firms (Packard: 79).

increasing scientific evidence of health benefits associated with seafood consumption, and supermarkets' decisions to establish full-service seafood departments² (The David and Lucile Packard Foundation 2007).

Supermarket chains, restaurant chains, and food-service providers wield a great deal of power in the seafood supply chain; of these, supermarket chains are the most consolidated, with five chains holding half of total retail market share. Retail buyers determine not only the products that will be sold and the prices that will prevail, but also product characteristics such as size and quality (The David and Lucile Packard Foundation 2007).

5.2.2.2 Single case: Fishery science

The scientific assessment of seafood resources first began in the 1890s, when North Atlantic fishermen became alarmed at diminished catches and asked scientists for help (Jacquet 2007). Fishery science is a normative field that exists to inform and guide government regulation of the fishing industry; research performed by doctoral level researchers affiliated with academic institutions translates into specific techniques and assumptions used by applied scientists working on behalf of governmental agencies. The institutionalization of science-derived fisheries management accelerated in the 1930s, by which time, "the conservation movement was in full cry... In dozens of states and provinces, fish and game regulations proliferated, commercial fisheries were increasingly documented, and there was a growing awareness of the scientific basis for management" (Larkin 1977: 1). Technological advances (some of which, like sonar,

² Of the approximately 35,000 supermarkets in the US, about 15,000 have seafood departments of significant size (Packard).

were redeployed war-time inventions) had given birth to industrialized fishing, which delivered unprecedented yields and reinforced a prevailing optimism that modern science could provide solutions to modern problems.

One product of academic attention to fisheries management that has proved especially influential is the concept of ‘maximum sustainable yield’ (MSY). This strategy is based on the notion that the stock of a species is most productive when it is fished down to approximately half its natural state; the aim, then, is to encourage fishing levels sufficient to maintain the population at the point that maximizes its growth rate (Grescoe 2008).

However, after the system had already been widely adopted, numerous problems were identified. When applied, MSY-based systems could result in altered age distributions, so that inadequate numbers of spawning cohorts remained. The model itself was flawed: It assumed there was sufficient data when often there was not; it failed to take account of behavioral characteristics of sub-populations, with sometimes deleterious impacts on the genetic pool; it ignored ecosystem effects outside the target species; and it ignored natural variations in fish populations.

Looking beyond the technical failings of the MSY system, optimistic expectations about the strategy failed to account for human factors: proponents assumed incorrectly that fishermen would lower production levels as part of the management system, and they ignored the effects of political pressure to subsidize production. By the late 1960s, many fishery experts had begun expressing concern about the continued reliance on MSY, and a decade later concepts such as ‘optimum sustainable yield’ were being developed to attempt to create a model that would

address economic and social constraints as well as biological ones. Larkin expressed the feelings of many fishery scientists when he called for an end to MSY (Larkin 1977).

Fisheries science is a relatively young academic pursuit, and faces enormous challenges in simply quantifying ocean stocks: as fishery scientists often say, “counting fish is like counting trees, except that they are invisible and they keep moving” (Hilborn 2002: 404). In Canada in the years leading up to the cod collapse, scientists made a critical mistake by assuming that stock growth after 1977 would match the rates of the 1960s and 1970s, when in fact, the number of spawning cod had been declining throughout that period. Further inaccuracy in these scientists’ estimates came from their data source: though Canadian researchers began collecting data using random research surveys in the late 1970’s, prior to that, they relied on commercial fishing data, which led scientists to overestimate stocks by failing to recognize that the relatively large landings reflected increased fishing effort rather than stock abundance. In the US, in contrast, fishery scientists recognized that stocks were in decline, not just of cod, but also of haddock and yellowtail flounder. However, the New England regional council responsible for regulating fishing effort failed to take action, and by the mid-1970s, fishermen were landing only 30,000 tons from Georges Bank, half the amount their predecessors had caught in 1895, fishing closer to shore and using less advanced technologies (Kunzig 1995).

5.2.2.3 Single case: Government

The US saw strategic potential in the diffusion of fishery scientists’ MSY technique, and lobbied the nations of the world to declare it as the goal of world fisheries management. Consequently, it was included in an international treaty in 1955 that

also gave fleets the right to freely fish off other countries' coasts, unless those countries were able to prove that their stocks were overfished.

At the same time, in the aftermath of the Second World War, the United States began a rush among nations to extend their control of near-coast natural resources beyond the traditional 3-mile territorial water limit. By the end of the twentieth century, a 12-nautical-mile limit had become the norm for territorial waters. Both Canada and the US extended their territorial waters out to 200 miles in 1977, and the 1982 UN Convention on the Law of the Sea standardized this 200-mile limit for coastal nations' exclusive economic zones (EEZ). The extension of the EEZ led both the Canadian and US governments to launch aggressive efforts to modernize their offshore east coast cod fishing fleets (Kurlansky 1997). These governments encouraged those in the fishing and processing industries to buy new boats and build more plants to better exploit the expanded national fishing zone; this resulted in excess capacity, which in turn led to greater fishing effort (The David and Lucile Packard Foundation 2007).

In the US, Congress passed the Magnuson Fisheries Conservation and Management Act in 1976, which was implemented in 1988. This legislation allowed the US to regulate fisheries falling within the US EEZ; in particular, it focused on eliminating foreign-flagged fishing boats, and joint ventures pairing US vessels with foreign processing ships. Domestic landings of edible fishery products increased significantly as a result.

Even as the scientific community increased its calls to halt the practice, the MSY technique became progressively more entrenched in government policy. Though the United Nations Convention on the Law of the Sea that concluded in 1982 called on

the countries of the world to consider the values produced by the MSY approach as upper limits rather than attainable targets, in fact, reducing fishing mortality so as to fall below the MSY limit has proven difficult (Mace 2001).

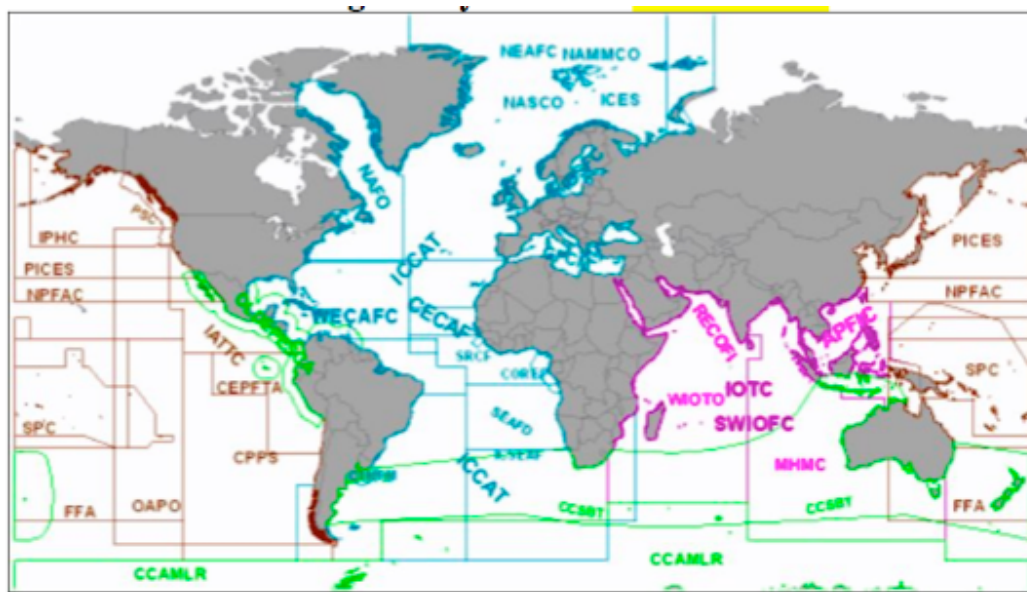
In the US, the National Marine Fisheries service is responsible for conducting stock assessments and overseeing fisheries management, but specific restrictions are imposed by regional councils, often composed heavily of industry representatives. In New England, contrary to scientists' advice to restrict fishing effort, the council instead eliminated catch quotas entirely in 1982. It was not until 1991 that the council began restricting fishing days at sea, and then only in response to a lawsuit by the Conservation Law Foundation. By then it was too late; haddock and yellowtail flounder had already collapsed, and the cod collapse was under way (Kunzig 1995).

The cod collapse was the latest in a series of rapid declines that had started in the early 1960s, with the collapse of the California sardine fishery. There followed a few years later the collapse of the herring fisheries of Iceland, Norway, and Russia, and the collapse of the Peruvian anchoveta in 1972. In light of increasing concern about declining ocean stocks, the FAO in 1992 embarked on an effort to develop guidelines for the management of world fisheries, resulting in the publication in 1995 of a set of Codes of Conduct for Responsible Fisheries.

Currently, the world's fisheries are regulated by a variety of governmental groups and scientific bodies. Vast areas of ocean fall outside national EEZ jurisdictions, and attempts are made to manage these zones by a complex network of organizational bodies. Among these are: seventeen groups that exist to establish policies regarding quotas, gear, and fishing seasons; sixteen that offer scientific and management advice;

and four scientific bodies. There are six regional fishery entities operating under the United Nations Food and Agriculture Organization (FAO), and many more bilateral or multilateral arrangements that are run by the participating nations (The David and Lucile Packard Foundation 2007: 6). These groups and their approximate jurisdictions are depicted in Figure 5-3.

Figure 5-3 World fisheries jurisdictions (The David and Lucile Packard Foundation 2007: 26)



Individual countries have jurisdiction over waters within national EEZ zones. In the US, regional management councils are tasked with evaluating stocks and setting quotas and other regulations that apply to the country's commercial fisheries. Fishery management by the US is today considered to be among the best in the world (Hilborn and Hilborn 2012), yet, even so, according to a 2006 report by the National Marine Fisheries Service (NMFS), of the nation's 230 commercial fisheries, 46 are overfished and 51 have not been assessed (in The David and Lucile Packard Foundation 2007: 48). Regulatory effort and effectiveness in the countries providing

ninety percent of the US supply in the form of exports vary widely, in terms of both quantity and quality. In only a few countries other than the US is fisheries management considered to be adequate: New Zealand, Iceland, and Norway (Hilborn and Hilborn 2012).

5.2.2.4 Single case: Environmental NGOs

Before the cod collapse, the major environmental non-governmental organizations (ENGOS) did not generally include seafood in their portfolio of active issues, with the exception of Greenpeace. The collapse, however, attracted their attention, alerting them to a new source of environmental concern. Many ENGOS have been involved to varying degrees in the sustainable seafood discourse; in this study, I concentrate on a few of the most active members of a coalition called the Conservation Alliance for Seafood Solutions, along with the foundation behind the alliance. Greenpeace, while not a member of the alliance, is also represented, having played a key complementary role in the discourse. An important characteristic of each of these organizations is their degree of professionalization; unlike the grassroots movements typically examined in Social Movement Theory accounts, these actors are large, professional, and bureaucratic, and their advocacy is highly organized (Bosso 2005). Their interactions with corporations are becoming increasingly sophisticated as they strategically adopt collaborative or combative stances in their interactions with firms, and they are “becoming more international and developing global operations and strategies that rival their corporate counterparts” (Yasiji and Doh 2009: 149).

Coalition and foundation: The Conservation Alliance for Seafood Solutions was started in 2008 at the behest of the David and Lucile Packard Foundation in order to coordinate the actions of a group of ENGOS that were most actively engaged with

corporations on issues of sustainable seafood, and dependent on the foundation for funding. Foundations have been shown to be instrumental in field construction processes, choosing participants and shaping activities in ways that channel the evolution of an issue (Bartley 2007). The Packard Foundation has long been a major funder of ocean conservation work, and has a particularly close relationship with the Monterey Bay Aquarium. The Foundation is a major source of funding for members of the coalition group. Though the coalition comprises sixteen organizations working in the US and Canadian environments, in this analysis I will concentrate on the discourse of four, in addition to my attention to the foundation and to Greenpeace: the World Wildlife Fund (WWF), the Environmental Defense Fund (EDF), and the aquariums named below. Of the groups in the coalition, these four have had the longest history of engagement with the discourse and have been most actively engaged with industry; thus they are particularly rich sources of boundary-spanning discourse.

Global ENGOs: The World Wildlife Fund (WWF) was one of the first to act after the cod collapse, and has maintained a highly active level of involvement continuously since. In 1992, WWF had launched the Forest Stewardship Council, inventing the certification concept, and in 1995, the group sought a corporate partner to help develop a similar certification scheme for wild fisheries. They succeeded in convincing Unilever, the single largest buyer of fish worldwide, to join them. The resulting certification scheme, the Marine Stewardship Council (MSC), was launched in 1997 (Clover 2006). More recently, WWF engaged stakeholders in a series of ‘Aquaculture Dialogues’, resulting in the development of a certification scheme for farmed species in 2009, the Aquaculture Stewardship Council (ASC).

Greenpeace helped spur Unilever to accept the offer from WWF to develop a seafood certification scheme by threatening to launch a campaign against them in 1996, in an attempt to influence European fisheries regulation. Since then, Greenpeace has continued to adopt a radical approach to fishery reform. In 2007, Greenpeace began to publish annual reports rating the sustainability of US and Canadian supermarkets' seafood offerings.

Multinational ENGOs, Communications Specialists: SeaWeb, created by The Pew Charitable Trusts in 1995, is a communications-focused group whose first project involved conducting the first US public opinion poll on attitudes towards ocean conservation. In 1997, SeaWeb and the Natural Resources Defense Council used the poll results to develop and launch a campaign, called "Give Swordfish a Break", the first communications effort to mobilize chefs and consumers in support of stronger protection for a single species, the North Atlantic swordfish.

In 2001, SeaWeb spun off a new subunit, the Seafood Choices Alliance, in order to build on the campaign's momentum in getting chefs involved in conservation efforts. Since then, the Alliance has aimed to be seen as a 'safe place' for industry, NGOs, and governments to communicate with each other. Beginning in 2002, the Alliance has sponsored an annual conference to bring diverse constituents together to build relationships and share knowledge.

Aquariums: In 1997, the Monterey Bay Aquarium (MBA), located in Monterey, California, opened an exhibit, called 'Fishing for Solutions', which resulted in the development by the aquarium of a list of sustainable seafood, one of the first of several attempts to educate the public and influence their purchasing decisions. The

aquarium has since developed and maintained a popular ‘pocket guide’ for consumers called *Seafood Watch*, which provides information about the sustainability of a wide range of stocks, mostly coming from US waters. MBA has concentrated its outreach efforts on chefs and restaurants: it hosts an annual educational conference for chefs, an educational conference for members of the media, and serves as an information resource to restaurants.

The New England Aquarium (NEA), located in Boston, Massachusetts, entered into the first corporate partnership between a supermarket chain and an ENGO in 2000, with the multinational firm Ahold. Since then, NEA has partnered with many other major corporations, including Darden (the parent company of the country’s largest seafood restaurant chain, Red Lobster), and Slade Gorton, one of the largest seafood importers, distributors, and manufacturers in the US.

National ENGO: The Environmental Defense Fund (EDF), like the MBA, offers a consumer guide to sustainable seafood. EDF has worked in the past with MBA to coordinate ratings and share data; the EDF scheme differs from the MBA one in its emphasis on human health, identifying both health benefits of particular species as well as species contaminant loads. From 2004-2007, EDF developed a set of purchasing standards for farmed salmon and shrimp in partnership with a regional grocery chain, Wegman’s, and a national food service operator, Bon Appetit.

5.3 Research methods

This chapter has thus far explained how the research questions being asked in this study are best served by an interpretivist approach, based on certain underlying ontological and epistemological assumptions, and has set forth the rationale for

choosing a case study design. Because the phenomenon being investigated in a case study is typically entangled with its context, the decision to adopt the case study architecture also points the researcher toward specific complementary methods and analytical approaches (Yin 2009: 18). In the section that follows, I discuss the data collection methods and analytical processes that were followed in this study. I demonstrate that documents, observations, and interviews provide the necessary material for exploring the temporal unfolding of a complex multi-vocal interpretive process, and I describe the abductive approach I took to theory building.

5.3.1 Data collection methods

The choice of method is intimately tied to ontological and epistemological considerations on one hand, and analytic strategies on the other. A distinctive characteristic of the case study is its capacity to handle a variety of data, including both historical and contemporary sources (Creswell 2003; Yin 2009), enabling the researcher to build a nuanced understanding of a complex phenomenon. The research question itself begged the use of multiple methods, because I sought to understand the institutional repercussions of actors' interrelated attempts to ascribe meaning to events unfolding over a twenty-year time frame. Yet, the choice of one of those methods, discourse analysis, has often led to single-method investigations, and consequent isolationism in their interpretation; noting this disadvantage, Phillips and Oswick have recently called for researchers to use "multidisciplinary approaches and connect organizational discourse analysis more firmly to the material world of organizations" (Phillips and Oswick 2012: 34-35). To effect this, they suggest the use of non-discursive approaches (such as interviews and observations) in combination

with discursive methods: that is the approach taken in the study described here (Phillips and Oswick 2012).

I chose methods from the six types typically employed in case study research: documentation, archival records, interviews, direct observations, participant-observation, and physical artifacts (Yin 2009). Besides being influenced by the research design strategy, the type of research question also impacts the methods chosen; according to Edmondson and McManus, where nascent questions are concerned, “interviews, observations, open-ended questions, and longitudinal investigations are methods for learning with an open mind” (Edmondson and McManus 2007: 1162). Accordingly, this longitudinal case study of an under-explored question relied on a mix of documentary materials, direct observations, and interviews.

5.3.1.1 Documentary evidence

Document review is considered an unobtrusive method, “rich in portraying the values and beliefs of participants in the setting” (Marshall and Rossman 1999: 116).

Documents can provide history and context for the phenomenon of interest.

Furthermore, by corroborating or contradicting evidence from other sources (Marshall and Rossman 1999; Yin 2009), documentary evidence performs a ‘triangulation’ (Jick 1979) function in many studies. In particular, because they were “current when written” (Anand and Watson 2004: 64), documents help to mitigate any retrospective bias that may be present in interview data that includes contemporary accounts of past events (Creswell 2003). At the same time, researchers are cautioned that they must be cognizant of the possibility that documents themselves may contain inaccuracies or bias; “documents must be viewed with the skepticism that

historians apply as they search for ‘truth’ in old texts” (Marshall and Rossman 1999: 117). In the case study presented here, in fact, such bias is actively sought and forms a part of the analysis, since it is an important aspect of the sensemaking processes being examined. The documents I reviewed for this study included articles in the trade press, academic papers on fishery science, journalistic narratives in the mass media, government reports, and ENGO materials, including reports on market research and strategic plans.

The majority of these documents were archival in nature, records of the evolving and interrelated sensemaking of industry, scientists, the media, government, and ENGOs, beginning with the collapse of the cod fisheries off the northeast coast of North America in 1992 and 1993. This temporal boundary was determined after an initial round of interviews had been completed, and reflects the claim made by multiple informants that they considered the cod collapse to be the initiating event in the seafood sustainability discourse. The use of archival materials as a primary data source has been common in studies of institutional change processes (e.g., D'Aunno, Succi et al. 2000; Greenwood, Suddaby et al. 2002; Lounsbury and Crumley 2007). They are useful for developing historical accounts that can both track institutional change processes longitudinally, as well as provide valuable insights into the socio-historical context of contemporary interpretations.

One of the major trade publications for the seafood industry, *Seafood Business* magazine, provided important material for constructing a detailed picture of how industry views on seafood sustainability have evolved over the period from 1992 to 2012. Trade journals have proven to be valuable in examinations of industry attention to events (Hoffman 1999; Hoffman and Ocasio 2001). According to Hoffman and

Ocasio (Hoffman and Ocasio 2001), they are important for three reasons: as a historical record that reflects the interpretations of both industry insiders and outsiders; as an “internal constituent of industry”, deciding which events are relevant and interpreting their relative importance; and as pointers to other communications channels and public arenas (Hoffman and Ocasio 2001: 417-418). As mentioned above, this source has limitations, as well, most fundamentally, a bias toward the industry that results in ‘impression management’ and a vulnerability to political pressure from influential members of the industry (Hoffman and Ocasio 2001: 418). While this study cannot avoid the latter limitation, the former limitation is an advantage in this instance; as stated previously, bias is actively sought and accounted for here as a component of sensemaking processes.

While other publications serve the seafood industry, I chose this particular magazine for a number of reasons: Published continuously since 1970 (previously under the title, *National Fisherman*), it covered the entire timeframe being examined; geographically headquartered in the region affected by the initiating event, the cod collapse off the northeastern seaboard, it was likely to contain extensive and early coverage of these and subsequent collapses; and unlike more specialized trade publications, it served the entire industry, not just a subset of the extensive supply chain. A more pragmatic reason was ease of access, for a member of the magazine staff became a key informant (described in more detail below in the section that covers my use of interviews).

After negotiating access to the magazine's archives, I spent three days in the corporate offices reviewing all the available issues from that 20-year time period.³ My sampling strategy was to search not only for instances of sustainability discourse, but also for coverage of supply disruptions that could, in retrospect, be attributed to overfishing, and firm and industry strategies for coping with such disruptions. This yielded 1,328 pages of material. While I reviewed each issue in its entirety in my search for instances of relevant discourse, and subsequently read every article in the sample, for the analysis presented in this thesis, I made a decision to concentrate primarily on the editorial columns included in each issue. This enabled me to develop an understanding of the perceived importance to the industry of the various sustainability-related topics covered in the individual articles. These editorial comments also served as a sort of 'Greek chorus', inasmuch as the framing and wording provided clues to identity-related affective characteristics, the 'industry spin' attributed to the topics.

Any discussion of the 'sustainable seafood' discourse must begin by acknowledging its basis in fishery science, and by examining the role and limitations of fishery scientists. Because governments manage their nations' fisheries based on input from scientists regarding the health and abundance of target species stocks, these two types of actors, scientists and government officials, can be seen as closely linked partners in dialogues that exist at regional or national levels. However, fishery scientists are also part of a global academic community: the contributions of individual scholars have affected both the development of the specific scientific body of knowledge about fish stocks

³ The magazine offices had suffered flooding during a 2011 storm. Many of the issues in their archives were water damaged but legible; however, a few issues had been lost entirely.

that is available today, and, at the same time, these contributions have formed part of an existential conversation, comprising understandings and interpretations about their cumulative and joint academic endeavor and their role in larger society. These intra-field conversations have affected the institutional environment, and consequently the sensemaking of other stakeholders in the sustainable seafood discourse. Thus, a second important documentary source was a set of fishery-related academic articles by influential scientists. These articles' critical role in the processes studied here has taken two forms: first, in a direct sense, by providing the scientific explanations that have been actively interpreted, debated, and deployed by other participants in the sensemaking field, and second, in a more indirect sense, by affecting participants' ontological and epistemological assumptions about the ability of science to provide accurate assessments of fisheries.

As is true of most academic fields, there are a large number of these scientific papers published each year; to limit my analysis to the most influential ones, I searched the Web of Knowledge academic database for the most-cited articles in the two premier English-language scientific journals, *Science* and *Nature* from 1992 onward; the articles published in these journals can be assumed to represent the consensus within the scientific community at any given point in time as to what research is most relevant, rigorous, and important, and they also not infrequently become topics of discourse in larger society. I conducted the search using the keywords 'fishery' and 'overfishing', after determining that these together produced results that better reflected the overall academic discourse than searches using more specific keywords, such as 'fishery collapse'. Basic details about the resulting list of fifty articles are presented in Table 5-4; a more complete listing, which includes abstracts, is provided in Appendix A. To

account for the fact that articles published more recently might not have as many citations as earlier papers, yet still could be very influential, I searched on each individual year to find the most cited articles for that year in *Science* and *Nature*; this did not change the results.

Table 5-4 Top fifty academic articles related to fisheries and overfishing, 1992-2012

	Year	Author(s)	Title	Total Citations	Journal	Vol	Iss
1	1993	Ludwig et al	Uncertainty, Resource Exploitation, and Conservation: Lessons from History	685	Science	260	5104
2	1994	Hughes	Catastrophes, Phase-shifts, and Large-scale Degradation of a Caribbean Coral-reef	1124	Science	265	5178
3	1995	Pauly & Christensen	Primary production required to sustain global fisheries	515	Nature	374	6519
4	1997	Costanza et al	The value of the world's ecosystem services and natural capital	3577	Nature	387	6630
5	1997	Botsford, Castilla, & Peterson	The Management of Fisheries and Marine Ecosystems	445	Science	277	5325
6	1997	Roberts	Connectivity and management of Caribbean coral reefs	355	Science	278	5342
7	1997	Hixon & Carr	Synergistic predation, density dependence, and population regulation in marine fish	230	Science	277	5328
8	1998	Pauly et al	Fishing Down Marine Food Webs	1421	Science	279	860
9	1999	Swearer et al	Larval retention and recruitment in an island population of a coral-reef fish	432	Nature	402	6763
10	1999	Miralto et al	The insidious effect of diatoms on copepod reproduction	307	Nature	402	6758
11	1999	Hastings & Botsford	Equivalence in yield from marine reserves and traditional fisheries management	162	Science	284	5419
12	2000	Naylor et al	Effect of aquaculture on world fish supplies	820	Nature	405	6790
13	2000	Alexander, Smith, & Schwarz	Effect of stream channel size on the delivery of nitrogen to the Gulf of Mexico	467	Nature	403	6771
14	2000	Hutchings	Collapse and recovery of marine fishes	332	Nature	406	6798
15	2000	Rabel	Homogenization of fish faunas across the United States	264	Science	288	5467
16	2000	Finney et al	Impacts of climatic change and fishing on Pacific salmon abundance over the past 300 years	191	Science	290	5492
17	2000	O'Brien Fox, & Planque	Fisheries - Climate variability and North Sea cod	156	Nature	404	6774
18	2001	Jackson et al	Historical overfishing and the recent collapse of coastal ecosystems	1915	Science	293	5530
19	2001	Roberts et al	Effects of marine reserves on adjacent fisheries	400	Science	294	5548
20	2001	Palumbi	Evolution - Humans as the world's greatest evolutionary force	313	Science	293	5536
21	2001	Thorrold et al	Natal homing in a marine fish metapopulation	299	Science	291	5502
22	2001	Block et al	Migratory movements, depth preferences, and thermal biology of Atlantic bluefin tuna	280	Science	293	5533
23	2001	Watson & Pauly	Systematic distortions in world fisheries catch trends	221	Nature	414	6863
24	2002	Pauly et al	Towards sustainability in world fisheries	815	Nature	418	6898
25	2002	Conover & Munch	Sustaining fisheries yields over evolutionary time scales	349	Science	297	5578
26	2002	Sala et al	A general model for designing networks of marine reserves	176	Science	298	5600
27	2002	Finney, Gregory-Eaves, & Douglas	Fisheries productivity in the northeastern Pacific Ocean over the past 2,200 years	153	Nature	416	6882
28	2003	Myers & Worm	Rapid worldwide depletion of predatory fish communities	951	Nature	423	6937
29	2003	Beaugrand et al	Plankton effect on cod recruitment in the North Sea	391	Nature	426	6967
30	2003	Pretty	Social capital and the collective management of resources	225	Science	302	5652
31	2003	Pauly et al	The future for fisheries	187	Science	302	5649
32	2004	Bellwood et al	Confronting the coral reef crisis	725	Nature	429	6994
33	2004	Pikitch et al	Ecosystem-based fishery management	428	Science	305	5682
34	2004	Hites et al	Global assessment of organic contaminants in farmed salmon	426	Science	303	5655
35	2004	Mumby et al	Mangroves enhance the biomass of coral reef fish communities in the Caribbean	301	Nature	427	6974
36	2004	Olsen et al	Maturation trends indicative of rapid evolution preceded the collapse of northern cod	292	Nature	428	6986
37	2004	Atkinson et al	Long-term decline in krill stock and increase in salps within the Southern Ocean	287	Nature	432	7013
38	2004	Richardson & Schoeman	Climate impact on plankton ecosystems in the Northeast Atlantic	243	Science	305	5690
39	2004	Grantham, Chan, & Nielsen	Upwelling-driven nearshore hypoxia signals ecosystem and oceanographic changes in the northeast Pacific	153	Nature	429	6993
40	2005	Perry et al	Climate change and distribution shifts in marine fishes	502	Science	308	5730
41	2005	Frank et al	Trophic cascades in a formerly cod-dominated ecosystem	375	Science	308	5728
42	2006	Worm et al	Impacts of Biodiversity Loss on Ocean Ecosystem Services	771	Science	314	5800
43	2006	Mumby et al	Fishing, trophic cascades, and the process of grazing on coral reefs	234	Science	311	5757
44	2007	Hoegh-Guldberg et al	Coral reefs under rapid climate change and ocean acidification	675	Science	318	5857
45	2007	Myers et al	Cascading effects of the loss of apex predatory sharks from a coastal ocean	284	Science	315	5820
46	2007	Araki, Cooper, & Blouin	Genetic effects of captive breeding cause a rapid, cumulative fitness decline in the wild	163	Science	318	5847
47	2008	Halpern et al	A Global Map of Human Impact on Marine Ecosystems	509	Science	319	948
48	2009	Worm et al	Rebuilding Global Fisheries	255	Science	325	5940
49	2009	Ostrum	A General Framework for Analyzing Sustainability of Social-Ecological Systems	191	Science	325	5939
50	2010	Godfray et al	Food Security: The Challenge of Feeding 9 Billion People	201	Science	327	5967

A third important data source was a group of materials produced by the major ENGOs. These resources took a variety of forms, including outward focused documents such as supermarket league rankings, as well as internally-focused reports on market research and strategic plans. Outward focused documents were often discussed in accounts by other participants, particularly the trade press, thus shaping the discourse; internally-focused documents were useful for understanding the strategic intentions behind ENGO activities.

Finally, I reviewed a wide variety of other documents, including; journalistic narratives in the mass media about key events (in various forms such as newspaper reports, magazine articles, and books); materials describing relevant legal frameworks (e.g., the International Law of the Sea, World Trade Organization rulings, the Magnuson-Stevens Act (USA), eco-certifications (including the standards and auditing around them)); and government reports such as the 'State of World Fisheries' report produced by the United Nations Food and Agriculture Organization (FAO). These sources were used primarily to provide background and context for topics of participant discourse. The nature of the discourse itself was also traced in part through a review of the programs for the annual industry conference, 1999-2012, and the annual NGO/industry collaborative conference, 2006-2011. Programs for earlier years than those listed were not available.

5.3.1.2 Observation

Because qualitative inquiry typically takes place in a natural setting, observation is often a fundamental pillar of such research, capable of unveiling complex interactions in iterative rounds of discovery. Researchers use field notes to record events,

behaviors, and objects that are part of the social setting of interest (Marshall and Rossman 1999: 107).

A particularly useful venue for observation in studies seeking to link the evolution of a field at the macro level to the activities seen at the meso or micro level are so-called ‘field-configuring events’, “temporary social organizations such as tradeshow, professional gatherings, technology contests, and business ceremonies” (Lampel and Meyer 2008: 1025-1026). Such events provide “fixed reference points for the activities of geographically dispersed and institutionally diverse field members” (Schuessler, Rüling et al. 2011: 4). These events offer a number of methodological advantages (Lampel and Meyer 2008): They gather a wide variety of diverse actors in a single location for a limited amount of time, facilitating face-to-face interaction and generating contacts for later interviews—in effect, allowing the researcher to engage in concentrated fieldwork; information exchange and collective sensemaking are inherent features; and they often include rituals and dramaturgical activities that provide powerful evidence of a community’s collective social categories (Anand and Watson 2004; Lampel and Meyer 2008: 1027).

Among these field-configuring events, Lampel and Meyer identify conferences in particular as “ideal settings” for recruiting informants, and note also that those that occur periodically allow the researcher to trace the evolution of a field through the use of cross-sectional snapshots (Lampel and Meyer 2008: 1031). The case presented here provided a unique opportunity to observe two interrelated conferences during consecutive years. The first of these was the International Boston Seafood Show (IBSS), a long-running industry conference, which I attended in 2010, 2011, and 2012. The second was SeaWeb’s International Seafood Summit, which I attended in

those same years of 2010, 2011, and 2012; this gathering bills itself as the “world’s premier sustainable seafood event...that brings together global representatives from the seafood industry and conservation community for in-depth discussions, presentations and networking around the issue of sustainable seafood” (Seafood Choices Alliance 2012). In these two respective settings, participants engaged in ‘theorization’ (Strang and Meyer 1993; Greenwood, Suddaby et al. 2002) about topics related to seafood sustainability, which, as an emerging concept, revealed both shared and contested beliefs (Hoffman 1999; Garud 2008).

The International Boston Seafood Show, sponsored by the parent company of *Seafood Business* magazine, has been held annually in Boston, Massachusetts, since 1970 (originally named ‘Fish Expo Boston’). It is the largest gathering of seafood trade professionals in America, and is the second largest worldwide. It typically is scheduled for mid-March, and runs from Sunday through Tuesday. The expo consists of two related events, the conference and the trade show. Various levels of participation are possible for attendees. The least expensive registration gives the visitor access to the exhibit hall only. Higher priced options allow visitors to attend conference panels and presentations, as well. I attended both the trade show and the conference during each of the three years of the study. However, it should be noted that my registration entitled me to access only public venues; the conferences were also the setting for many private gatherings of trade associations and business partners which excluded outsiders.

During each of those three years, the trade show floor contained more than 800 booths, visited by approximately 17,000 people. The floor is a venue where exhibitors tempt all classes of visitor to sample, buy, and admire displays of seafood and related

products. In contrast, the conference includes presentations and discussions about topics of interest to industry leaders, and attracts a few hundred attendees. Offerings are divided into four ‘tracks’: foodservice; processing; retail; and sustainability. The sustainability track appeared for the first time in 2010 and was the conference’s stated ‘theme’. Given that sessions were held concurrently, it was not possible to attend them all, so I concentrated on those related to sustainability: a list of the session titles is provided in Appendix B. I took detailed field notes and made audio recordings of the presentations I attended.

The Seafood Summit is a much more recent phenomenon, sponsored by the Seafood Choices Alliance⁴. The first Seafood Summit was held in Washington, DC in 2002, and, for the first few years, the summits were “small, private meeting[s] focused on gathering conservation organizations working on sustainable seafood initiatives” (Seafood Choices Alliance 2006). In 2006 (the year major retailer Walmart⁵ announced its new MSC certification policy for seafood sourcing), the conference was opened to the public, bringing together “scientists, policymakers, charitable foundations, conservation organizations, certification bodies, food wholesalers and retailers, chefs and restaurateurs, fishermen, and fish farmers” (Seafood Choices Alliance 2006). In 2007, the business sector attendees outnumbered conservation organization representatives, and there were record numbers: 275 representatives,

⁴ The Seafood Choices Alliance is a subunit of SeaWeb, a communications-oriented ENGO founded in 1995 by The Pew Charitable Trusts. SeaWeb launched the Seafood Choices Alliance in 2001, with a charter to “promote sustainable seafood and drive large-scale purchasing towards more ocean-friendly choices” (website: <http://www.seaweb.org/aboutus/history.php>)

⁵ In 2008, Walmart changed the name of its retail stores from ‘Wal-Mart’ to ‘Walmart’. The parent corporation retains the name, ‘Wal-Mart Stores, Inc.’. Although AP style guidelines instruct journalists to use ‘Walmart’ when referring to the stores, and ‘Wal-Mart Stores, Inc.’ when referring to the parent company, I have chosen to refer to the company using its new brand name of Walmart for purposes of brevity. The older name of Wal-Mart appears in some trade press quotations in the case study.

from 180 companies and organizations. The conference has been growing steadily: by the time I attended my first of these conferences in 2010, over 600 people were in attendance; in 2011 the number was almost 700; however, due to the conference location (Hong Kong), 2012 attendance was only 450, believed to be due to higher travel costs. Presentations and panel discussions were open to all attendees; however, in similar fashion to the industry event, the conferences provided a convenient venue for private gatherings which excluded outsiders, in this case, generally meetings between industry representatives and their partner ENGOs. As with the IBSS, sessions were held concurrently, so it was not possible to attend them all: a list of the titles of the sessions I attended is provided in Appendix B. The first year, I sought out sessions covering consumer-related topics, primarily focused on retailer concerns and strategies. By the second year, I had begun to suspect that sensemaking processes were a critical aspect of the phenomenon, so my sampling strategy led me to choose sessions where I felt those processes would be most evident. As at the industry conferences, I took detailed field notes and made audio recordings of the presentations.

The observation method is often categorized according to the different roles that are possible for the researcher. In this formulation, he or she may: conceal the research role entirely, acting as a complete participant; participate, but only as a known observer; participate as an observer, in which the participant role takes precedence over the observer role; or observe without participating at all (Creswell 2003: 186). In the observations described below, I adopted a 'known observer as participant' role, but, in truth, the conference setting offers a unique sort of opportunity to the researcher, who is essentially just one of many 'observers'. At conferences, the

researcher may wear a nametag that openly proclaims the academic role, but, at the events I attended, I was just one of many in that category, and since everyone attending wore labels grouping them according to various roles, my own status as a researcher attracted little attention. My efforts to engage attendees in informal interviews were also unproblematic, since people at conferences “come expecting to be approached by strangers” (Lampel and Meyer 2008: 1031).

5.3.1.3 Interviews

Qualitative research, including that involving case studies, often relies to at least some extent on interviewing. Interviews can provide a great deal of data in a relatively short time, and can save the researcher valuable time when informants are able to provide information about historical events that might be difficult or time-consuming to unearth by other means (Marshall and Rossman 1999; Yin 2009). Furthermore, they are not only a source of information about events, but can also result in valuable insights into informants’ subjective perspectives. At the same time, the researcher must listen with a certain degree of skepticism, as participants’ responses may be affected by bias or inaccurate recall (Yin 2009: 108).

In this study, interviews were conducted with ‘elites’, informants considered “influential, prominent, and/or well-informed”, chosen “on the basis of their expertise in areas relevant to the research” (Marshall and Rossman 1999: 113). There are several advantages to elite interviewing: the informants tend to be familiar with relevant legal issues and organizational strategies and policies, and are often able to articulate a ‘big picture’ account of events, as they are “at home in the realm of ideas, policies, and generalizations” (Marshall and Rossman 1999: 114). Their relative sophistication also helps to alleviate ethical concerns related to research that involves

human participants, and obtaining the appropriate clearance from the Central University Research Ethics Committee (CUREC) for the research described here was unproblematic. There are, however, certain disadvantages to working with elite informants. In particular, it can be difficult to gain access to elites, and there is a danger that this type of informant may take control of the interview. In these interviews, the researcher must walk a fine line between projecting a degree of naivete that encourages the informant to generate his or her own original account, and at the same time, establishing competence by demonstrating sufficient understanding of the events being discussed, in order to extract the high quality information these participants are capable of providing (Marshall and Rossman 1999).

In this case, gaining access to elites was relatively simple, as it arose naturally in the context of the conferences I attended. Besides offering observation opportunities, conferences provide many chances to conduct informal interviews on the spot, to approach new contacts and secure promises of future in-depth interviews (Garud 2008), and to engage in ‘snowball sampling’ by asking attendees to suggest other key informants who may not be available at the event.

While attending each conference, I took advantage of every opportunity to conduct informal ‘guided conversations’ (Yin 2009) with other attendees. Informal interviews were particularly fruitful due to their setting: participants in presentations and panel discussions theorized about specific issues deemed sufficiently critical to land a spot on the agenda, and this in turn generated further theorizations by audience members. I particularly worked to engage those I was able to identify as leaders from industry or ENGOs; often these respondents were presenters or panel members at the sessions. I was able to pursue my line of inquiry with dozens of informants at each of the

conferences I attended, and because the conferences were periodic in nature, I was occasionally also able to follow up with elites I had spoken with in previous years. In some cases, I managed to opportunistically conduct in-depth interviews with informants, taking notes of the conversation in all cases and recording the discussions when the subject agreed to allow taping, and where the ambient conditions were technologically suitable.

At the first conference I attended, the Seafood Summit in 2009, held in Paris, France, I met a fellow attendee who subsequently became a key informant for this study. This participant was a journalist at *Seafood Business* magazine, and he proved uniquely qualified to provide high quality information and interpretations of a wide range of relevant topics. As a consequence, I returned to him often over the course of this study to ask questions, and so our interaction took the form of an in-depth interview taking place over an extended period, rather than a single occurrence (Yin 2009: 107). As part of his work as a writer and editor, he had followed the sustainability discourse within the industry closely over the course of many years, and he was very willing to provide specific factual information about historical events, as well as to generate interpretive readings of events and actors, and to share his own subjective perspectives. While his accounts evidenced the industry bias typical of the trade press (Hoffman and Ocasio 2001), he was himself reflexively aware of his partiality and often engaged in ‘self-reporting’ about it. This informant played a critical role, particularly by shedding light on ‘backstage’ industry perspectives that viewed the sustainability discourse more skeptically than was often portrayed in public depictions of the recent trend toward industry/ENGO collaboration (including in his own publication). Because this key informant had interviewed many of the elite members

of industry as well as some of the elite ENGO representatives, he was not only a source of information and views, but also a conduit to other informants, and on several occasions provided contact information or introductions to potential interviewees. It was also through this connection that I was able to gain access to the *Seafood Business* magazine archives.

Finally, I conducted two rounds of in-depth elite interviews. The first round took place after I had attended each of the conferences one time⁶, when I had begun to analyze my observational data and had started to question my initial assumptions about the case. By this time, I had a good idea of the key actors in the discourse, due both to my own reading and observations and to advice from my key informant, and I thus had developed a list of elite leaders to approach for one-on-one discussions about particular topics of interest. Wishing to learn more about the history of the early contestation and subsequent collaborative engagements between members of the industry and ENGOs, I conducted face-to-face interviews with two industry-affiliated individuals and two well-informed representatives of ENGOs that I knew were organizations active in the seafood sustainability discourse, and telephone interviews with a further five. These interviews generally ran from one hour to an hour and a half, and questions, while related to the line of inquiry, were open-ended and exploratory. My goal was to learn more about the ENGOs' initial choice to take up the issue of seafood sustainability, their seeming shift in strategy mid-way through the discursive process, and industry partners' perceptions of their own collaborative

⁶ There are two exceptions to this: the first was an interview with a key ENGO representative, at the IBSS event in 2009, and the second was my ongoing 'interview' with the journalist who served as a key informant.

arrangements with ENGOs. This resulted in a critical development in the study, when I concluded that the data seemed to indicate a more complex phenomenon than was reflected in the models of institutional change that had guided my efforts up to that point. I will discuss this breakthrough in more detail below in the section that discusses my analytic process; I mention it here to provide the rationale for my decision to conduct interviews in two rounds.

The second round of interviews took place toward the end of the data collection process. In this group of interviews, I talked to six individuals who had been highly influential in the sustainable seafood discourse, three from industry and three from the environmental community. These were individuals who had been identified as leading voices by multiple other informants, and most had been engaged in the dialogue since the movement's infancy (including the so-called 'father' of the movement). The length of these interviews was similar to those of the first round; the structure, though, was slightly different, in that by this time, I had a good grasp of the overall evolution of the movement and was thus able to ask each informant more targeted questions about his or her role in the dialogue.

The types and quantities of the different data sources are presented in Table 5-5, together with the rationale for their inclusion.

Table 5-5 Types, amounts, and uses of data collected

Type of data	Volume of data	Use of data in research process
Documents	<i>Seafood Business</i> magazine archives, 1992-2012: 1,328 discourse-related pages Academic fishery science articles, 1992-2012: 50 from <i>Science</i> and <i>Nature</i>, having highest citation counts Miscellaneous: Journalistic books about fishery declines, (5); mass media (newspaper reports, magazine articles); legal framework documents; eco-certification documents; government reports; programs for the annual industry conference, 1999-2012, and the annual NGO/industry collaborative conference, 2006-2012; supermarket league rankings	Develop historical account of industry discourse relating to declining stocks, activist contestations, collaborations between industry and environmental community Identify academic sensemaking around declining stocks Understand evolution of enacted sensemaking within environmental community Understand history of industry, including technological advances, stock management regimes, legal context Identify affective tones over discourse timeframe Enhance triangulation
Observations	Conferences: International Boston Seafood Show industry conference, 2010-2012, 7.5 total days; Seafood Summit sustainability-related conference linking environmental community and industry, 2010-2012, 9 total days	Develop rich, ethnographic understanding of conferences as relational spaces Capture processes of interrelating Identify current topics of interest and debate Identify purchasing specification as boundary object Develop pool of informants
Interviews	12 in-depth semi-structured interviews, 4 industry representatives, 8 from environmental community; 1 key informant, trade press journalist	Gather details, including perceptions of significance, of key events identified through documents and observations Develop historical narrative around topics of current interest Collect evidence of identity-related concerns of participants in projects and collaborations Collect impressions of emotional concerns of participants Internally validate preliminary results

5.3.2 Data analysis: Strategies and procedures

Planning the data analysis involves further delving into epistemological matters, as the researcher's choice of temporal sequencing and analytic approach are not merely strategic decisions, but reflections of his or her beliefs about how it is possible to

understand the type of phenomenon being explored. In this section, I explicate my adoption of the abductive approach as an overall temporal strategy, describe my commitment to a dialogically-sensitive, ethnographically informed method of discourse analysis as investigative strategy, and outline the specific procedures followed.

5.3.2.1 Temporal strategy: The abductive approach

To analyze the data, I took an abductive approach, a bottom-up strategy that involves identifying the best explanation for the data (Blaikie 2000), in which the evidence is interpreted in an iterative fashion in order to develop an empirically grounded, holistic understanding. There are three elements involved in this procedure for developing theory: (1) a guiding interpretive framework derived from established theorizations; (2) the identification of variation from this framework in observed empirical phenomena, and (3) the development of new theory that provides a better fit to the empirical material (Alvesson and Kärreman 2007: 1269). In this approach, the researcher actively seeks to *problematize* the interpretive framework, “to challenge the value of a theory and to explore its weaknesses and problems in relation to the phenomena it is supposed to explicate” (Alvesson and Kärreman 2007: 1265-1266). Consequently, data is useful when it provokes ‘breakdowns’ that encourage the researcher to think imaginatively, with the empirical material at the same time anchoring and constraining specific theoretical claims (Alvesson and Kärreman 2007).

In accordance with this approach, I began my data collection efforts with the idea in mind that I would use my findings to build on extant theories of institutional change. After I conducted an initial round of data collection, I reviewed the material to identify key themes and events (specific analytical procedures will be described in

more detail below). This analysis led me to the conclusion that the empirical material seemed to indicate a more complex phenomenon than was reflected in the models of institutional change that had guided my efforts up to that point. As a result, I iterated back to the literature, searching for a theoretical underpinning that would help explain the phenomenon I was witnessing. During this stage, I attended another round of conferences; this time, I found more evidence of the mismatch between existing theorizations and the phenomenon being explored here, and was able to finally refine my understanding enough to realize that the sensemaking perspective would likely provide the necessary complement to institutional theories of change, enabling me to describe and theorize the behavior I witnessed in the discursive space.

When I reframed my research question in a way that joined the sensemaking perspective with models of institutional change, I began to feel that I had progressed to having a ‘preliminarily solved’ mystery (Alvesson and Kärreman 2007: 1272). At this point, I returned to the field to seek corroborating or contesting data, thus enabling me to more thoroughly develop the theory that was under construction.

5.3.2.2 Analytic strategy: Combining discursive and ethnographic methods

One consequence of the linguistic turn in social science has been the emergence of discourse analysis as a prominent tool for research in the domain of organization and management theory (Phillips and Oswick 2012: 2). According to Phillips and Oswick, the strength of the discourse-based approach is its focus on the *process* of social construction, through its attention to collections of interrelated texts. In contrast, they say that other qualitative methodologies seek only to interpret the meaning of social phenomena, not the mechanisms of their development (Phillips and Oswick 2012).

Yet, human interaction around texts also warrants interpretation: “texts produced *in interaction* effectively represent both the world around the conversation and the conversation itself and provide a surface that affords narrative reasoning (Taylor & Van Every, 2000, pp. 40-5)” [emphasis added] (Weick 2004: 408). By combining the discursive approach with interpretations based on observations and interviews, I attempt to address concerns that the method overemphasizes language to the detriment of context (Deetz 2003). In drawing on dialogism to interpret the data, I apply an analytic sensitivity that exposes inter-relational and affective aspects of the phenomenon, empirical realities which remain underexplored in accounts of institutional change; this constitutes a methodological contribution to the field.

Discourse analysis. A methodological linkage between institutional theory and sensemaking was forged in a 2004 article in the *Academy of Management Review* by Phillips, Lawrence, and Hardy, in which they argued for the use of discourse analysis as an appropriate framework for institutional research, claiming that in fact, “institutions are constituted through discourse and that it is not action per se that provides the basis for institutionalization but, rather, the texts that describe and communicate those actions” (Phillips, Lawrence et al. 2004: 635). In this theorization, shared discourses help to delineate the institutional field, and multiple discourses, both within and external to the field, act as constraints and enablers to actors in the space. Crucially, this interdiscursivity leaves the field vulnerable to alteration when discourses in the larger context change (Phillips, Lawrence et al. 2004: 647).

Adopting a critical discourse perspective (Fairclough 1992), Phillips and colleagues argued that texts always leave open the opportunity for struggle and agency by self-interested actors, who can alter institutions by influencing discourse (Phillips,

Lawrence et al. 2004: 637). Diffusion is essential to this process: “texts must be distributed and interpreted by other actors if they are to have organizing properties and the potential to affect discourse”; institutionalization results when meaning is abstracted “away from the specific actions that gave rise to them so they become ‘taken for granted and blackboxed’ (Iedema and Wodak 1999: 11, in ; Phillips, Lawrence et al. 2004: 640). Combining elements of Weick’s sensemaking work and Berger and Luckman’s conceptualization of social construction to explain what kinds of actions might lead to such influential texts, they posited two possible paths: “(1) actions that are novel or surprising and therefore require significant organizational sensemaking and (2) actions that affect an organization’s legitimacy” (Phillips, Lawrence et al. 2004: 641). This aligns well with the study outlined here, which empirically examines a relational field brought into existence by a precipitating event, in which sensemaking takes place among actors seeking credibility with one another.

Importantly, Hardy and Phillips (2004) add ‘discursive legitimacy’ to more conventional sources of credibility (formal power, critical resources, and network links) (Hardy and Phillips 2004: 306-307). Quoting Taylor et al, they say, “To be recognized as the voice of an organization, and its legitimate agent, the aspirant must produce a text and have it authenticated by a sufficient number of people (or at least the right people) to have one’s own right to speak become consensually validated” (Taylor, Cooren et al. 1996: 26-27; Hardy and Phillips 2004: 307). With this term, they acknowledge communicative seats of power, useful in this case to account for the assemblage of previously unconnected actors in the relational field.

Discourse is studied indirectly through texts, which are broadly defined by these authors to include not only written documents, but also other forms of

communication with others, including reports, spoken words, symbols, buildings, and a variety of other artifacts (Phillips, Lawrence et al. 2004: 636). “Discourse analysis...involves analysis of collections of texts, the ways they are made meaningful through their links to other texts, the ways in which they draw on different discourses, how and to whom they are disseminated, the methods of their production, and the manner in which they are received and consumed” (Phillips, Lawrence et al. 2004: 636).

A generally acknowledged weakness of the discursive approach is that it carries with it the risk that what can be seen does not accurately reflect reality, and the likelihood that self-interest is involved in text production must be acknowledged (Phillips, Lawrence et al. 2004). However, by using multiple sources of evidence (documents, interviews, and archival sources) and seeking out multiple points of view (industry, ENGOs, mass media, and scientists), I have attempted to reduce this risk and increase construct validity. Rival explanations were explored throughout the analytic process, in order to strengthen internal validity.

Dialogism. Suddaby recently lauded the linguistic turn as applied to institutional theory, in the form of both discursive and rhetorical approaches (while pointing to the latter as the more promising, for its assumption of a “direct causal relationship between the use of language and the interests of the user” (Suddaby 2010: 17). Lawrence and Suddaby, in their influential paper theorizing institutional work, suggested researchers look to yet another form of discourse, dialogue, singling out 'generative dialogue' in particular, as a potentially fruitful avenue of inquiry (Lawrence and Suddaby 2006). The concept of generative dialogue to which they refer assumes it to be an intrinsically collaborative process, overtly focused on positive outcomes

(Gergen, McNamee et al. 2001; Gergen, Gergen et al. 2004), but this liberal humanist perspective, “a normative interaction ideal founded on principles of understanding, empathy, and active listening” (Deetz and Simpson 2004: 141), is just one of three possible treatments. A second perspective moves the locus of this ideal from the private realm to civic engagement in the public setting (e.g., Habermas 1984). In contrast to both these views, the third perspective effectively augments the dialectical lens, by emphasizing not only “conflict, power, and politics” (Hargrave and Van de Ven 2006: 878), but further, “the role of indeterminacy and ‘otherness’ in reclaiming conflicts, resisting closure, and opening new opportunities for people to be mutually involved in shaping new understandings of the world in which they live and work” (Deetz and Simpson 2004: 142). In this study, I use discourse theory as a general analytic strategy, but incorporate concepts from this latter understanding of dialogue, often distinguished by the term dialogism (Bakhtin 1981), to guide my investigation. This perspective effectively problematizes ‘discursive legitimacy’ by emphasizing that it is an ongoing and reflexive accomplishment, subject to social evaluation, in which the potential for contestation is ever present.

Dialogism, as applied here, makes three assumptions (Sullivan 2012). First, it assumes a ‘needy self’, inasmuch as actors’ rhetorical contributions reflect an awareness of and vulnerability toward others, not just straightforward advancement of a particular self-interested position. Here, actors are preoccupied not only with cognitive ideas, but with what Goffman referred to as ‘face’, “the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact” (Goffman 1967: 5). Adopting this lens leads the researcher to search for investigative foci that are variations on common discursive targets; for example, in place of

discourse analysts' 'disclaimers', which describe verbal gymnastics designed to distance the speaker/writer from attributions of socially unacceptable attitudes or beliefs, Bakhtin (1984) identifies a 'word with a sideways glance', to forefront the author's anticipation of the judgments and disagreement of the listener. Similarly, Bakhtin sees a 'sore spot' in the exaggeration described in discourse analysts' 'extreme case formulation'; the difference here is that "the exaggeration is tangled up with a fear of being wrong" (Sullivan 2012: 14). Interpretations seek out evidence of actors' "uncertainty, ambiguity, anticipation of another's judgment, dilemmas and a search for resolution—even amidst claims of certainty" (Sullivan 2012: 14). Second, dialogism distinguishes two forms of truth, '*istina*', abstract truth, and '*pravda*', lived truth, or "a person's stake or investment in a belief that others may resist and/or dialogue with" (Sullivan 2012: 14). Finally, the elusive boundary between self and other is seen in an emphasis on the anticipated response of others: this 'double-voiced' discourse of Bakhtin (1984) reveals itself when the investigator detects the presence of more than one perspective in a single utterance (Sullivan 2012: 16). The Bakhtinian notion that all discourse is directed at someone improves on a strictly dialectical approach, for in fact, utterances are always made with an audience in mind, imagined or real, and "it is ultimately impossible to distinguish between dialogue and its other, namely monologue" (Gergen, McNamee et al. 2001: 681-682).

Incorporating dialogism in my analysis allows me to unveil the confusion, ambiguity, and concern with identity that are typical of sensemaking and underexplored in institutional accounts. According to Weick, "the discourse that counts in acts of organizing is known more in the aftermath than in the moment", and "discourse is not just pure saying, it is also seeing what one says" (Weick 2004: 407, 409).

5.3.3 *Putting strategy into practice: Performing dialogically sensitive discourse analysis*

With the abductive approach, the analytic stage involves iterative cycling between data and literature. In this case, analytic insights also led to additional data collection, so that in fact, data collection, data management, data analysis, and theory building were not distinct, separate phases, but were instead intertwined. In this section, I describe the organizational details around the management of my data, as well as the analytical process I followed. The section concludes with a guide to how the data is presented in the next chapter, which describes the case study.

5.3.3.1 Data management

While qualitative research in general, and the case study design in particular, are notable for their ability to incorporate data from a variety of sources in order to generate rich, contextual understandings, the consequence is an abundance of data that can challenge the researcher who seeks to order and structure it in ways that facilitate interpretation (Marshall and Rossman 1999). Data management and analysis in qualitative research are typically linked in an ongoing process. This process begins even as the data is being collected; since the researcher acts as research instrument in the qualitative approach, he or she begins interpreting the data immediately, as it is read, heard, or observed, leading to intuitions that shape further data collection (Burawoy 1998).

Transcribing interviews, sifting through field notes, and sorting and organizing documents bring the researcher increasingly close to the empirical material, helping to create a general sense of the data and its meaning (Barley 1990; Creswell 2003). The longitudinal nature of the research question demanded that I ultimately develop a

chronology, a form of time-series analysis that includes an analytical focus. I found creating a descriptive chronicle of events that stopped short of the analytical demands of a chronology was a useful first step toward that goal (Yin 2009).

In the case of the vast quantity of text from the *Seafood Business* archives, as well as the interview transcriptions, data management was facilitated somewhat through the use of QSR NVivo® qualitative text analysis software. Using the program, I was able to experiment with different coding schemes, and to tease out text generated by particular authors or covering relevant topics in ways that helped me, in the case of the archival material, to understand the evolution of the industry perspective over time, and in the case of the transcripts, to compare informants' descriptions of historical events.

However, my use of the software was limited to managing these electronic texts and generating preliminary ideas around the themes they contained. At least for this particular case, the program did not offer the flexibility needed to adequately analyze the bulk of the data, and I found myself in agreement with Yin when he wrote:

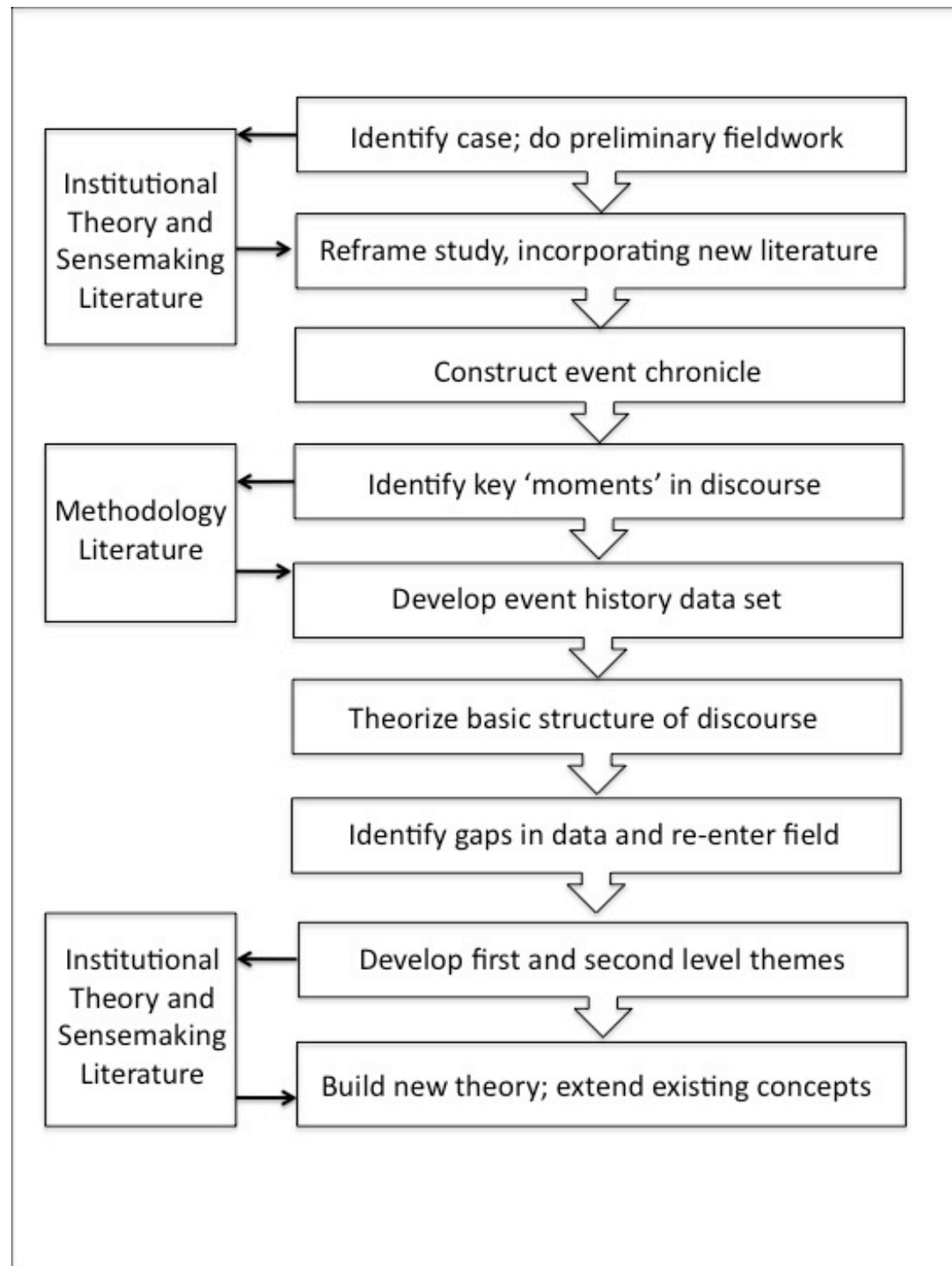
Most case studies pose a...serious challenge in efforts to use computer-assisted tools... The case study will typically be about complex events and behavior, occurring within a possibly more complex, real-life context. Unless you convert all your evidence—including your field notes and the archival documents you might have collected—into the needed textual form, computerized tools cannot readily handle this more diverse array of evidence. (Yin 2009: 129)

The variety of the data collected for this study, and the number of forms it took (such as physical copies of books and printed conference programs), meant that I was unable to gather the complete set of data in electronic format to use with the program. Thus, most data management was handled through more traditional physical systems of organization.

5.3.3.2 Formal analysis

Ultimately, given the limited usefulness of the software in this case, I found that the analytical stage of the project depended heavily on my simply developing a very close relationship with the data. Consequently, I read and re-read notes, texts, and transcripts, and I spent long hours thinking about the conversants' enacted interpretations of ambiguous events. It is impossible to convey precisely the creative nature of the process, or the flashes of inspiration that emerged out of a combination of intuition and informed judgment; the description that follows offers an inevitably sanitized version of the analytical process. Figure 5-4 presents a graphical overview of the analytical progression in this case.

Figure 5-4 The analytical process



By the time I began the analytical stage of the study, I had settled on discourse analysis as an appropriate methodological approach. Most discourse analysis has been limited to a single level of analysis, and many discussions of the technique organize the

various approaches accordingly; from ‘micro’ approaches that focus on discrete interactional episodes or texts, to ‘meso’ efforts to explore intra-organizational accounts, to ‘macro’ attempts focused on institutional or societal themes (Phillips and Oswick 2012: 20). However, this can be problematic for researchers who study the dialogue of individual actors in an effort to relate it to alterations in the macro-environment at the level of the field. The extended case study offers relief from these strictures. In contrast to more traditional approaches, the extended case study lends itself to multi-level analysis, since it “assumes that micro discursive practices are made of similar components to the macro discursive structure. Thus, scholars can use similar tools to engage multiple levels” (Broadfoot, Deetz et al. 2004: 198). This is an appropriate approach for a study like this one, in which there is abundant evidence that the actors have access to and make use of institutional elements from the larger environment.

In reviewing the data, I kept in mind the critical discourse approach embraced by Phillips, Lawrence and Hardy (2004), which foregrounds the taken-for-granted political systems of dominance that shape the production and distribution of texts (Phillips, Lawrence et al. 2004). This version of discourse analysis requires the researcher to examine the data along three core dimensions (Fairclough 1992): the individual units of talk or text; the collection of texts in which they are situated; and the social context surrounding their production. Another analytic technique emphasizes *intertextuality*, a term coined by Julia Kristeva to label the Bakhtinian notion that texts draw on other texts, connecting current and past conversations. I kept these concepts in mind as I began reviewing the data.

At the beginning of the analytical stage, I looked for guidance in the Maguire and Hardy investigation of the deinstitutionalization of DDT (Maguire and Hardy 2009), since my study similarly examined the evolving discourse around an environmental topic in a case of outsider-driven deinstitutionalization. Thus, following their example, I first constructed an event chronicle, similar to their ‘narrative account’ (Eisenhardt and Bourgeois 1988). This was a straightforward chronological account of the topics of discourse over the twenty-year timeframe covered in the study, unembellished with attempts to analyze or theorize. The items in the account came predominantly from *Seafood Business* coverage, assorted journalistic accounts, observations from the first two years of conference attendance, and transcriptions from the first round of interviews.

In the second stage of the Maguire and Hardy analysis, they examined the structure of the book that served as their precipitating event, *Silent Spring*, by Rachel Carson; in particular, they analyzed how Carson had problematized existing practices around DDT in that book, and traced those problematizations through the ensuing discourse. However, while in this case the cod collapse seemed to act similarly as an initial precipitating event, it was not the only major event in the evolution of the discourse, and I recognized that my path would necessarily begin to diverge from the example they had set in their paper. Typical of topics that lend themselves to a dialogical approach, the discourse followed in this study was a complex, polyphonic phenomenon that defied attempts to analyze the mass of available discourse within a single coherent account. To avoid the “swamp of theoretical and methodological contradictions” that such an attempt is likely to unleash, Broadfoot et al recommend that discursive structure, context, and the resulting institutional ‘sediment’ be examined as multi-level, complexly situated ‘moments’, in which “the analysis of each

moment is contextualized by and recontextualizes earlier ones without being subsumed, maintaining a productive tension as moments turn to and articulate with other moments (see Deetz, 1996)” (Broadfoot, Deetz et al. 2004: 198).

This seemed an appropriate way to organize this case analysis, given its focus on multi-actor, market-altering meaning-making around a series of interrelated salient events. Accordingly, drawing from the chronicle developed during the first phase of the analysis, my next step was to identify a set of sensemaking ‘moments’, events in the evolution of the seafood sustainability discourse that appeared particularly influential, which I planned to then analyze in greater detail. Specifically, sensing that these would provide a comprehensive set of discursive ‘moments’ in the polyphonic sensemaking of the groups, I examined the multiple theorizations of fishery scientists around the cod collapse and other dramatic developments in commercial fish stocks; governmental shifts in fisheries policy; activist projects of environmental NGOs; and actions and reactions by industry.

Using the resulting ‘moments’ as initial organizing units, I went on to develop an ‘event history database’ (Van de Ven and Poole 1995), which told “who said what, and when” (Maguire and Hardy 2009: 153). My conference experiences had introduced an unexpected dimension to the narrative, inasmuch as they revealed much more nuanced, collaborative, and effortful processes of interrelating than I had expected when I entered the field to observe contemporary discourse among actors representing environmental groups and members of the seafood industry. Struggling with how I might incorporate these surprising relational aspects of the data into my analysis, I returned to the methodology literature to search for an appropriate technique. It was at this point that I became familiar with the tenets of dialogism, and

recognized that its focus on the ‘other’ in actors’ discourse would shed much-needed light on the phenomena I had observed.

By using the tenets of dialogism as sensitizing concepts during my data analysis, I hoped to unveil emotional facets of the discourse, and, in doing so, to reveal conversants’ vulnerability to social evaluations by others. This seemed particularly relevant given my belief that the preoccupation with legitimacy and its corresponding identity concerns is a key linkage between institutional theory and sensemaking. Furthermore, Maitlis and Sonenshein have theorized that ‘self-conscious’ emotions, those based on actors’ beliefs about how others view them, significantly affect sensemaking (Maitlis and Sonenshein 2010: 569). Accordingly, in analyzing the data, I actively sought out portions of dialogue in which traces of self-justification or claims regarding emotion were evident.

Adding a dialogical component to the analysis requires that the researcher also pay heed to the texts’ conversational dimension, “focusing on the multiple and diverse ways people discursively construct, contest and understand social phenomena and communicative accomplishments in process”, recognizing “social phenomena as the sites of struggle between diverse forms of knowing, being and speaking”, in which “sedimented institutional forms [are] left as residues, always available as resources in organizing interaction” (Broadfoot, Deetz et al. 2004: 198). In this depiction, actors are bricoleurs who draw on a repertoire of logics that are freely available in the social context. Correspondingly, they also adopt elements of others’ guiding logics, as those logics are made evident through discourse, to use in their own communicative framing. They use the tools at hand to create meaning, and even can be seen to employ institutional elements metaphorically. Thus, in keeping with my dialogical

approach, I aimed to bring the multiple voices of the conversant groups together to the extent possible in a ‘created dialogue’, rather than limiting my interpretation to a simple narrative. The advantage of this technique is that “the anticipated other can be put in direct contact with the actual other” (Sullivan 2012: 103). Doing so brought out traces of emotion and self-justification in actors’ dialogue, revealing their identity-related concerns and vulnerability to the criticisms of others.

Having untangled the mass of discursive data sufficiently to discern the overall trajectory of the discourse, I re-entered the field to conduct a final round of interviews. This set of respondents consisted of key leaders known to be particularly important voices in the discourse, identified as such either by previous interviewees or through my own preliminary analysis of the data. At this point I had a good sense of where the data gathered up to that point had left gaps in the narrative, so in these interviews I was able to hone in on these specific questions. I also was careful to remain open to possible alternate explanations for what I was beginning to feel was a ‘preliminarily solved’ mystery (Alvesson and Kärreman 2007: 1272).

By this phase of my analysis, my growing understanding of the critical processes of the case had directed me firmly away from the theoretical path set by Maguire and Hardy. Their analysis focused on political acts involving a clearly defined goal, aimed at supporting or challenging institutional pillars through the manipulation of discourse. In contrast, the scientific uncertainty that characterized my case led me to focus on the sensemaking activities of engaged actors struggling to make sense of ambiguous events and discursive ‘moments’, and to engage in discourse that was alternately and sometimes simultaneously adversarial and collaborative. Here, I realized, alterations to practice would necessarily rely on persuasion, given the

absence of legislative capacity at the global level, and this in turn was affected by the actors' discursive legitimacy.

After incorporating the new interview data into the chronology, and upon reviewing this chronological account of critical events in the sustainable seafood discourse, I began to think of the case as having three distinct but not completely separate sensemaking phases. The first phase saw the entrance of a competing logic, giving rise to dialectical contestation among actors in the sensemaking field; next came an attempt to develop credible alternatives to existing practices, aimed at materializing the new logic; this then led to a final stage of outsider-driven diffusion, when the 'conversation' took on a more collaborative aspect.

Using the narrative I had constructed, the 'created dialogues' it contained, and my newfound awareness of the distinctive phases of the discourse, I began searching for patterns in the settings and discursive materials (Marshall and Rossman 1999), generating first order concepts (Van Maanen 1979) which were derived directly from the data, but informed by the theoretical framework guiding the study (Suddaby 2006).

In particular, as I reviewed the material associated with each 'moment' of the third, more collaborative stage, I found it useful to incorporate another sensitizing concept, the process framework envisaged by Hardy, Lawrence and Grant (2005) in their paper depicting texts in conversation with one another. These authors proposed a two-stage process was at work in the successful collaborations that were the object of their theorization: in the first stage, conversation was directed toward the creation of common identity; the second stage involved two elements, 'constructions of key

issues', that is, problem definitions, and 'styles of talk', including tone, style, rhythm, and format (Hardy, Lawrence et al. 2005: 65-66). I sought evidence that corroborated or contradicted these constructs, as well as evidence of additional factors that might be involved in the more collaborative second stage, but still with an eye toward evidence of dialogical concepts like intertextuality and preoccupation with others involved in the discourse.

From this set of first order codes, I then sought to abstract a set of second order concepts or themes (Corley and Gioia 2004), aimed at detecting the larger theoretical significance of these patterns. Finally, I reexamined the data to search for instances that contradicted my interpretations, following the eliminative induction approach to theory generation recommended by Miles and Huberman (Miles and Huberman 1994).

At this point in the process, having developed a preliminary level of theorization regarding the major conceptual themes of the evolving discourse, I circled back to the literatures to which I hope to contribute. With the goal of situating my findings in regard to existing theoretical frameworks, I iterated back and forth between the data and the literature. Over time, this led me to a set of novel insights that builds new theory, extends existing theorizations, and provides empirical support for several theoretical concepts. At this final stage of the analysis, I developed a tentative process model to explain the attentional processes involved in the construction of a relational field; a framework to describe sensemaking stages seen in cases of institutional complexity; and a process model theorizing the diffusion process in relation to adopters' legitimacy, reputation, and status motivations.

5.3.3.3 Data presentation

The next chapter presents the case study data that relates to key sensemaking moments in the evolving sustainable seafood discourse. In this section I describe analytical decisions behind the format used in the case study chapter, and I describe the naming conventions used in presenting the material.

Quotations: In accordance with the dialogical approach, I wished to share with the reader evidence of an affective dimension within the discourse, as well as actors' awareness of and vulnerability to social evaluations. This led to the decision to provide extended quotes that retain claims around emotion as well as discursive elements revealing awareness of others and their judgments; my goal is to allow the conversants in the discourse to speak for themselves to the greatest extent possible. In particular, in selecting the data to present as evidence for my theoretical claims, I actively sought portions of dialogue in which there were discernible traces of what Maitlis and Sonenshein have referred to as 'self-conscious' emotions, those based on actors' beliefs about how others view them, since they theorize that these significantly affect sensemaking (Maitlis and Sonenshein 2010: 569).

Confidentiality: Those interviewed for this study were elite leaders with an extensive history of engagement in the sustainable seafood discourse; most had fifteen to twenty years of experience as participants in one or more of the conversant groups, and some had even more. Due to the delicacy of the adversarial collaborative work being studied in this case, a few of those interviewed requested that their names not be used. The group of elites who have been leaders in the discourse is small in number, and, given the nature of the work they do together, I decided it best honored the wishes of the informants who had requested anonymity not to use any real names with

the quotes presented here. Thus, the names that appear in the text that follows are pseudonyms. For similar reasons of maintaining confidentiality, I have chosen not to provide a list of informants' demographic details, as the group of elite leaders in this discourse is so small that doing so would enable a reader knowledgeable about the narrative to instantly identify the informants. Some organizational affiliations are provided within the text, where necessary for the reader to understand the events described in the case.

Abbreviations: In the next two chapters, references to observations provide information about setting and timing. References for quotations from interviews indicate whether the informant's primary affiliation was with the environmental non-governmental organization category or the industry category. The surnames are pseudonyms, as described in the previous section on confidentiality. These naming conventions are set forth in Table 5-6.

Table 5-6 Naming conventions for case study data

Data Type	Representation	What It Describes
Observations	BSS20XX	Participant observation at the industry conference and trade show, the International Boston Seafood Show (BSS). Year included (20XX).
	SS20XX	Participant observation at the environmental NGO-sponsored Seafood Summit (SS). Year included (20XX).
Interviews	NGO-Surname	Interview with representative of environmental NGO.
	IND-Surname	Interview with representative of industry.

Acronyms: The use of acronyms is common within the sustainable seafood discourse. A list of acronyms is provided in Appendix C.

6 CASE STUDY: SHIFTING INSTITUTIONAL LOGICS THROUGH INTERRELATED SENSEMAKING

In this case study, I seek to present a richly descriptive chronology of the rise and development of the ‘sustainable seafood’ discourse over the last twenty years. Because I hope to shed light on processes of *interrelated* sensemaking among a diverse group of stakeholders, I have used the tenets of dialogism as sensitizing concepts, and as a result, I have chosen to present the data in a way that not only creates a coherent chronological narrative of the evolution of the discourse, but which also hints at the underlying identity and image concerns among the disparate groups of actors.

In order to synthesize the large volume of data collected, which describes numerous and varied activities and interactions over the two-decade time, I have followed the guidance given by Broadfoot and colleagues to scholars drawing on dialogism to organize data around what they call ‘moments’ (Broadfoot, Deetz et al. 2004: 198). Aiming to illuminate the sensemaking processes in play, I reviewed the data in its entirety in order to identify salient events for each stakeholder group, ‘moments’ of enacted sensemaking that appeared to have catalyzed new or different interpretive directions, either within the ‘authoring’ stakeholder group, or among the wider field of stakeholders. I then organized the streams of stakeholder group ‘moments’ on a timeline, presented in Figure 6-1.

Figure 6-1 Dialogical 'moments' within the sustainable seafood discourse

Year	Science	Government	ENGOS	Industry
1992	Canadian cod collapse	Grand Banks fishing moratorium issued (Canada), Dolphin/Tuna case ruled against US restrictions (GATT)	Realization that fisheries are in trouble, founding of Marine Fish Conservation Network	Search for cod replacements, rise of aquaculture
1993	Ludwig's Ratchet			
1994	U.S. cod collapse	Georges Bank fishing severely restricted (U.S.)		
1995	Shifting baselines & primary production, Pauly	Code for Responsible Fisheries (UN FAO)	SeaWeb founded	Industry founded 'environmental' organization, Ocean Trust
1996		Sustainable Fisheries Act (U.S.)		
1997	Dollar value of ecosystems, Costanza et al		Fight against shrimp farming began Marine Stewardship Council certification program launched	Aquaculture industry association started to fight ENGO criticism, Global Aquaculture Alliance, created and distributed Guiding Principles for Responsible Aquaculture
1998	Trophic cascades, Pauly	Shrimp/turtle case rules against US restrictions (WTO)	SeaWeb launched Give Swordfish a Break boycott	
1999			COMPASS formed to communicate science, Monterey Bay Aquarium launched Seafood Watch consumer purchasing guide	
2000	Historical overfishing, Jackson et al, depleted stocks recovery slower than previously thought, Hutchings, & aquaculture depletes forage fisheries, Naylor et al	Swordfish nursery waters closed (U.S.), international quota set (ICCAT)	First ENGO/major buyer partnership started by New England Aquarium, with Ahold supermarket company	Ahold first major buyer to commit to sustainable seafood, changing procurement policies with New England Aquarium guidance
2001	FAO statistics wrong due to China's numbers, Watson & Pauly			
2002			First food service company commitment to sustainable seafood, Bon Appetit, partnered with Monterey Bay Aquarium; SeaWeb held first Seafood Summit	Bon Appetit food service company rolled out sustainable seafood nationwide
2003	Fish biomass 10% of pre-industrial levels, Myers & Worm			Aquaculture industry alliance launched certification program, Best Aquaculture Practices
2004	Farmed salmon contaminated, Hites et al		EDF collaborated with major buyer to create and prototype standards for farmed salmon; WWF began work on aquaculture standards through Aquaculture Dialogues	
2005		Guidelines for Ecolabelling of Fish and Fishery Products from Marine Capture (UN FAO)		
2006	Fisheries will all collapse by 2048, Worm et al		First year Seafood Summit opened to public; Sustainable Fisheries Partnership began work on Fisheries Improvement Projects	Walmart announced commitment to sustainable seafood
2007				
2008	Global map of fisheries impacts, Halpern et al		Greenpeace published first US supermarket rankings; Packard Foundation founded Conservation Alliance for Seafood Solutions to coordinate ENGOS	Laggard supermarkets begin to adopt sustainable seafood purchasing policies
2009	Some fisheries recovering but many lack data, Worm et al			
2010				
2011				
2012		New cod fishing restrictions, Georges Bank, after rebuilding effort failure	Aquaculture Stewardship Council offered first certifications	Virtually all major retailers have sustainable seafood purchasing policy; leaders begin working directly on FIPs

Examining the complete set of moments in this chronological presentation, it became possible to identify three distinct epochs in the evolution of the sustainable seafood discourse, presented in Table 6-1. Each epoch is distinguished by a characteristic

perspective on the main competing logics in the case and by a particular sensemaking position.

Table 6-1 Sensemaking positions and institutional characteristics within epochs

Epoch	Period (approx.)	Event Summary	Sensemaking position	Institutional characteristics
Introduction of a competing logic	1992-1996	Cod stocks collapse due to overfishing and poor management. Scientists search for causes, industry scrambles to stay afloat, and environmental NGOs take up the issue of overfishing for the first time and succeed in winning US legislative reform.	Actors attempt to understand collapse using their own group's existing frames, thereby continuing to enact the overfishing problem. Confusion and mistrust present among all stakeholders. Rising sense of 'vu déjà'.	Strong institutional support for dominant logic of inexhaustibility among industry, government, and scientists: capital investments and technical knowledge strong constraints on change. ENGOs rely on existing institutional arrangements designed to tackle US domestic, not global, problems.
Building material and theoretical support for the new logic	1995-2005	Scientists begin to figure out where they went wrong on assessments and are able to develop better understandings of the effects of commercial fishing. Guidelines are developed for better management. ENGOs begin to realize the overfishing problem is bigger than they first thought and that their existing tools won't work, so they develop new ones. Mainstream industry reacts defensively, though some leaders emerge.	Much retrospective work by scientific and ENGO community. Both realize previous assumptions were wrong and begin active sensemaking stage that leads to sensegiving. Industry sensemaking unchanged, except among some few emerging leaders. Collaborations and new governance schemes provoke sensemaking about sensemaking.	Institutional landscape becomes turbulent in both the scientific and ENGO communities as they modify or abandon previously institutionalized practices. ENGOs in particular draw in institutional elements from their own field and from external fields. Industry also borrows institutional elements from the larger ENGO field as part of 'defensive work'.
Diffusing the new logic	2005-present	Scientists project long-term impacts of overfishing and pinpoint trouble spots. Mainstream industry buyers commit to sustainable seafood. Governance increasingly becomes the role of ENGOs and major buyers, working collaboratively.	Sensemaking continues in accordance with new institutionalized norms.	Mimetic stage as mass market adopts new institutional arrangements that support the new logic.

In the remainder of this chapter, I present the case material chronologically, divided into three sections that correspond to the discursive epochs.⁷

6.1 Introduction of a competing logic

The first epoch was brief, beginning in the early 1990's, when the cod fisheries collapsed off North America's Eastern Seaboard, and ending in the mid-1990's. During this period, the parties traditionally engaged in fisheries issues—scientists, government officials, and members of the seafood industry—struggled, first, to recognize that a crisis was underway, and later, to understand what the crisis meant for them, in their separate roles, and how they should respond. The collapse also attracted a new class of stakeholder, the environmental NGO (ENGO), and these professional activists engaged in similar efforts to understand and respond to the crisis. However, the ENGOs interpreted the problem differently from the existing stakeholders, creating conflict as they fought for regulatory solutions.

When the cod suffered their precipitous and devastating decline, it was certainly not the first time a fishery had collapsed. However, the magnitude, human impact, persistence, and unexpectedness of the event, along with the introduction of a new class of stakeholder in the relational field, eventually catalyzed a sea change in society's beliefs about the production of seafood. In the long run, the collapse of this taken-for-granted resource would challenge the dominant logic that had theorized the fisheries as virtually inexhaustible, when scientifically managed.

⁷ I have chosen the word 'epoch' rather than 'stage' or 'phase' in order to make it clear that no theoretical claim is being made that these distinct periods are necessary components of a generalizable process, only that they are distinctive developments occurring in this specific case over an extended period of time.

However, at the start of this first epoch, in the time immediately before and after the collapse, as the existing members of the relational field (fishery scientists, government officials, and industry actors) struggled to cope with the unthinkable loss of the perennially abundant cod, they interpreted the shock and were guided in their reactions for the most part by existing logics, frames, and patterns of behavior. In the case of fishery scientists and government agencies, the logic of scientifically-managed abundance underpinned their efforts to explain and reverse the rapid decline of the North American North Atlantic cod stocks. Producers and buyers in the extractive seafood industry interpreted the collapse as a case of localized, species-specific, temporary scarcity: Such scarcity was a normal part of this business that was based on the wild capture of a renewable resource, and members of the industry were accustomed to coping with changes in supply due to both quota restrictions and natural fluctuations in fish populations. From this perspective, the loss of North American North Atlantic cod was just a particularly salient and challenging incidence of a common phenomenon. Acting in accordance with this limited logic of short-term scarcity, a logic that co-existed with a fundamental belief in the resource's long-term inexhaustibility, industry actors interpreted the problem primarily as an operational and economic challenge having to do with a single species, a problem that could be resolved by broadening their product sourcing.

However, the cod collapse attracted a new group of stakeholders to the relational field, environmental NGOs, and their sensemaking was based on a set of logics, frames, and patterns of behavior that were at odds with the existing institutional arrangements in the field. Environmental NGOs perform a watchdog role in society, and the dominant logic underpinning their activities is one of degradation and

collapse. Therefore, unlike the existing members of the field, the ENGOs came to the problem with a suspicion that the crisis was an example of a systemic pattern of overexploitation. Viewing the cod decline through that lens, they acted in accordance with their own extant frames and behavior patterns by contesting existing arrangements through litigation, and by advocating stricter regulation of all US fisheries in all US territorial waters.

By the mid-1990s, the increasing globalization of the seafood supply chain began to challenge the ENGOs' dominant frames and strategies, which had been developed to cope with the US regulatory and judicial systems. Fishery scientists began to recognize the inadequacy of existing management schemes that focused on short-term impacts and target species only. These developments laid the groundwork for a new epoch.

6.1.1 Enacting collapse

In the early 1980s, Canadian scientists were predicting flush times ahead for cod fishermen. By the time they discovered errors in their method, a few years later, the cod population was crashing. (Cook and Daley 2003)

After Canada and the US took control of their 200-mile Exclusive Economic Zones (EEZ) in order to drive out foreign fishing boats, both governments failed to allow their cod stocks to rebuild by restricting fishing; to the contrary, these governments provided subsidies that resulted in massive build-ups of their fishing fleets, so that within a few years' time Canadian and US fishermen were harvesting as many fish each year as the foreign trawlers they had fought to evict had done; furthermore, their capital investment in boats and fishing equipment made it imperative that they maintain those catch levels. Canadian scientists provided stock assessments to guide the Minister of Fisheries and Oceans in setting quotas, but their measurements were

seriously flawed, and for many years the assessments they provided were far too high. In 1989, when they had finally realized their methods were faulty, they advised the Minister to reduce the quota by half. However, fearful of the political ramifications of setting a quota that would result in massive unemployment, the Minister reduced the quota by only ten percent (Kunzig 1995). In fact, the stocks were so low by that time that even though fishermen increased their fishing effort, they were still unable to catch all the fish the quota allowed⁸, with *Seafood Business* magazine reporting that “the major Canadian producers had stopped fishing by year’s end, leaving at least 13 million pounds of quota in the water, ‘because we can’t find it’” (*Seafood Business*, January/February 1992, pp. 14, 16). Fisheries Products International, one of the two largest Canadian seafood firms, declared a loss of \$2.2 million (Canadian) for the third quarter of that year, and announced that, until the situation improved, it would shut down its entire deep-sea operation, which employed 7,200 workers and consisted of 47 deep-sea vessels and 17 processing plants in Newfoundland, Nova Scotia, and Massachusetts (*Seafood Business*, November/December, p. 38, and September/October, p. 40). Nevertheless, for 1992, the Minister set the quota at the same level as the total catch of 1991. Yet, by July of that same year it had become clear that the fishery had collapsed, and the Minister closed it down completely, throwing 30,000 Canadians out of work. The industry was shaken.

For us at High Liner Foods, 1992 was really the major wake up call because of the complete demise and collapse of the cod stocks...it was just very devastating... tens of thousands of people were put out of work overnight, the complete economic infrastructure of the Eastern Seaboard that relied on our business... every part of our business was affected. [We felt] shock, dismay and sadness, you know, to see something...[that] seemed to be in such great shape, go down so rapidly. (IND-Acer)

⁸ Before the stocks began to decline, quotas were not just met, but routinely exceeded.

In the US, scientists' assessment methodology was more accurate, and they warned of rapidly declining stock levels earlier. However, even with the example of the Canadian collapse to consider, the New England regional council charged with issuing restrictions on fishing, composed mostly of representatives from the fishing industry itself, refused to employ any constraints; capital investment in the US fleet exerted catch pressure just as it had in the Canadian fleet. Only in 1991 did the council begin to draft restrictions, under court order after losing a lawsuit brought by the Conservation Law Foundation. The regulations they began implementing in 1994 would have cut fishermen's days at sea by ten percent each year, for five years. Fishermen were furious at the restrictions, rioting up and down the New England coast for weeks (Daley and Cook 2003). Their protests were futile, though, because by that time even these restrictions had come too late, and later that same year the National Marine Fisheries Service banned fishing entirely on most of Georges Bank (Kunzig 1995), with 10,000 US jobs lost in the process (Kurlansky 1997).

6.1.2 Existing field members author the problem

In the immediate aftermath of the collapse, scientists, government officials, and industry actors struggled to understand what, or who, had caused the problem, as well as to comprehend its nature and scope. The Canadian government shifted attention from its own culpability by accusing the European Commission of pillaging the seas outside the 200-mile Canadian EEZ: John Crosbie, the Minister of Fisheries and Oceans asserted that "their fleet's total disregard for quotas is a major cause of the problem" (*Seafood Business*, July/August 1992, p. 38). This argument would be made repeatedly during this epoch, most graphically in 1995 when Canada seized a Spanish trawler fishing in international waters off the Grand Banks over perceived illegal

harvesting of Greenland halibut. According to the Canadian Fisheries Minister at that time, Brian Tobin, “Conservation inside 200 miles is futile unless there is conservation outside as well” (*Seafood Business*, January/February 1992, p. 32).

Besides overfishing by foreigners, many fishermen claimed that seals, protected by their endangered status, were guilty of eating too many cod. Fishermen also blamed each other: “‘Small-boat owners want to blame trawlers. Inshore fishermen want to blame offshore fishermen’, according to the president of the Fisheries Council of Canada” (*Seafood Business*, July/August, p. 58).

For many in the industry, though, much of the blame belonged to fishery scientists. There had always been conflict over stock assessments, with fishermen insisting that there were more cod than scientists’ numbers reflected, but the rapid shifts in their estimates as they realized their methodology was flawed reduced confidence in their predictive ability even further.

Canadian scientists have lowered their estimates of northern cod stocks off the Canadian east coast to about 900,000 tons, down from the 1.2 million tons estimated last year...However, Atlantic Groundfish Advisory Council Chairman Jean-Jacques Maguire said the northern cod stocks have remained stable at about 900,000 tons for the last few years. “It’s the [scientists’] estimates that have varied,” he said. (Seafood Business, September/October 1990, p. 135)

The industry view was that science had yet to penetrate the ocean’s mysteries, and so management schemes were experiments for which the outcomes were unknowable.

A little more than a year ago, cod was doing just fine... [but] sharply cut quotas were announced...While some might argue that the quota cutting has been too extreme, few are willing to say that North Atlantic cod stocks are not under severe stress. Will the tough quotas bring stocks back? Everybody hopes so. But to be truthful, nobody can say...The ocean remains a black box with peculiar idiosyncrasies. Maybe the restrictions will work, maybe they won’t...How many more years will we have to suffer? That’s unanswerable. (Seafood Business, November/December 1990, pp. 84, 88)

In the aftermath of the collapse, people in the seafood industry maintained a skeptical attitude toward fishery science: “Science often was, to some extent, taken for granted and was expected to be the panacea to make sure that these things wouldn’t happen when in fact it happened. So...we will second guess just about everything that comes our way to make sure that we’re making the right decision” (IND-Acer).

The scientists themselves explored a variety of explanations besides overfishing, many related to ocean conditions, including unusually low water temperatures, excessive ice cover, and low salinity (*Seafood Business*, July/August, p. 60). Some also began to theorize about institutional factors that enabled the collapse, and their own role within the broader context of fisheries management. In 1993, an article appeared in the journal *Science*, “Uncertainty, Resource Exploitation, and Conservation: Lessons from History”, which asserted that it was impossible to achieve scientific consensus that might sustainably guide resource exploitation, due to four limiting factors: Greed promotes rapid exploitation; fishery science is conducted on a working natural system rather than in a laboratory, so it is impossible to solidify understanding through the use of controls and replicates; the natural systems involved are too complex to be fully understood, so management is achieved through trial and error; and natural variability makes it difficult to recognize signs of overexploitation. The authors pessimistically concluded that, by the time scientists recognize that a resource has been overexploited, “assigning causes to past events is problematical, future events cannot be predicted” (Ludwig, Hilborn et al. 1993: 1). After this paper appeared, describing the vicious cycle that became known as ‘Ludwig’s Ratchet’, very little significant academic work was published that related specifically to overfishing and

seafood production during this brief first epoch. Awareness of their own contribution to the collapse had led to an existential crisis among fishery scientists.

It is, for fishery scientists, the ultimate cautionary tale... "It is the fishery parable" says Steven Murawski, the biologist who oversees federal fish population estimates in the northeast [US]. "We think about it all the time". (Cook and Daley 2003)

The story of the cod collapse, as it is usually told, is this narrative of bumbling science, self-interest on the part of the government agents charged with regulating the fishery, and contempt for regulatory constraints by fishermen on the water. However, every node of the industry supply chain also exerted pressure on cod stocks. Material constraints were significant and included everything from capital investments in boats, to processing equipment, to freezer storage units. The embedded skills required to catch, process, distribute, and sell cod created technical constraints. Within the industry, a few actors sensed that supply chain pressure had contributed to the collapse; in particular, retailers were singled out for blame. In an opinion piece for *Seafood Business*, one industry executive said, "If we look back up to the 1980s, we can identify a major source of the problem. Fish became fashionable⁹, discretionary income increased, and few limits were put on harvests...[and] the retail industry took most of it...no one has done more, albeit unwittingly, to harm our industry than the retailers" (*Seafood Business*, July/August 1993, pp. 10, 12). In a later opinion piece, retailers were blamed again: "[Ten years ago] retailers...scrambled to source product, build full-serve counters and load them up with all the bells and whistles...I have just about popped blood vessels over the incredible resultant waste" (*Seafood Business*, September/October 1993, p. 10). Retailers, in turn, blamed fishermen for poor

⁹ Seafood's popularity increased when scientific studies demonstrated its role in maintaining cardiac health in humans.

product handling which they said reduced quality and resulted in more waste: “Does any fisherman, lobsterman, etc. care what happens to the dwindling resource once it is sold? I think not. The glaring difference between the US and the rest of the world is how this fragile resource is handled” (*Seafood Business*, November/December 1993, p. 10).

What was apparently not recognized was that buyers’ fixed concepts of the product mix served as additional demand-side market factors that kept pressure high on cod stocks in the face of declining catches. In fact, industry buyers believed that there were no substitutes for cod that consumers would willingly accept. In 1989, as the stocks were collapsing, the industry still clung to cod: “To a great extent, cod remains the standard by which...other species are measured...when other species are selected, it’s often not to replace cod, but to work alongside cod as a cheaper alternative”.

According to a senior vice president at Long John Silver’s fast food chain, “You cannot replace cod” (*Seafood Business*, September/October 1989, p. 88).

6.1.3 Industry responds to the collapse

Fundamentally, the seafood industry perceived the problem created by the cod collapse as an operational one, grounded in the economic imperative of corporate survival. “In order to survive we had to go global and source raw materials from other parts of the world, that still had good fish stocks, that were being fished in a sustainable manner—or at least, at the time we hoped they were” (IND-Acer). While many other cod stocks around the world were also struggling, there were still some abundant sources for buyers willing to look further afield, and the industry saw the geographic spread of sourcing as a positive trend: “Globalization of the fisheries may ultimately prove to be the most profoundly significant and constructive consequence

of the groundfish crisis in Atlantic Canada. A pattern is already emerging” (*Seafood Business*, November/December 1993, p. 74). Quotes illustrating the industry’s sensemaking around its operational needs are displayed in Table 6-2.

Table 6-2 Industry’s initial operationally-oriented sensemaking around the cod collapse

Theme	Quotes
No need to shift from whitefish; there are abundant sources elsewhere, including cod substitutes.	<i>Strong catches by Norway could make up for much of the shortfall in other parts of the North Atlantic in 1992, keeping supplies level. (Seafood Business, May/June 1992, p. 16)</i> <i>Pacific cod has been making its way east, even into that bastion of Atlantic cod chauvinism, Boston. (Seafood Business, May/June 1992, p. 14)</i> <i>Demand for hoki is nudging up prices. (Seafood Business, May/June 1992, p. 16)</i> <i>Packers may not have much cod, but they’ll be happy to sell you a carton of cusk. (Seafood Business, May/June 1992, p. 18)</i> <i>The new crop of hoki, often used as a cod substitute, should hit the US market in September or October. (Seafood Business, September/October 1992, p. 16)</i> <i>With the downturn in cod stocks off New England and the Canadian Maritimes, foodservice operators have become dependent on new sources for whitefish. They’re grabbing supplies from the far reaches of the globe; they can pick and choose from Alaska Pollock and cod, a variety of Alaska soles, South American whiting and New Zealand hoki. Industry officials say the decline in North Atlantic cod stocks ushered in a more ‘generic’ and global white-fish market. (Seafood Business, May/June 1996, pp. 51, 54)</i>
Fishermen affected by the cod collapse can shift to different species.	<i>While down-sizing, Newfoundland also plans to explore underutilized species such as silver hake, an Icelandic type of scallop, skate, sea cucumbers, whelks, periwinkles, sea urchins and porcupine crab, a large, deepwater animal. (Seafood Business, September/October 1993, p. 70)</i>
Consumers require education to accept different, non-whitefish species.	<i>“Americans need to eat more alternative species like mackerel, cusk and catfish,” states one major seafood supplier, watching formerly strong supplies of traditional groundfish stocks diminish. “It’s kind of a crazy business,” he adds. “We’ve just got to educate the public”. (Seafood Business, November/December 1993, p. 14)</i>

In doing so, firms in the industry that had built their businesses around cod carved out new organizational identities, redefining their key skill set as ‘sourcing’ rather than ‘supplying’.

“We’ve been global suppliers. Now, we’re global sourcers,” Raymond says. “We’re selling expertise in processing as much as the products”. (Seafood Business, November/December 1993, p.56)

“We’re working to convince buyers that Canada has other fish, even if we don’t have cod,” says Jane Barnett, president of the Canadian Association of Fish Exporters.

“Large companies can source fish from elsewhere, so it’s not really the end of the world for them”. (Seafood Business, November/December 1993, p.62)

In this altered landscape, it was seen as important not to be dependent on a single species or geographic source.

“You’ll never survive handling just one species anymore. Those days are over.” Jerry Ward, president of Connors Bros. Inc. (Seafood Business, November/December 1993, p. 64)

Failure to adjust could turn a ‘preeminent seafood company’ into a ‘minor player’.

“We’ve gone from being one of the preeminent seafood companies in the world to being a minor player,” says President Henry Demone. (Seafood Business, November/December 1993, p. 64)

The industry had discovered that cod was replaceable, after all.

Announcements of quota cuts continue to be met with market indifference. “Cod fillets are becoming rare as hens’ teeth, and no one seems to care,” sighed an importer...One analyst called cod a “soon-to-be-underutilized species.” He continued, “Alaska pollock is securing an ever-widening niche in the cod/whitefish market.” (Seafood Business, January/February 1993, p. 12)

Ron Rogness, [Long John Silver’s] director of seafood sourcing, says customers do not notice a difference among species, as long as the fish is mild and white and meets the company’s specifications...The fish, he says, is now largely accepted “as a substitute for cod”. (Seafood Business, May/June 1996, p. 54.)

Increasingly, for other popular species like shrimp and salmon, buyers were also able to meet their demand by sourcing farmed products. Aquaculture was a relatively new technique that was just becoming commercialized and industrialized in the 1970s and 1980s. Farmed products quickly grew in popularity and further development was considered essential to meet demand, given the state of wild fisheries.

The ocean may be tapped out, wild harvests have probably peaked...The new seafood frontier is aquaculture...Heard that line before? The stats now back up the hype...In 1990, wild catches began to decline worldwide...If per capita sea-food consumption and global population grow as projected...aquaculture production must triple to meet consumer demand by the year 2000. (Seafood Business, January/February 1993, p. 51)

“Our goal for next year is 50 percent farmed product,” says [Jim] Chalfant. “It’s the wave of the future. Wild stocks are unpredictable”. (Seafood Business, March/April 1996, p. 25)

Farmed products were also valued for their predictable availability and consistent quality, as well as seeming less harmful than commercial fishing, in the aftermath of media reporting about the cod collapse.

Retailers say they promote and advertise farm-related product so much because it sends a message of consistency, freshness and safety...when the media focus on fishing industry issues like declining stocks or loss of habitats, people get the false impression there’s a shortage. Sometimes farm-raised product can be an advantage, since consumers don’t feel they’re depleting wild stocks. (Seafood Business, July/August 1996, p. 41)

6.1.4 ENGOs author the problem differently and begin to respond

By 1990, the United States had a large and active community of professional environmental organizations. Beginning in the 1960s, the modern American ENGO had become proficient at using litigation to bring about new environmental regulations and tighten existing ones. The key skill set in these organizations was the ability to develop policy solutions and advocate for them in the courts and legislative halls, and so lawyers, scientists, and economists dominated their organizational charts (Bosso 2005). However, before the cod collapse, members of the environmental movement were unaware that overfishing was a problem at all.

The cod collapse in Newfoundland in 1992 and the collapse of cod in New England shortly thereafter, really triggered in North America a re-examination of fisheries policy and a sense of crisis about what people were doing to the oceans. Until then people had viewed fisheries as kind of limitless—that was the mindset (NGO-Albizia).

The environmental community had taken fisheries for granted, subject to the same logic of inexhaustibility as the other stakeholders.

“It just wasn’t seen as a problem,” says Andrew Rosenberg, former northeast administrator of the National Marine Fisheries Service. “The oceans were infinite. The public, the environmentalists even believed that. It wasn’t until the fish were almost gone that anyone paid attention”. (Daley and Cook 2003)

The only previous engagement by ENGOs on fishing issues related to what those in the environmental community refer to as ‘charismatic megafauna’—species that people find naturally appealing like whales, dolphins, and sea turtles. Greenpeace was well-known for its work to stop whaling, the Earth Island Institute had conducted a successful boycott that led the major tuna companies in 1990 to adopt procurement policies that would support the use of a dolphin-safe eco-label, and the Humane Society of the United States and the Audubon Society had played major roles in getting a regulation passed that forced shrimp trawlers to use Turtle Excluder Devices. Most major ENGOs like the World Wildlife Fund and the Environmental Defense Fund did not count fisheries issues among the programs in their portfolios, and came to understand that fisheries were problematic only gradually. Accustomed to policy solutions achieved through litigation and advocacy, they then approached the fisheries problem the same way.

When I started at WWF in the early ‘90s... I had an interest in marine conservation... and I commissioned [a consultant]...to do an analysis of the gaps in ocean conservation. And he came back and said, “Nobody is working on fisheries and they're in trouble”...So we launched a fisheries conservation program that was part of our broader marine conservation effort, and we got into US fishery policy first. (NGO-Wych)

The ENGOs that took up fisheries issues after the cod collapse were large and sophisticated, and skilled at using litigation to push the US government to enact and tighten environmental regulations. The legal case that the Conservation Law Foundation won in 1991, forcing the New England regional council to begin restricting fishing effort in the face of dramatic stock declines, set the precedent for the ENGOs, and they began filing cases in New England and other regions of the US. A group of five powerful environmental groups (Greenpeace, the World Wildlife Fund, National Audubon, the National Coalition for Marine Conservation, and the organization that later became The Ocean Conservancy) created the Marine Fish

Conservation Network to coordinate their efforts in 1992 (Daley and Cook 2003). Their aim was to convince Congress to reform the country's existing fisheries laws, and they adopted an innovative strategy that engaged members of the industry as partners: They forged ties with fishermen, and lobbied members of Congress in teams of two, consisting of an environmentalist and a fisherman.¹⁰ ““They saw these two competing constituencies coming in and had to say yes’, according to one of the activists” (Daley and Cook 2003).

In 1996, the network succeeded in getting a bill passed that would change fisheries management significantly, the Sustainable Fisheries Act, which amended and strengthened the existing Magnuson Act. This was “a watershed for US fisheries conservation (NGO-Wych)”, as it made it mandatory for local management councils to rebuild decimated fish stocks within a 10-year time frame and set national standards for bycatch and essential fish habitat (Daley and Cook 2003).

6.1.5 Authoring of the aquaculture problem by ENGOs

At the same time as ENGOs were starting to become involved in issues related to wild capture fisheries, ongoing wrangling between environmental groups and shrimp fishermen in the Gulf of Mexico (Associated Press 1989) led WWF to commission a study in 1994 that compared the environmental impacts of shrimp aquaculture and shrimp trawling. While the study concluded that, of the two, shrimp aquaculture had greater potential to provide an environmentally sustainable production system, it also

¹⁰ This amicable relationship proved short-lived; today there is a good deal of hostility toward environmental activists within the fishing community, due to producers' perception that environmental organizations' activities result in job loss for fishermen.

brought to light the serious environmental impacts associated with industrial shrimp farms. Initially, ENGO attention was focused on the small group of shrimp farming operations in the US, but it quickly became apparent that problems were worse elsewhere. A senior scientist at EDF described the ENGO wake-up call and the circumstances that led to her own involvement with the farmed shrimp issue:

I decided to put part of my time into the program focusing on aquaculture issues, and in 1997 published a report looking at US aquaculture—basically, figuring out what are the issues, what's bad, what's good, because I didn't really fully understand them at the time. At that point, while I was working on the report, I guess 1996 or so, I discovered how bad things were with shrimp farming, particularly abroad. (NGO-Albizia)

In 1996, twenty-five NGOs banded together to protest aquaculture practices before the UN Commission on Sustainable Development. The group included environmental NGOs such as Greenpeace International, the Mangrove Action Project of the Earth Island Institute, the Sierra Club of Canada, EDF, the Natural Resources Defense Council (NRDC), the World Wildlife Fund (WWF), and the Swedish Society for Nature Conservation. Their advocacy focused on foreign governments, and they called for a global moratorium on shrimp aquaculture expansion. By late 1996, governments began to respond, with the Honduran government issuing a one-year moratorium on new shrimp farm licenses, and the Indian government issuing a ruling to shut down industrial shrimp aquaculture operations within 500 meters of the coast. These successes made it seem that the types of strategies ENGOS used to affect US domestic policy could succeed in international settings, as well, an assumption that would later be proved false.

6.1.6 The *ENGO* enactment viewed as a new problem by industry

With the exception of isolated instances of cooperation between the ENGOs and the seafood industry, for the most part, the industry viewed ENGOs' engagement with fisheries issues as intrusive and unnecessary during this first epoch, their attitude forged during previous interactions over dolphin bycatch in the tuna industry and sea turtle bycatch in the shrimp industry. The industry trade association, the National Fisheries Institute (NFI), led the defense, portraying the industry as victims of well-financed professional organizations that specialized in manipulating the media and turning public opinion against them, when they were going about their important business of supplying nourishing food to the world's hungry population. During the early years of the epoch, environmental groups and their causes were only rarely mentioned in the editorial columns of *Seafood Business*, but they received fairly frequent attention in a regular column written by presidents of the industry's trade association, the National Fisheries Institute. Table 6-3 shows representative quotes of this industry discourse authored by leaders of the trade association.

Table 6-3 Industry trade association's initial reactions to ENGO criticism

Theme	Quotes
Seafood industry as victims of well-funded 'environmental extremists'	<i>A new generation of interest groups, well organized, well financed and enjoying widespread public support, is forcing change...Very often these groups bypass traditional legislative and regulatory routes by discretely involving the consumers. (Seafood Business, November/December 1990, p. 115)</i> <i>Seafood is now in the crosshairs of a global network of organizations intent on putting many of you out of business...Pick up the newspaper or turn on the TV. Seafood production around the world has become a media battleground where symbols of good (the purity of nature) are saved from evil (fishermen and fish farmers)... Organizations such as the Earth Island Institute, Humane Society and PETA have campaigned against seafood people for decades...These groups cultivate a personal ecological perspective – the inherent worth of nature – as a means of attacking the idea that natural resources such as fish should be used to meet human needs. They see themselves as pursuing moral imperatives that cannot be traded off in a cost-benefit analysis, and they are very skillful in manipulating the media. Indeed, they have immense amounts of financial and grassroots power, and they can put hundreds of people into the halls of Congress on short notice...We have been grossly outnumbered for years. (Seafood Business, July/August 1996, p. 8)</i> <i>The recent loss of Florida's near-shore commercial fisheries – and California's before that – shows what happens when a just cause with no cash meets a well-financed campaign of misinformation...The shrimp-producing countries of the Caribbean have faced embargoes on their product for not bowing to the wishes of the US government and the environmental extremists...First, there's a strong general feeling that the environment needs protection. Words and pictures that depict commercial fishing as a despoiler of the environment, whether accurate or not, are readily received by those who want to "do their part," especially if the remedy brings no pain to the voter. (Seafood Business, January/February 1995, pp. 8, 16)</i>
The seafood industry is responsible for feeding a growing world population, in contrast to selfish goals of environmental groups.	<i>During the past year, we have seen efforts by environmental groups to ban trade in bluefin tuna, a species neither endangered nor threatened: to withhold Alaska Pollock quotas to make sure sea lions have enough to eat: and to ban coastal gillnets in a number of states...mainstream, well-financed environmental groups are turning to the fisheries as their next field of play in efforts to shape the world in the image they envision...The "green" movement of today has a very different message, one far removed from the concept of feeding people...Five billion people now inhabit this planet, with projections of 10 billion in less than 30 years. (Seafood Business, January/February 1992, pp. 196, 198)</i>
Some environmental groups are more 'reasonable' than others.	<i>No environmental issue has been more intractable than the killing of dolphins by tuna fishermen in the tropical eastern Pacific...The big losers were the US fishermen who were shut out of the fishery and US consumers who were forced to accept the lower-quality canned tuna produced in "dolphin-safe" fisheries... To their credit, some environmental groups said they realize that there is no perfect solution and that tradeoffs have to be made. These groups, which include the Center for Marine Conservation, Environmental Defense Fund, Greenpeace, National Wildlife Federation and World Wildlife Fund testified that it was time to recognize the agreement's success, allow the US fishermen back into the fishery and end the US embargo. (Seafood Business, May/June 1996, p. 10)</i>

The industry also accused the media of reporting unfairly on overfishing and the status of global fisheries.

The media have been devoting a lot of attention lately to the state of the world's fisheries...The general tenor of most articles is that we're in a state of crisis...with overfishing cast as the leading culprit...This 'gloom and doom' reporting overlooks the fact that 1993 US production of fish and shellfish was a record 10.9 billion

pounds...Anyone doubting the resiliency of fisheries need only look at the experience of the Norwegians in the Barents Sea [where the depleted cod stock] rebounded, and is now one of the most viable in the North Atlantic...Granted, some popular species will go through cycles of abundance and shortage...Shortages of one species are very often accompanied by a surplus in another. (Seafood Business, November/December 1994, pp. 28, 30)

The trade association launched a counter-attack to deflect ENGO and media criticism by founding an industry-funded ‘environmental’ organization of its own, Ocean Trust, in 1995. According to coverage in *Seafood Business* magazine, this was “a perfect example of building for long-range, pre-emptive responses to misleading accusations before they’re made” (*Seafood Business*, January/February 1996, p. 28). Toward the end of the epoch, the NFI adopted a somewhat softer facade, using a public relations approach to defend itself in the public arena against the accusations of ENGOs, one which depicted the cod collapse as an aberration, outside the scope of the typical cyclical variations in availability of ocean resources.

What if Americans buy wholesale into the anti-commercial fishing cause only to proudly – and collectively – state that “I don’t eat seafood”? Already many environmentally correct baby boomers, aided by a sympathetic yet not always knowing press, are asking if it’s wrong to chow down on those disappearing wild salmon, or bluefin tuna, or swordfish...Clare Vanderbeek, vice-president for communications at NFI. “We’ve tried to educate consumers about product and supply, that the ocean goes through natural cycles,” she says. “Unfortunately, what happened on Georges Bank is so focused and pervasive it indicts the entire fishing supply worldwide.” (Seafood Business, January/February 1996, p. 26)

In this rendition, the interests of industry and consumers coincide, whereas environmental groups are portrayed as exploiting the complexity of the science to generate misperceptions about overfishing among unknowledgeable others.

Overfishing is a cause celebre of environmental groups and, of course, a legitimate concern for responsible consumers. After all, nobody wants to eat the last fish from, say, Georges Bank off New England... However, the complexity of the scientific data and interpretative methods means that it often takes far too many words to dispel the perception of overfishing when it doesn’t really exist. (Seafood Business, January/February 1996, p. 26)

Within the industry, though, there was nothing but anger and disdain for the claims of environmental activists, as was evident in these words by the publisher of *Seafood*

Business:

Have you heard? There's no more fish on the planet. Get real. Experts plug the world's sustainable harvest at 100 million metric tons. That's a lot of fish. The domestic catch has set records for the last two years, despite the well-publicized groundfish debacle in the Northeast... Trouble is, the perception is growing that eating a nice grilled salmon steak ranks right up there with wearing fur coats, testing eye makeup on bunny rabbits and poaching elephant tusks. (Seafood Business, January/February 1996, p. 14)

6.2 Creating material and theoretical support for the new logic

The second epoch began in the middle of the 1990's and lasted approximately ten years. Unlike the first epoch, which had a well-defined starting point with the collapse of the cod, this period began more gradually. It can be categorized as a period of meta-sensemaking, that is, sensemaking about what constitutes appropriate, credible sensemaking, and of institutional capacity building.

While the US-based ENGO community had achieved a significant milestone when their advocacy efforts resulted in the Sustainable Fisheries Act, effectively embedding the new logic of collapse in national regulation that would bring about significant improvements within the US EEZ, there was a growing awareness that fishery-related environmental problems were not confined to domestic waters. As the industry exploited new sources and consumer demand grew for more exotic species, significant declines were seen in a variety of other locations and species that served as sources to the US market. It also became increasingly clear that the completely unregulated high seas and illegal fishing posed a particular challenge for intervention. In fact, as imported seafood represented an ever-increasing share of total US consumption, it appeared that the industry's globalization of their product sourcing had in fact

exacerbated the problem of overfishing by spreading it more broadly into the international arena.

At the same time, though, academic fishery scientists began to make significant progress in developing a much more sophisticated understanding of the ecosystem effects of seafood production and theorizing new management methods.

Simultaneously, steps were taken at the supranational level to spell out appropriate, general guidelines for sustainable fisheries management.

Innovative ways of thinking about the fisheries problem came to the field from other arenas, as well. In the years leading up to the second epoch, several ENGOs had begun to develop new strategies and frames to help them cope with other issues, including such varied problems as deforestation related to timber harvesting and carbon emissions associated with package delivery operations. In many of these cases, ENGOs were bypassing government to work directly with industry actors whose practices they wished to change. These developments provided a set of insights and tools that informed the efforts of the ENGOs engaged in fisheries reformation projects, attempting to re-scale their advocacy to the global level. However, while the ENGOs sought and found some allies in industry during this epoch, the mainstream industry response continued to be defensive, and members of the industry were able in some cases to appropriate ENGO tools for a counterattack. These appropriations of ENGO tools and techniques met with resistance from the ENGO community, which accused the industry of ‘greenwashing’. When it became clear that the industry would persist in the use of these practices, the ENGOs demanded reforms in how the practices were enacted that would incorporate generally accepted standards of credible use, which were also becoming clarified and institutionalized during this time.

In combination, these developments resulted in an epoch characterized not just by conflict about how to interpret the problem of declining fisheries, as was the case in the first epoch, but by meta-sensemaking, that is, sensemaking about what constitutes ‘good’ or ‘appropriate’ sensemaking, about the science and about proposed solutions. This took the form of active dialogue that sought to define the meaning of ‘sustainability’ in regards to seafood, and to determine agreed-upon standards as to what sorts of solutions represented credible enactments of seafood sustainability.

This period can also be typified as a time of capacity building around the sustainable seafood concept. Besides building material capacity, in such forms as better assessment tools, fishery certification systems and procurement standards, direct interactions between major buyers and ENGO activists required these stakeholders to develop new types of relational capacity, including formal and informal standards for conducting dialogue.

Beginning in the middle of the epoch, as stakeholders in the relational field began to move toward consensus about what constituted good science and credible sustainability standards, industry leaders began to emerge who worked collaboratively with ENGOs to embed the emerging concept of sustainable seafood in their procurement specifications. This helped set the stage for the third epoch, when the new logic would be much more broadly diffused, using the market mechanisms that had been hammered out in these middle years.

6.2.1 Broadening of the science

In the second epoch, academic activity increased significantly compared to the first epoch; in fact, 39 of the 50 most-cited articles appeared during this time period.

Researchers looked back at how their past work had been conducted, examining their methods and assumptions and finding flaws in their previous sensemaking. As they uncovered flaws, they began a process of recalculating fish stocks and population trends, and they proposed solutions based on their new findings.

This flood of research interest began in 1995, when two influential articles appeared, both written by fishery scientist Daniel Pauly. These papers represented fundamental shifts in thinking about commercial fisheries. In the paper called “Primary production required to sustain global fisheries”, Pauly and his co-author examined energy transfers along the entire food web, from algae and plankton up to the higher-level species that were the ones being fished commercially (Pauly and Christensen 1995). According to their calculations, humans were taking approximately four times more of the available material from the ocean than had previously been believed, justifying concerns about overfishing and weakening the dominant logic of inexhaustible fisheries. The article was also notable for its global scope, which was uncommon among fishery scientists, most of whose work focused on small geographic regions and one or perhaps a few species. The 1995 article was the first in a series of papers by Pauly that have taken a global perspective, with profound impacts on academic understandings of fishing’s effects on ecosystems and net global impacts.

However, that same year, Pauly published a brief (one page) conceptual piece in a less prestigious journal that has arguably had an even greater impact on the field¹¹, calling

¹¹ With 423 citations, the paper would have been the 20th most cited paper on the *Science/Nature* list, had it been published in one of those journals. The paper’s reach almost certainly extends beyond its citation list, however, as it changed the nature of future inquiries even when they did not reference it directly.

into question the assumptions and calculations that were at the base of all fisheries management up until that time. In this paper, Pauly coined the phrase, ‘shifting baseline syndrome’, to describe an endemic failure in fishery scientists’ practice of scientific assessment:

Essentially, this syndrome has arisen because each generation of fisheries scientists accepts as a baseline the stock size and species composition that occurred at the beginning of their careers, and uses this to evaluate changes. When the next generation starts its career, the stocks have further declined, but it is the stocks at that time that serve as a new baseline. The result obviously is a gradual shift of the baseline, a gradual accommodation of the creeping disappearance of resource species, and inappropriate reference points for evaluating economic losses resulting from overfishing, or for identifying targets for rehabilitation measures. (Pauly 1995: 430)

In essence, Pauly’s claim was that all previous calculations of fish stocks had used the wrong denominator. This epiphany, which helped explain why scientific management was failing with so many stocks, had a profound effect on the field, as did the global approach he had taken in the first paper. Future studies would seek to uncover true baselines and trace the evolution of fisheries over longer time frames and over greater areas. This also paved the way toward greater collaboration among fishery scientists, biologists, and other ocean-focused researchers, who found they needed each other’s skill sets if they were to understand how very complex ecosystems changed over time as a result of human fishing activities (NGO-Osier). The first such study appeared in 2001, “Historical Overfishing and the Recent Collapse of Coastal Ecosystems”, in which Jackson and colleagues used paleo-ecological, archeological, and historical data to demonstrate that the biomass of species that were the targets of contemporary commercial fishing had been ‘fantastically large’ in pre-industrial eras, compared to modern observations of the same species (Jackson, Kirby et al. 2001). A second influential study that was based on the ‘shifting baseline’ notion appeared in “Rapid Worldwide Depletion of Predatory Fish Communities” in 2003, when Myers and

Worm estimated that predatory fish biomass in the modern era was only 10% of pre-industrial levels (Myers and Worm 2003).

In 1998, in “Fishing Down Marine Food Webs”, Pauly made another critical contribution to scientific understandings of ocean fisheries when he made the case that commercial fishing was changing the nature of the fisheries, such that even if overall catches remained the same or even increased, the types of fish being caught were increasingly representative of lower levels of the food chain (Pauly, Christensen et al. 1998). When fishing reduced the number of fish at the top of the food chain, such as tuna, the population of the lower level, the tuna prey, would increase. When that species was targeted and reduced, its own prey species would increase in numbers. This so-called ‘trophic cascade’, taken to its most extreme conclusion, could ultimately result in a sea filled only with low-level species such as jellyfish. This provided more evidence that the logic of inexhaustibility was flawed.

By 2000, the cod had still not returned to North American waters, in spite of scientists’ optimistic projections at the time of the collapse. In “Collapse and Recovery of Marine Fishes”, Jeffrey Hutchings deflated the conventional wisdom that said fish stocks were highly resilient and capable of rapid recovery after declines (Hutchings 2000). His empirical review of past population trends in 90 fish stocks revealed that, even if recovery is possible, for many species it takes much more time than was previously believed.

Watson and Pauly threw further doubt on global stock assessment figures in 2001 when they questioned the accuracy of the fishing statistics provided by some countries to the United Nations Food and Agriculture Organization (FAO) for its compilation

of global statistics, particularly China. In their paper, “Systematic Distortions in World Fisheries Catch Trends”, these authors proposed that in fact, world catches had been declining since 1989, not holding steady as the FAO statistics implied. The paper attracted significant media attention, and, while the FAO at first defended its numbers, it eventually changed its reporting to include statistics on the ‘world excluding China’, as they are now labeled in FAO reports, as well as overall reported totals (Watson and Pauly 2001). This not only weakened the logic of inexhaustibility, it also focused attention on the critical role Asia, and particularly China, played in world seafood markets.

An article by Naylor and colleagues (including ENGO staff scientists), “Effect of aquaculture on world fish supplies”, took aquaculture to task over the enormous quantities of wild forage fish required to farm carnivorous species such as shrimp and salmon, an environmental impact that has since dominated discussions of aquaculture’s sustainability (Naylor, Goldburg et al. 2000). According to the authors, this high usage of forage fish made aquaculture’s perceived benefit to wild fisheries questionable. Aquaculture was dealt another blow in 2004 when Hites and his co-authors attracted the attention of the general public with their conclusion that farmed salmon had significantly higher levels of organochlorine contamination than their wild counterparts, raising serious concerns that consuming farmed salmon could harm human health.

Most of the articles during this epoch shed further light on the scope and nature of the overfishing problem by reviewing historical data about fishery declines and collapses. Yet, even as scientists were, figuratively, retracing their steps, contemporaneous collapses were occurring around the globe. Orange roughy stocks had been

discovered very recently, in the 1970s, yet, due to incorrect assumptions by fishery managers that led to inappropriately high quotas, most stocks had collapsed by the end of this epoch. Fishery scientists learned too late that the species was unusually long-lived; with a 100-year lifespan, orange roughy did not reach sexual maturity until they were about 30 years old, a fact which, had it been known, should have led to much more conservative management. However, collapses could not always be attributed to poor management, since as much as 30% of total global catches are believed to be taken illegally. Unauthorized fishing during this epoch nearly collapsed Antarctic stocks of Patagonian toothfish, or Chilean sea bass: in the mid-1990s, the legal catch of this species was about 12,000 tons, an amount dwarfed by the illegal catch, estimated at 32,000 tons (Hilborn and Hilborn 2012). A combination of overfishing and illegal fishing was blamed for the collapse of Beluga sturgeon stocks during this period (Anonymous 2008). A team of French scientists estimated that, all told, one in four of the fisheries tracked in global FAO reports had collapsed between the 1950s and 2005, a total of 366 stocks. More worrisome was the fact that they saw no evidence of improved management in the form of a declining trend: there had been about 60 collapses during the five-year period between 1995 and 2000 alone (Mullon, Freon et al. 2005).

Thus, there was an increasing sense of urgency about the problem within the scientific community, and some researchers began to theorize possible solutions. Two concepts in particular emerged to influence future sensemaking about fisheries. The first, advocating a move away from single target species management systems to ecosystem-based schemes, rose as understanding increased of the linkages between target species' health and other aspects of their environment: the 1997 work of Costanza and

colleagues was the first to put a dollar value on intact ecosystems of all sorts (Costanza, d'Arge et al. 1997), and a 2004 paper by Pikitch et al laid out a framework for ecosystem-based management of fisheries in particular (Pikitch, Santora et al. 2004). The second influential solution that was introduced during this time period was the idea of marine reserves, a concept derived from the land conservation strategy of wildlife preserves. Here, papers addressed concerns about the strategy, in particular, whether marine reserves helped or hindered commercial fishing (Hastings and Botsford 1999; Roberts, Bohnsack et al. 2001), and also proposed techniques for their design (Sala, Aburto-Oropeza et al. 2002).

6.2.2 Embedding agency in new partners

During this middle epoch, as reliance on governmental management of fisheries began to lessen, the ENGO community actively sought to develop alliances with the other stakeholders in the field. By the end of this epoch, a small community had developed that acted in accordance with the new logic of collapse. This strengthened the new logic vis-à-vis the dominant logic of inexhaustibility.

Scientists: In a science-related development, the environmental community began to recognize that the complexity of ocean conservation issues was hampering their ability to convey the urgency of the problem to the public and to policy makers; the lawyers, scientists, and economists that filled their ranks were not skilled communicators. In 1995, the Pew Charitable Trusts created a new type of ENGO: SeaWeb was specifically designed to bring professional communications skills to the ocean conservation community, and the organization's founding director was a public relations specialist, a former senior vice president at one of the world's largest public relations firms. The new group immediately began publishing a newsletter that aimed

at assembling and communicating all the latest news related to ocean conservation, including scientific developments that they uncovered through an ongoing, systematic review of what grew to be more than seven hundred scientific journals (SeaWeb).

By 1999, the scientific community had made significant progress toward a broader, more complete understanding of fisheries, but many researchers were frustrated that their work had so little impact on fishery governance and production practices (COMPASS). SeaWeb had conducted market research that revealed that policy makers and members of the public considered scientists the most credible voices where ocean issues were concerned (NGO-Spruce), but the communications professionals saw scientists' own poor communications skills as a significant roadblock: "People realized we have to get scientists to be better communicators, and to express what their research holds" (NGO-Osier). In 1999, SeaWeb, together with the Monterey Bay Aquarium and Island Press, formed a partnership, the Communication Partnership for Science and the Sea (COMPASS).

The idea there was that if we can work with those scientists, do communications training with them, help them take the 27 different important findings that came out of their research and get them to hone in on...the best one message...what they think is most important from their research. Then the policy-makers have to respond to that science, as opposed to using the science to respond to the policy...It sort of switches the dynamic. It puts science to a certain extent in the lead in saying, "This is the science. You guys are policy-makers. Figure out how you're going to address this, because these changes are happening". (NGO-Osier)

Chefs: Besides attempting to share new developments in fisheries science, SeaWeb began doing advocacy work to try to affect US policy. However, during the fight to get the Sustainable Fisheries Act passed, ENGOs had come to realize that commercial fishing held an iconic status in America that worked against them in their efforts: "We all knew that fisheries were the biggest threat to the ocean...[but] we can't from a

policy perspective go against fishermen, that's like going against farmers, that's like mom and apple pie. Congress was not in any way, shape or form willing to take on some of these issues" (NGO-Osier).

They therefore decided to use their communications expertise to attempt to impact US policy through the use of market forces in the form of consumer boycotts, a form of advocacy that had been used in the US successfully before. SeaWeb turned to market research to target their efforts, conducting public opinion polls aimed at understanding consumers' beliefs about ocean conservation (SeaWeb). What they learned was that "you can't treat fish like other wildlife. People don't connect to fish like they do a polar bear, for instance. It's not charismatic megafauna...they're slippery, slimy, scaly, smelly...But we could connect to them through the food on their plate...we call that the 'ocean plate connection'" (NGO-Osier).

This 'ocean plate connection' meant that any campaign would have to present the conservation issues in terms of seafood, rather than fisheries or ocean conservation. Thus, while their research had revealed that scientists were considered the most credible source of scientific information about the ocean and fisheries, they discovered that chefs were better messengers for engaging the public on seafood (NGO-Spruce). "Chefs were able to say, 'these huge, beautiful species are now coming to my kitchen this small, and I know they haven't reproduced yet. We're eating the babies—there is a problem'" (NGO-Osier).

For the boycott, SeaWeb decided to concentrate on a single species, swordfish, launching a campaign in 1998. While in 1994, the industry opinion was that swordfish was underexploited (*Seafood Business*, March/April 1994, p. 72), just one year later "it

was found that the available biomass had shrunk from 84 percent to 64 percent (of the maximum sustainable yield)...‘We thought swordfish was on a recovery period, but now, it doesn’t look good for the stock,’ said one fisheries representative” (*Seafood Business*, January/February 1995, p. 78). While swordfish were a migratory species subject to supranational management by the International Commission for the Conservation of Atlantic Tuna (ICCAT), they were known to have important nursery areas in US waters, justifying a US campaign.

During the campaign, more than 700 chefs from restaurants across the nation, as well as cruise lines, hotel chains, airlines and grocery stores, signed a pledge to stop selling swordfish until there was a policy change. The boycott ended in success: in 2000, the government closed US nursery waters to fishing and the International Commission for the Conservation of Atlantic Tuna (ICCAT) implemented international quota restrictions (SeaWeb). Besides achieving its policy objectives, the boycott had the effect of demonstrating to the ENGO community that the environmental message could sometimes be more effectively delivered by users of the resource than by card-carrying activists, or even by scientists.

The public: Around the same time that SeaWeb was introducing a communications-based approach that emphasized fish as food, another type of ENGO entered the scene with a related approach. In 1997, the Monterey Bay Aquarium was the first aquarium to move into this advocacy realm. Taking a different tack from its usual emphasis on ocean ecosystems, the aquarium held a special exhibit, ‘Fishing for Solutions’, that sought to educate visitors about the problems facing fisheries due to overfishing, bycatch, and coastal habitat destruction.

Visitors to the ‘Fishing for Solutions’ exhibit at the Monterey Bay Aquarium began asking for advice about which seafood was sustainable. This led the aquarium to launch a new program, ‘Seafood Watch’, hiring scientists to assess US fisheries for their relative sustainability and then publishing the lists and making them available to the public, both online and in pocket guides. Employing a traffic signal analogy, the guides listed species as green (best choice), yellow (good alternative), and red (avoid).

Major buyers: While the field of US-based ENGOs was changing and adopting new approaches in the domestic market, WWF had begun exploring options for addressing fisheries’ harms at a global level. One thing was becoming increasingly clear to members of the ENGO community: policy options were limited outside the US domestic arena. The three largest seafood markets were the US, the European Union, and China. In the European Union, wrangling over fisheries policies was bitter and ongoing, and very difficult to affect. China’s policies were opaque and inaccessible to foreigners. Even the US, which, compared to the EU and China, was relatively open to policy reform, could not legislate across national borders, as was made evident when a GATT panel ruled against the US embargo of Mexican tuna imports on the basis of that country’s failure to limit dolphin bycatch, the so-called ‘product’ versus ‘process’ distinction. The message that ruling sent to the ENGO community was that free trade would be prioritized over environmental protection, so they could not count on domestic regulation of imported products. (Howse 2002; World Trade Organization 2010)

At the same time, there were preliminary signs of a softening stance in the industry, based mostly on concerns about increasing public awareness of fisheries problems, as

well as some acknowledgment that environmental groups had gained legitimacy on fisheries issues, but also hinting at an erosion of the logic of inexhaustibility:

For the past three years, the public has been bombarded with messages about ‘overfishing’ and ‘destructive’ fishing gear. Retailers report that consumers are asking questions about where their seafood comes from...One alternative is an industry program, though environmental groups tend to dismiss these...We cannot afford to let the public perception grow that commercial fishermen and seafood processors are irresponsible and unwilling to change. (Seafood Business, September/October 1996, p. 10)

John Moore of the Sea Fish Industry Authority in Scotland says conservation will be the buzzword of the future...”With quotas on many stocks coming down every year and fishing vessels flying flags of convenience, there’s a danger we’ll go too far down the road with overfishing,” says Moore. “There are too many organizations willing to create dissonance within the industry. We need to focus more on conservation. The politics of this are potentially explosive.” (Seafood Business, November/December 1996, p. 20)

By the mid-1990s, Thomas Wych had transferred to WWF’s London office, and he was looking for a way to change the seafood industry’s production practices on the global scale that was needed in the case of a global supply chain. After his experiences working on US policy, he had become frustrated with that approach, which he felt was hobbled by special interest lobbying.

I like to tell people the sustainable seafood movement was borne out of frustration with the slow pace of the public policy process. We got the Sustainable Fisheries Act in the US back in the 90s, and we’ve been playing a rear guard action to keep it intact ever since. Progress in the political sector is very slow, mainly because industry opposes conservation measures...[and] I knew from experience how powerful the seafood industry is politically around the world. (NGO-Wych)

His own organization had launched an innovative new program in 1993, the Forest Stewardship Council, which was designed to improve practices in the international timber industry. Wych thought that a similar system of voluntary transnational private regulation might work for seafood as well. “I saw how the Forest Stewardship Council was beginning to penetrate that industry...[and] I thought, you know, ‘If we could do that for seafood, we could really make a difference’” (NGO-Wych). In an interview,

Wych explained how this change in attitude came about when he read a book written by a successful businessman, who asserted that only business had the resources and will to make the world more sustainable, not government.

The theory of change for the whole seafood movement essentially came from a book called The Ecology of Commerce by Paul Hawken...He argued there that the only force powerful enough to reverse the unsustainable use of resources is commerce itself, that...we can't rely on governments to do that by regulation. (NGO-Wych)

Hawken's argument jibed with Wych's own experience and reinforced recent efforts by ENGOs to build awareness and concern by working within markets.

All my experience suggested to me that he was right...We were beating our heads against the wall at the international level, at the national level, on fisheries, conservation, and getting nowhere. We needed a new approach... the sustainable seafood movement was in its infancy... we had just started to think about harnessing the power of the consumer movement, the power of consumer choice. I thought to myself, "If we could get industry to support conservation measures, that would be a real coup". (NGO-Wych)

Wych envisioned an entirely different scenario for seafood, in which commitment to sustainable practices by businesses would change the dynamic, freeing the political process from the gridlock produced by special interest lobbying. "Not only is that a powerful force in itself, it would have a knock-on benefit to the politics of fisheries, which were slowing down the public policy process" (NGO-Wych).

Wych concluded that "in order to do that, we had to move the market. We had to create a market for sustainable seafood, create a supply, that's the first step" (NGO-Wych). He believed in order to do that, a big industry partner was essential. Industry giant Unilever had just lost a great deal of money during the mad cow crisis in the UK, when consumers lost confidence in beef, and they were concerned about what might happen to their seafood supply, given the troubles in world fisheries. The company had also been criticized by Greenpeace in Germany over their fishing fleet's operations. Given these pressures, when WWF proposed that Unilever commit

themselves and their financial resources to starting a seafood certification program, “the board said, 'Oh my God, where do we write the check? This is cheap insurance on our frozen fish business'...They wanted to lessen business risk, secure the future of their seafood supply” (NGO-Wych). The partnership did not require shared values: “I was interested in protecting the marine environment, so different motivations, same goal - to create an organization that would harness the power of consumer choice in favor of conservation” (NGO-Wych). The two groups founded the Marine Stewardship Council (MSC) together in 1997.

While seeking to influence consumer choice, the goal behind starting the seafood certification program was not to drive change by enlisting the end consumer in the fight, which was viewed by ENGOs as extremely difficult.

This wasn't a consumer led initiative...it would take 50 years for a bottom up consumer driven action. (NGO-Wych)

Instead, the focus was on the major buyers whose choices determined which products consumers would see on store shelves and restaurant menus.

We knew it was the Unilevers of the world that were going to make or break the MSC, and the whole sustainable seafood movement...It's the big buyers [who] make the decisions for us. If it isn't on the menu, and it isn't on the shelves, we don't have a choice, right? Look at dolphin-safe tuna. You can't buy dolphin-unsafe tuna because the retailers and the restaurants took it off their shelves and took it off their menus. (NGO-Wych)

Targeting major buyers was a lesson learned from the FSC.

[The major buyer] was the focus from the beginning...the FSC had taught us that. It was Home Depot in the US and B&G in the U.K. that made the FSC succeed. (NGO-Wych)

The decision to act in partnership with a large, multinational corporation was a revolutionary departure from standard ENGO operating procedures, which revolved around generating conflict with industry and seeking legislative solutions: “We've got

that command and control mentality in the environmental movement...even though the problems that we're facing don't lend themselves to that...It would be great if you could do that, but that's not how globalized product lines work" (NGO-Alder). The MSC partnership defied long-held beliefs about corporate self-interest and raised concerns within the community that WWF was falling prey to co-optation and greenwashing.

The NGO community felt we were getting in bed with the enemy...the left wing of the green groups hated that, that we were working with Unilever, a big corporation. They thought that was evil. I got attacked so many times in meetings with my colleagues...[but] greenwash is defined as undeserved green publicity. If it's deserved, it's not greenwash. (NGO-Wych)

In spite of the criticism, Wych believed that the way to make the industry pay attention to the MSC was to partner with a corporation whose size guaranteed other businesses would take notice. He wanted the certification system to have legitimacy in that arena, to become part of the industry's ongoing internal dialogue.

I remember looking in trade journals for the forest products industry and seeing all this talk about the FSC and I thought, "Wouldn't it be great if Seafood Business [magazine] talked about the MSC?" (NGO-Wych)

Yet the reaction of the mainstream industry was just as negative as that of the ENGOs; according to Wych, "there was so much naysaying by both sides that if you'd listened to that you'd never have done anything" (NGO-Wych).

When the first announcement came out about the MSC, Marine Stewardship Council...I was actually at a meeting where it was introduced and oh, there was just so much skepticism and negative reaction on the part of industry. Which I kind of understood because at that point in time...there were a lot of activist NGOs really kind of throwing grenades at the industry and the industry was kind of throwing them back, but there was no dialogue. (IND-Ash)

This criticism from both industry and ENGOs has continued. In effect, the MSC was an early example of a new type of ENGO, a bridging organization that exists in

tension between the business community and the traditional ENGO community. This has required those working in these boundary-spanning positions to craft new organizational identities and role expectations.

The MSC gets criticized up and down, day and night, from all sides, all angles, and poor Rupert Howes [the MSC's CEO] is like, "I know I'm doing a good job when I'm getting equally beat up by industry and NGOs. I just didn't recognize it was a tightrope". (NGO-Rowan)

As scientists, chefs, and a few industry leaders began to lend their voices to the sustainable seafood movement, mainstream industry reacted with alarm. Editorials in *Seafood Business Magazine* painted a portrait of the industry as victims of well-financed ENGOs manipulating public opinion with deceitful propaganda. This discourse continued to depend on a counter-narrative that emphasized that the seafood industry filled an important role in society by providing crucial nutrition to an expanding population.

Table 6-4 Industry reactions to consumer-focused ENGO campaigns, late 1990s and early 2000s

Theme	Quotes
Seafood is being 'vilified' by savvy ENGOs that 'control the debate'.	<i>When you start to add it all up, it's a little frightening. First came the "Give Swordfish a Break," campaign...Later in the year, Greenpeace hung a banner from the headquarters of Long John Silver's corporate office, urging the king of quick-serve seafood to "Stop Plundering the Seas."...This January, Shaw's became the first retailer in the country to join the Marine-Stewardship Council's eco-labeling program. That news was followed by word from SeaWeb in February that the "Give Swordfish a Break" campaign would continue throughout '99...In May, Whole Foods and Legal Sea Foods joined the MSC's eco-label program...Last month, Wild Oats and SeaWeb were back in the press, announcing that Wild Oats would no longer sell swordfish, orange roughy, Chilean sea bass or marlin because of concern for the health of these global fish stocks. Meanwhile...the esteemed Monterey Bay Aquarium was making news with its list of fish to eat and fish to avoid...Do the math, folks. Slowly, systematically seafood is becoming vilified in the minds of consumers. Eating seafood is becoming politically incorrect. This is serious, and this is dangerous to all companies involved in the buying and selling of fish and shellfish...Overall, the seafood industry has not done a good job telling its side of the environmental story...These groups are controlling the debate and controlling the flow of public opinion on this issue. (Seafood Business, October 1999, p. 22)</i>
ENGOs seek to limit industry access to ocean resources.	<i>Seafood companies of all sizes are dealing with the ramifications of a vocal and active environmental front that seeks to limit access to the ocean resources...the debate...has shifted in the last few months to a more far-reaching discussion of the future of the seafood supply. (Seafood Business, September 1999, p. 22)</i>
Media reporting is uninformed and skewed against industry.	<i>A reporter from the Boston Globe called me the other day...Before I could answer though, he proceeded to tell me that he knew how bad things were in New England, and he knew that fishing was a dying industry. He went on to explain how aquaculture is not succeeding because it's an "environmental nightmare."...[but] It's an industry that employs hundreds of thousands of people who supply food to millions around the world. (Seafood Business, April 1999, p. 18)</i> <i>In early August the Environmental Working Group released a "study" on PCBs in farmed salmon...Few editors checked the source of the data or questioned its validity...This is a prime example of a group skewing the data to achieve its goal of getting consumers to stop eating farmed salmon...Another instance of skewed data is the Seafood Choices Alliance's "The Marketplace for Sustainable Seafood" report released in June...The truth is out there—and our job at SeaFood Business is to help you find it. (Seafood Business, September 2003, p. 16)</i>
The seafood industry does not have the resources to fight unfair allegations.	<i>There's a lot of commotion about Chilean sea bass in the restaurant industry these days... "Take a Pass" is eerily reminiscent of the Give Swordfish a Break boycott launched by SeaWeb four years ago...Unfortunately, the seafood industry does not have the money or cohesiveness to put together a campaign to combat these assaults by environmental groups. As a result, chefs, who rarely have time to research sustainability issues surrounding their fish purchase, usually hear just the environmentalists' side. (Seafood Business, May 2002, p. 20)</i>

Yet new leaders began to emerge within industry, working with ENGOs in new ways.

A consulting partnership model emerged, beginning in 2000, when the US division of multinational supermarket conglomerate Ahold decided to include sustainability as a requirement in their seafood procurement policies and engaged the staff scientists at the New England Aquarium (NEA) to help them define what sustainability meant in

the context of their purchasing practices. Over the next few years, NEA would add Darden, the world's largest seafood restaurant company, and Slade Gorton, a major US processing company, to their roster of clients.

Major food service companies also began working with ENGOs on their seafood sourcing policies, a process that started when working on the 'Fishing for Solutions' exhibit at the Monterey Bay Aquarium inspired the staff to question what they themselves were serving in the Aquarium restaurant, and to ask the company that provided their food service to change their menu to better reflect the aquarium's charter.

[They thought, the] mission of the aquarium is to inspire conservation...if we are asking people to conserve the ocean, then shouldn't we be walking the talk in our restaurant, and shouldn't we also be communicating those food-related messages to the people who walk through the doors? (IND-Zelkova)

When the aquarium requested that its food service firm adopt sustainability as a purchasing standard for seafood served in their restaurant, the CEO not only agreed to do so, he took up the cause himself, saying, "it's not going to have any impact if I just do it here—I'm going to do it in all my restaurants" (IND-Zelkova). The company wanted to be in a first mover position: "We're one of the early adopters, and we're willing to do that, because we like being in that position...[because] we get opportunities. People come to us first" (IND-Zelkova). Over time, the CEO was able to convince his UK-based parent company, Compass Group, one of the largest food service companies in the world, to commit to serving only sustainable seafood. Aramark, the company's largest US competitor, followed suit soon after (NGO-Wych). Both companies entered into partnership agreements with the aquarium to guide their procurement standards.

Working in partnership with businesses required ENGOs to develop new process principles and practices, often borrowing and building on existing models. EDF had developed the corporate partnership model in the early 1990s, working with industry giants like McDonald's and Federal Express, and had an entire corporate partnerships division that had developed a basic template for these engagements based on their work with McDonald's and other large firms on reducing paper waste. In 2004, EDF employed that template when they joined forces with a food service company and a supermarket chain to work in collaboration with an aquaculture producer to devise a set of standards for farmed salmon (and later farmed shrimp)¹².

We knew by working with one company, we could actually complete things and set an example...when you work in an individual partnership, or work with a buyer, you have the opportunity to create standards that are a bit of a reach for the producers. And so we felt that we could really potentially catalyze innovation in the industry (NGO-Albizia).

The EDF staff charged with managing the partnership not only were able to adapt an existing model to their needs, they also were able to draw on in-house expertise on related issues: "I had access to people who were working on carbon and water, and antibiotics, and all these other issues where there are a lot of lessons, and a lot of parallels that people don't necessarily see" (NGO-Alder). Yet they had to rely on their corporate partners in other areas.

We as an organization end up doing a lot of the work in that we're helping the suppliers with the change, but don't actually have any of the buying power or the ability to negotiate the terms of the relationship because we're not the customer...they [suppliers] were telling us one thing, but telling Wegman's another, and so it just wasn't an effective way to work. It really had to come from the buyers, who already had some sort of relationship, and they were doing the negotiation for us (NGO-Alder).

¹² These species had been singled out by ENGOs, due to their high use of forage fish as well as other environmental impacts.

In the partnership model, the role of the ENGO remained that of an advocate, but the individuals working on the front line had to modify their approach and adopt many practices more common to the business world. One of EDF's business partners in the aquaculture standards projects noted their professionalism, describing her ENGO counterparts as 'very smart', and 'very respectful of people's time':

I can't downplay how important these things are...we knew what our respective roles were. It was very organized...The classic concern is that the NGO doesn't work at the speed of business, or there isn't this synergy. We didn't find that...it felt like a business partner...They were advocates...[but] they understood that business supply chains had to be respected...We had to learn expertly, and we learned from each other (IND-Želkova).

The ENGO community sometimes struggled, though, to agree on just how business-like the partnerships ought to be. Of particular concern was the decision whether or not to charge for their consulting services.

When EDF would do a partnership with a company, we would take no money from the company. And we would insist that all the results became public...the company had to agree that then EDF could work with other companies to adopt those standards, or variants of them. So we felt that that gave our partnership process real integrity...it also meant because we weren't taking money from the company that they had less leverage to tell us what to do and we could walk away if we needed to. When you act as a consultant you're taking money from the company to develop whatever it is (NGO-Albizia).

While many in the ENGO community believed that a company's motivation in enlisting help was less important than their actions, there was an undercurrent of concern that businesses would engage in 'forum shopping', seeking to align themselves with one of the less demanding green partners (*Seafood Business*, November 2009).

6.2.3 Defining standards

The third major area of capacity building and meta-sensemaking that emerged during this period was a set of standards. These standards took two forms: technical standards that were at the heart of the certification schemes that arose during this period, and

governance standards that determined the credibility of the processes used to develop and disseminate the technical standards.

Technical standards: Over the course of this epoch, a variety of seafood-related certification schemes were launched, but arguably the most influential were the Marine Stewardship Council, launched in 1997 to set standards for marine fisheries; and the Best Aquaculture Practices (BAP) certification, an industry-founded scheme that launched standards for aquaculture operations in 2003. In addition, in 2004 preliminary work began on a third system, WWF's Aquaculture Dialogues, meant to provide a tougher set of standards to compete with BAP certification. In general, certification schemes like these are a form of 'soft law' that fall into the category of 'regulation by information', systems that constrain behavior through the release and dissemination of information about a market offering's conformity with a particular set of standards and performance targets (Schneiberg and Bartley 2008: 45). The certification systems described here can further be described as transnational private regulation, global performance standards that exist outside existing national governance structures or industry control (Bartley 2007).

Developing appropriate technical standards was critical if the certification programs were to achieve the desired outcomes. Yet, setting standards for myriad species and geographic settings was an exceedingly difficult task. The fact that the science was still evolving and much remained to be learned, particularly in the case of wild capture fisheries, also meant there was a need to build in a system of 'continuous improvement' of all the standards. While they thus shared that characteristic, the technical standards for wild capture fisheries and aquaculture operations were very

different; while some of the species were the same, the production environments were very different, and thus the environmental impacts, as well.

Marine Stewardship Council

Wild capture fishing utilized a common pool resource, and significant variation could exist between management schemes in different places, even in the case of a single species. Therefore, a decision was made that the certification unit of the MSC would be the individual fishery; this would allow them to differentiate between well-run fisheries and those that were more problematic.

The technical standards themselves were based on two sets of guidelines provided by the FAO, the 1995 *Code of Conduct for Responsible Fisheries* and the 2005 *Guidelines for Ecolabelling of Fish and Fishery Products from Marine Capture* (Marine Stewardship Council), but these codes merely set out general principles; setting specific targets that would meet those principles and would simultaneously produce the desired outcomes was a difficult task. A major concern for the ENGO community was that the standards would be set too low, and would not therefore result in improved practices.

The biggest issue for the NGO community has been the same thing from day one—where to set the bar for certification...If you set the bar too high all you have is a couple of boutique fisheries that are not very significant. Set the bar too low and that's no good either—everybody gets certified...you're just rubber-stamping existing practice...So the trick is to set the bar at an appropriately high level that represents an aspirational goal, but it's achievable. We have argued over that for donkey's years. (NGO-Wych)

Within the ENGO community, there were different opinions about what the goal of the program should be in the first place. The aim of the founders themselves was to move the mass market: “the MSC is not about taking fisheries from 80% to 100%. The MSC is about taking fisheries from 20% to 80%. That’s where the real work is” (NGO-Wych).

The standards covered multiple dimensions of fishery exploitation, and were grouped according to three basic principles covering appropriate quotas, ecosystem impacts, and managerial flexibility, as shown in Figure 6-2.

Figure 6-2 Principles for Marine Stewardship certification standard (Marine Stewardship Council 2010: 5-6)

Principle 1: Sustainable fish stocks

A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.

Principle 2: Minimising environmental impact

Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

Principle 3: Effective management

The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

For each of the principles, the MSC established more specific criteria, including operational dimensions such as fishing gear, bycatch, and discards (Marine Stewardship Council 2010: 5-8).

Best Aquaculture Practices

In contrast to wild capture fisheries, private property rights applied to aquaculture operations. While aquaculturists were bound by any applicable local regulations, there was nothing to prevent owners from adopting more stringent standards for their own operations, over which they had control. For this reason, the certification unit for the Best Aquaculture Practices system was the individual facility.

The Best Aquaculture Practices (BAP) certification scheme was developed by a trade association, the Global Aquaculture Alliance (GAA), as a pre-emptive move to forestall ENGO investment in such a system. The trade association had its beginnings in conflict between the industry and ENGOs, having been formed in 1997 in response to ENGO attacks that culminated in protests at a meeting of the World Aquaculture Society. The BAP scheme grew out of the GAA's less ambitious initial effort, a set of "Guiding Principles for Responsible Aquaculture" that the alliance set forth in 1997; at that early stage in the epoch there were no formal guidance documents on aquaculture practices available from the FAO or other supranational bodies, as were available to the MSC. The principles evolved into codes of practice, initially for shrimp farming, in 2000; codes for other species were developed after that. By 2003, the codes had been further developed into a set of standards.

According to the Global Aquaculture Alliance, the BAP standards covered "community and employee relations, conservation of biodiversity, soil and water management, and drug and chemical management" (Global Aquaculture Alliance 2012). Standards were set for each type of facility involved in the production of farmed seafood products: hatcheries, feed mills, farms, and processing plants. Today the BAP scheme certifies shrimp farms and hatcheries; salmon, tilapia, channel catfish

and pangasius farms; seafood processing plants and feed mills (Global Aquaculture Alliance 2012).

When they were initially developed, the BAP standards drew a great deal of criticism from the ENGO community. According to their critics, the technical standards were too vague; specific standards would be needed in order to produce quantifiable results. Accordingly, a year after the Responsible Aquaculture Program's debut, GAA announced changes to address the first concern. First, the revised program made ten conditions mandatory for certification. Furthermore, for initial certification it required a 70% score on thirty-two inspection points, weighted according to importance, and an 80% score on all subsequent audits (Global Aquaculture Alliance 2001).

When the GAA added processing plant certification to its line-up, it did so in reaction to a series of farmed seafood contamination incidents in the early 2000s. The certification had failed to gain much traction before that, but by adding a food safety component to the standards, the program began to attract much more interest among potential adopters. This, however, has been a source of conflict with the ENGO community, which contends that the BAP standard has deemphasized environmental concerns in favor of food safety. The GAA argument is that BAP effectively diffuses the environmental requirements that are not seen as important along with the food safety standard, which is valued by firms: "In markets where they're only interested in food safety, we can piggyback the environmental and the social components on top of the food safety...whether the consumer expresses an interest or not, we can include those components" (IND-Blackthorn).

Aquaculture Dialogues

At the end of this middle epoch, the Aquaculture Dialogues were just getting started. It would take many years for standards to emerge; the first were just being published as this study came to a close. Organizers expected the Dialogues to produce standards covering six to eight key impacts that they claimed “create 80 percent of the environmental and social challenges related to aquaculture” (Villalon 2008). The goal of the dialogues was to create a ‘gold standard’ that would reward the best performers in the industry.

Governance standards: While the specifics included in a certification system’s technical standards determine the scheme’s likely outcomes, and thus its effectiveness, its governance standards are the source of its credibility. Not surprisingly in a case like this, burdened as it has been with inherent difficulties in developing technical standards for such a variety of species and settings, at a time when scientific understandings were still evolving, stakeholders have paid as much attention to questions of how the standards are set, implemented, and improved, as to the actual content of the standards. Over time, a consensus has emerged within larger society that a certification program’s credibility is determined by its independence, inclusiveness, transparency, and impartiality, and these values have been institutionalized in various ‘watchdog of the watchdog’ codes, including the FAO’s “Guidelines for Ecolabelling of Fish and Fishery Products from Marine Capture”, the International Standards Organization’s ISO 65 “General requirements for bodies operating product certification systems”, and the ISEAL (International Social and Environmental Accreditation and Labelling Alliance) “Code of Good Practice for Setting Social and Environmental Standards”. In a WWF-commissioned study

executed by Accenture Development Partnerships, the report summarized the consensus view:

The most credible ecolabelling schemes accepted in international fora such as the World Trade Organisation (WTO), the International Standards Organisation (ISO), the Food and Agricultural Organisation (FAO) and the International Social and Environmental Accreditation and Labelling (ISEAL) are voluntary, third party and operated independently of those with interests in the issue in question but involving those interested parties. Third party schemes are generally thought to offer buyers of labelled products the greatest confidence and levels of credibility because compliance with criteria is usually based on verifiable, impartial and transparent certification procedures and standards. (Accenture 2009)

Marine Stewardship Council

NGO preoccupation with independence was reflected in the dismay of the community over the WWF decision to partner with a member of the affected industry in establishing the MSC; however, this concern was addressed in 1999 when the organization was spun off, becoming fully independent. Where inclusiveness was concerned, the MSC struggled to address the dichotomy between stakeholder engagement and efficiency. In setting out to create the Marine Stewardship Council, the designers drew heavily on the FSC model. However, they did not replicate it exactly.

We tried to learn from experience. The FSC was the only experience we had at the time [so]... We hired Coopers and Lybrand... to interview all the FSC board and their staff, figure out what they did right, figure out what not to do. Coopers came away from that saying, "Whatever you do, don't make this a membership organization. You'll be hamstrung by democracy". (NGO-Wych)

As a membership organization, the FSC vested rule-making authority with its 800 plus members, administered through a complicated governance structure that sought to maintain voting parity among three interest-based chambers (environmental, social, and economic) and among Northern and Southern members. The organization's elaborate procedural requirements around rule-making and the devolution of the

actual setting of standards to national subunits had slowed progress. In contrast, the MSC streamlined its operations by vesting rule-making authority in a Board of Directors. It limited its outreach to other stakeholders to keeping them informed through open communications, engaging them in actual standard setting activities only on an ad hoc basis, where their expertise was needed (Auld and Gulbrandsen 2010). Nevertheless, while this improved the efficiency of the standard setting process, it earned the MSC criticism from its ENGO peers.

The NGOs tend to fault the MSC for not being as democratic as the FSC, but what good does being democratic do if you're unable to penetrate an industry? ...No other organization has a representative board that I know of, in the NGO movement. You put donors on your board, and you put people of gravitas that others will listen to. That's what the MSC did. (NGO-Wych)

The MSC addressed inclusion concerns by turning to a wide range of stakeholders for their input, conducting eight regional workshops and two expert drafting sessions involving a total of over 300 organizations and individuals over the course of two years.

Early in the MSC's evolution...we convened two workshops of the thought leaders, the world thought leaders on fishery management and sustainability...fishery scientists, biologists, social scientists, lawyers, conservationists... and they drafted the principles and criteria that underlie the MSC—the constitution if you will. (NGO-Wych)

The MSC 'constitution' built in a high degree of transparency, which shielded it somewhat from criticism.

MSC has a process where they can be publicly criticized...It's all made transparent why people don't agree...it's a system that allows for some forms of checks and balances, that doesn't shut voices out. This is a bigger issue and equation than any one philosophy or side of the sector. So [we're] really trying to promote that more productive dialogue. We can disagree, but let's have the conversation. (NGO-Rowan)

Impartiality of certification programs was defined in terms of first, second, and third-party assessment: In first-party schemes, the entity set standards for its own use; in

second-party schemes, standards were set by peers (such as industry associations); in third-party schemes, standards were set by impartial experts and determinations about whether or not those standards had been met were the result of independent assessments (Marine Stewardship Council). Initially, the MSC did less well in this last area of impartiality. The FSC had handled accreditation in-house, and MSC did likewise at the start of its operation. However, in order to comply with the 2005 Guidelines for Ecolabelling of Fish and Fishery Products from Marine Capture, the MSC handed over assessment and certification responsibilities to independently accredited certifiers, completing that transfer by 2006 (Marine Stewardship Council). Independent accreditation of the certifiers was delegated to a separate organization, Accreditation Services International (ASI).

Best Aquaculture Practices

In creating the codes that would become the Best Aquaculture Practices standard, the GAA was motivated by a desire to avoid the establishment of an ENGO-sponsored certification. In an editorial column in the trade group's monthly magazine, the organization's president speculated:

The FSC label is already gaining acceptance among consumers... Will an activist program be used to compel seafood retailers to adopt eco-labels? Perhaps we can forestall such a campaign by proactively developing our own industry-oriented program... Let us act together as an industry to support this Eco-Label program and avoid the need to act later to an expensive, impractical program operated by groups that may not have our best interests—or consumers' wishes—at heart. (Chamberlain 2000, p. 2)

The ENGO community criticized the GAA's codes on every governance dimension. They were not independent, given their industry sponsorship; they were not impartial, as they were voluntary and self-evaluated; and they were not inclusive or transparent, having been drafted in an opaque process by aquaculture scientists and GAA

members, without any input from other stakeholders. Within the first year, the GAA began to address the concerns about impartiality by making some requirements mandatory, and by forming a new organization, the Aquaculture Certification Council (ACC), to handle certification inspections and site evaluations. In doing so, they hoped to satisfy activists' demands that certification be conducted by a third party; however, GAA retained control of the ACC and hence the certification system until well into the third epoch, which attracted continued complaints from the ENGO community. In 2002, the GAA began to address transparency concerns, as well, developing minimum standards for key operational factors, and formal record keeping requirements. The organization expanded the group of stakeholders involved, to include representatives from the areas of environmental science, agricultural waste management, and water pollution control. The group only satisfied ENGO demands for a more acceptable degree of impartiality in 2009, when it finally took responsibility for conducting certifications away from the ACC and delegated it to fully independent, ISO 65-accredited certification bodies. In 2008, the GAA addressed stakeholder inclusion concerns when it invited ENGO representatives to sit on the group's standards oversight committee.

There was a lot of conflict of interest, there was not enough separation of accreditors who were also part of the standards and the certification...I think it started from a place of, you know, people who knew each other and trusted each other and worked together in the industry. But when you start to get to what's a credible system look like, with checks and balances, the certifier and the guy who holds the standard isn't the same guy. That's where we really started to push, and it was interesting that GAA really didn't understand why people were getting involved in their business...but I have to give them credit...there was certainly a lot of resistance and I think probably some misunderstanding on both sides, but at the end of the day, they ended up creating an oversight council that allowed space for NGOs, and now NGOs are engaged. (NGO-Rowan)

However, while ENGOs were not yet included in a formal capacity during this epoch, both WWF and EDF offered their assistance to GAA to help tighten the standards

and make them more compliant with international norms. Others in the ENGO community criticized their peers for working with the GAA.

There was a lot of dislike for the BAP program, and we got some push back for working to reform them, because you know, any engagement is seen as legitimization. (NGO-Alder)

Aquaculture Dialogues

Frustration with the slow progress the GAA had made in tightening its BAP standards caused the WWF to step into the arena in 2004 with a first step toward a certification scheme for aquaculture that would meet and even exceed the high standard set earlier with the MSC. The ENGO established a series of eight roundtables that included over 2,000 farmers, retailers, NGOs, scientists and other aquaculture industry stakeholders. The dialogues were undertaken with a goal of developing aquaculture standards for a dozen farmed species, standards that would be more rigorous than those developed by the industry.

We couldn't afford to tackle aquaculture up front, like we did the MSC. When we started the MSC, aquaculture was a relatively minor player in seafood; now, of course, it's more than half of seafood. So this Aquaculture Stewardship Council, which is intended to be a sister organization of the MSC, we were a decade too late with that...It's one of the biggest failures, I think, of the sustainable seafood movement that we did not get ahead of the curve on aquaculture. (NGO-Wych)

The ultimate goal of the dialogues was to create a set of standards that would then be turned over to an independent organization, the Aquaculture Stewardship Council (ASC), similar to but separate from the MSC. The format of the dialogues was aimed at achieving consensus among a wide range of stakeholders, addressing concerns about the relative lack of inclusion of the MSC.

Dialogue coordinators use a true multi-stakeholder approach by bringing together producers, retailers, buyers, non-governmental organizations, academics, government officials and others to identify and agree on specific impacts and how to address those impacts with science-based metrics oriented at performance. (Villalon 2008)

All conceivable parties from around the world were involved in the 'Aquaculture Dialogues'. For example: fish farms, the fish processing industry, supermarkets and food service providers, NGOs, government organisations and scientific institutes...In the future, this group of stakeholders will also remain affiliated with the continuously developing process of responsible fish farming that ASC strives for. (Aquaculture Stewardship Council)

While the Dialogues set out to establish a 'gold standard' of aquaculture certification, without a first mover advantage, the coordinators had to react to ENGO peers pointing to improvements in the competing BAP standards. At the same time, those managing the BAP process had to constantly look over their shoulder, as the Dialogues slowly ground through their consensus-driven process over the course of eight years.

I think the governance changes that happened in the BAP program actually pushed ASC to improve their communication and governance, which is exactly what our intent was...if BAP is terrible and you're saying you're good, then we're going to use these standards to push you and ensure that you are good. And likewise, hold up the ASC standards as they were developing...as an example of what they really should be doing. So we played them off each other. (NGO-Alder)

We will fund groups to challenge the ASC and make sure they're holding them accountable. We want credible systems out there. We don't care if it's industry doing it well and NGOs not. We'll force that conversation to happen...There doesn't need to be [just] one way. But we need that, again that trajectory effect, where...it's headed in the right way, that it's not static...we need a little bit of creating the right dynamic, so we can see this issue advance...We want all boats to rise; we recognize not everybody is going to work the same. (NGO-Rowan)

The core things we're going to be pushing for [are] stakeholder involvement, transparency, participation, continuous improvement, and impact, how you measure the impact. That's something we're all struggling with, but we need to keep pushing for it and getting better at it. (NGO-Rowan)

These myriad attempts by ENGOs to work through and with new partners and to build market capacity for change received funding from the Packard Foundation. The mainstream industry reacted angrily when it became known that the many ENGO activities targeting seafood received most of their support from just two foundations.

Most of the anti-seafood messages, whether they target farmed salmon or commercial fishing, can be traced back to the Pew Charitable Trusts or the Packard Foundation...From designating marine-protecting areas to designing and supporting consumer “watch” lists to challenging fisheries-management decisions, Pew or Packard has a hand in it...Our Top Story may make you feel even more paranoid, but at least now you have proof that it’s not delusional paranoia. (Seafood Business, March 2004, p. 22)

Demand-side interventions were of special interest to the Packard Foundation.

Thomas Wych had moved from WWF to a position as program officer at the Packard Foundation in 1999, where he set out to develop a portfolio of what were essentially demand-side experiments.

They were looking for new things to invest in and I said to them, “Okay, I’ll come and work for you and let’s invest in demand side, market based conservation”...Packard Foundation funded and helped launch the entire sustainable seafood movement, including Seafood Watch, the consumer stuff, the B2B stuff, the certification, the eco-label...I made a few grants to get started on the supply side stuff, but I was more interested in the demand side because I thought that’s where the real power is. (NGO-Wych)

SeaWeb was part of the Packard portfolio, and after their ‘Give Swordfish a Break’ campaign ended, they wondered, ‘What are we going to do with all these chefs?’ They decided to create a subunit, the Seafood Choices Alliance, to keep chefs engaged in the sustainable seafood movement.

We wanted to again see them move on that sustainability continuum—because some of them were willing to do swordfish, but they still would have other red-listed species on the menu. So it was an example of, if they do one right thing, they’ll do more. (NGO-Osier)

As a communications-based ENGO, SeaWeb also thought it was important to share what they had learned with other ENGOs working on the issue. They held their first ‘Seafood Summit’ in 2002.

Our first Summit was really about making sure that the environmental community knew what we learned from this Give Swordfish a Break campaign, and the fact that we had all these chefs ready to go, if we would talk about fisheries as seafood and not protecting fisheries. (NGO-Osier)

The Summit became an annual event. The first year, the primary purpose was to bring ENGOs working on sustainable seafood together to share ideas. By 2003, they began to include selected representatives from industry. Some of those industry representatives came as guests of their ENGO partners, but others were producers with sustainable operations.

We started realizing that the chefs, in order to move on that continuum, they needed some resources. So we created a supplier's guide for them [2003], so that...they'd have the answers of where to go to get the environmentally friendly or the sustainable seafood...So then that brought the suppliers in, and then other buyers. (NGO-Osier)

In 2004, they began to allow journalists to attend, though only as observers. While the movement had gained support among a few industry leaders, there was still a great deal of mistrust between the mainstream industry and the ENGO community.

6.3 Diffusing material practices, embedding the new logic

The third epoch began in 2006 and is presently ongoing. The shift from the second epoch to this third one came about abruptly, due to a critical event that engendered market consolidation around the new logic: Reputational concerns caused the leading North American retailer to change its seafood procurement policies, and other retailers followed suit. The decision to add sustainability to retailers' purchasing specifications for seafood resulted in rapid diffusion of the material practices developed in the second epoch. Though it remains unclear whether the dominant logic of inexhaustibility has been permanently vanquished, what is clear is that the new logic of collapse and scarcity is rapidly becoming institutionalized, as production techniques and capital investments are made in accordance with the new logic, materially embedding it in the supply chain. Further support for the new logic derives

from the widespread uptake of cognitive process norms and logics developed as part of the second epoch's push for governance standards.

Scientific papers published during this period reflected researchers' growing comfort with the field's new logics. This was evidenced by their increasingly nuanced understandings of the global state of fisheries and their expanding ability to extrapolate systemic trends.

During this epoch, government continued to lose credibility among the field's other stakeholders. Much governance took place privately, the result of collaborative efforts by industry and ENGOs. This development created a need for a different kind of capacity, relational capacity, requiring an additional round of sensemaking on the part of participants who had started out as adversaries. As ENGOs began to see evidence that their new institutionalized norms and logics around sensemaking were becoming embedded among the industry's retailers, they began to devolve to them some of the work related to increasing material capacity. This study ends at what may turn out to be the early days of a new epoch, as industry stakeholders begin to replicate ENGO solutions, according to ENGO standards, allowing ENGOs to turn their attention toward less accessible fisheries and less tractable problems. Yet evidence also suggests that the old logic of inexhaustibility has not been vanquished, but persists among producer nodes in the supply chain: here, buyer power has succeeded in forcing material compliance with the new logic, but cognitive and emotional commitment to the new order may only be nominal.

6.3.1 The mass market: Embedding the logic through material practices

The big old dinosaurs of seafood processors...try to stop conservation measures wherever they can....[but] they don't have as much clout as they used to...because sustainability has really taken over. It's bypassed them. Now they have to go along with that; they don't have much of a choice. (NGO-Wych)

In 2006, the sustainable seafood movement reached a tipping point when the world's largest retailer, Walmart, announced it was setting a target date of 2011 to achieve a goal of selling 100-percent independently third-party certified wild seafood and farmed shrimp in its US stores. With this decision, Walmart brought its tremendous supply chain power to bear on the fragmented seafood industry whose global nature prevented effective governmental regulation, and which had long resisted voluntary reform. This was a critical event in the sustainable seafood movement, not only due to the huge volumes of product that would be involved, but because it signaled a new era of corporate engagement, in which commitments by major buyers would be motivated as much by, if not more than, reputational or mimetic concerns, as by the desire for a price premium, reduction of business risk arising due to supply scarcity, or some other perceived first mover advantage.

The move was part of a strategic initiative by Walmart in the face of reputational damage that was believed to be affecting the company's bottom line; however, the reputational damage Walmart sought to stanch was not related to seafood, which had yet to attract significant media attention or consumer pressure. By 2004, Walmart was facing more lawsuits than any other corporation in the world, and its name was associated with labor irregularities, zoning problems, and environmental impacts. Between 2000 and 2005, the stock price of the company had fallen 27 percent, a drop company executives attributed at least in part to investor anxiety about the firm's

deteriorating public image. Revenues had been affected, as well: Sales growth had slowed by half, and a report on consumer survey results prepared for Walmart by McKinsey & Company showed that anywhere from 2 to 8 percent of the company's customers, up to 14 million people, had stopped shopping at Walmart over 'negative press they have heard' (Barbaro 2005). McKinsey advised the company that repairing its reputation would require more than public relations savvy; Walmart would need to "take a proactive stance: shape the external debate by becoming a role model on a significant societal issue" (Humes 2011). The company had been repeatedly attacked on a wide range of social issues, but had received less public attention to its admittedly problematic environmental record. This led CEO Lee Scott to conclude they would have the greatest latitude to build a positive reputation if they concentrated on 'greening' (Humes 2011).

The company turned to an environmental NGO, Conservation International, for guidance on achieving the new goal of environmental leadership. Preliminary audits revealed that company operations accounted for only about 10 percent of Walmart's environmental impacts; the rest of the impacts were to be found in their products' supply chains. By this time, Walmart was deriving a large proportion of its revenues from its burgeoning grocery operations (it was already the leading grocer in the US), and declines in global fisheries had emerged as an area of concern in the preliminary examination of environmental impacts associated with their food products. Each year, Walmart purchased \$750 million worth of seafood, and buyers had begun to notice that scarcity issues were having negative effects on their sourcing quality and reliability. In 2006, Walmart announced the results of the seafood sustainability team's deliberations, adding MSC certification to its purchasing specifications for wild

caught seafood, and BAP certification for farmed shrimp¹³ (Humes 2011). According to the founder of the MSC, the company's poor reputation on social issues ensured other firms' uptake of the standards: "Once that happened, the entire retail sector in the United States had to follow suit because nobody wanted to be less progressive than Walmart...You get them and you get everybody" (NGO-Wych).

After Walmart's announcement, the tenor and content of the *Seafood Business* editorial column changed dramatically where seafood sustainability was concerned.

Committing to sustainable seafood was no longer considered undesirable or even optional; now it seemed imperative. The reaction paralleled that of the activists, as the editor noted the likely ramifications for the supply chain and for competitors.

Six years ago I thought it would take at least a decade to see any progress on the sustainable-seafood movement...But the movement is gaining traction a lot faster than I anticipated, and it's largely because of Wal-Mart...the retail giant will find no shortage of vendors...companies that were dodging the sustainability bullet will have to face it sooner rather than later if they want to sell to Wal-Mart. Further, any retailer that wants to survive will have to develop a sustainable seafood program to compete against Wal-Mart for eco-conscious consumers. (Seafood Business, March 01, 2006)

In November of that same year, an academic paper by an international team of a dozen scientists, led by Boris Worm, made headlines around the world with its dire findings. The opening sentence of the New York Times story, "Study Sees 'Global Collapse of Fish Species'", summarized succinctly the way most media covered the story: "If fishing around the world continues at its present pace, more and more species will vanish, marine ecosystems will unravel and there will be 'global collapse' of all species currently fished, possibly as soon as midcentury, fisheries experts and ecologists are predicting" (Dean 2006). The newspaper article emphasized the

¹³ At the time of the announcement, shrimp represented the only aquaculture standard.

shocking urgency of the problem with a dramatic description of the lead author's discovery.

Dr. Worm said he analyzed the data for the first time on his laptop while he was overseeing a roomful of students taking an exam...when he extrapolated the data into the future "to see where it ends at 100 percent collapse, you arrive at 2048..." The hair stood up on the back of my neck and I said, "This cannot be true," he recalled. He said he ran the data through his computer again, then did the calculations by hand. The results were the same. (Dean 2006)

Walmart's move thus seemed all the more prescient, and at year-end, the *Seafood Business* editor's list of 'things to be thankful for' included the retailer's commitment.

Take this opportunity to be thankful for...Retail and restaurant chains continued to focus on sustainable seafood. Wal-Mart pledged to buy all of its wild seafood from fisheries certified as sustainable under the Marine Stewardship Council's standards. (Seafood Business, 1 December 2006)

Yet, timely as Walmart's announcement was, even the industry was suspicious that Walmart's decision might be mere 'greenwashing'.

What remains to be seen is whether Wal-Mart and others are simply paying lip service to sustainability...Let's hope for the sake of the seafood resources at stake that Wal-Mart and its vendors have chosen a sustainable seafood program that works. (Seafood Business, 1 March 2006)

Concern from consumers would have explained Walmart's move, but throughout this epoch, even as more retailers joined the movement, there was little evidence of sustained interest in the issue from the public.

It's clear the tide of supplier acceptance has turned, and now buyers are struggling with how to convey sustainability information to consumers who want it without overwhelming those who have no clue—or who don't care—what it means. (Seafood Business, 1 April 2010)

Some gave credit to Corporate Social Responsibility as a motive, among them, the Walmart executive responsible for the retailer's commitment.

From my retail background I know consumers aren't confused, they aren't paying any attention to this at all...This is a CSR [Corporate Social Responsibility] issue. At least

in the US, there is no huge footfall of customers storming the customer service desk. (observation, SS2010)

According to the editor of *Seafood Business*, that was the general belief in the industry.

The industry assumption has been that, up until now, the drive toward sustainable fisheries and products is due to corporate social responsibility...the average consumer isn't screaming at his/her local seafood store or restaurant about their seafood purchasing habits (Whole Foods Market customers excluded). (Seafood Business, 1 February 2010)

But, as other firms joined the movement, some credited their actions not to Corporate Social Responsibility, but to the promises that the public already assumed were embedded in their brand, like this supermarket executive:

We're where the rubber meets the road for the consumer. They come to our stores because they trust us. We don't flaunt our food safety, that's expected. I think sustainability's going to become similarly expected. (observation, BSS 2010)

In this interpretation, adding sustainability to their seafood procurement policies was necessary to avoid damage to their brand, a serious business risk, and that was sufficient reason for such a move.

It's really all around risk management, risk to their brand. They put on a great CSR front...but at the end of the day it's all about risk management...in the US at least, I think the consumer, when he goes into a supermarket he expects certain things. He expects the seafood to be sustainable and he expects it to be safe...[a brand] represents all that, they stand for that. So I'm not as concerned that the consumers aren't totally embracing it. (IND-Ash)

The seafood industry had not infrequently attracted negative publicity due to contamination incidents, particularly during the second epoch, and this had damaged the industry's reputation.

Sustainable seafood really comes down to trusting not just a product, but the company behind it. It feels contradictory to use "trust" and "seafood" in the same sentence. But if the industry is going to move forward on the sustainable seafood front, trust is exactly what is needed. (Seafood Business, 1 June 2008)

Yet, in spite of these business incentives, retailers were slow to make concrete commitments to sustainable seafood in the immediate aftermath of Walmart's announcement. In particular, and in contrast to major food service firms, only a few supermarkets (Ahold's US chains, Wegmans, and Whole Foods) had added sustainability to their purchasing specifications by 2008. The tide began to turn, however, when Greenpeace published its first US supermarket scorecard¹⁴ that year, a league ranking exercise that evaluated US supermarket chains on a variety of dimensions, including sale of 'red list' seafood, engagement with conservation initiatives, transparency of supply, and internal policies in support of sustainable procurement (Greenpeace). The industry reaction was surprisingly positive.

While some will say this is pandering to what has been called an eco-terrorist group, score 1 point for Greenpeace for bringing retail sustainability programs to the forefront. Some retailers may not move forward...unless they're held accountable. Several large foodservice companies have unveiled purchasing programs geared toward sustainable seafood, but where have the large supermarket chains been? Aside from Wal-Mart, the retail arena has remained relatively quiet on the topic. If that job of accountability has to be at least started by Greenpeace, so be it. (Seafood Business, 1 July 2008)

Greenpeace had a more radical agenda than most of the ENGOS working on seafood sustainability. The more moderate ENGOS, for example, had begun working from the premise that the message about what seafood should be avoided needed to be coupled with a message of preferred alternatives.

We've learned that it's important for people to have an alternative...So again you're not taking something away from people, you're just providing them with some options that they could choose from, and it'll be better for them and for the ocean. (NGO-Osier)

¹⁴ This so-called 'rank and spank' technique replicated a similar report Greenpeace started in the UK in 2005.

Greenpeace did not endorse the MSC or any other certification program, and it did not provide a ‘green list’ of species that could be used as alternatives to ‘red list’ species.

*Greenpeace only wants to talk about a red list and they want to talk about the reddest of the red, what are the worst things that you absolutely should be staying away from.
(NGO-Acacia)*

Nevertheless, in spite of these differences in their approaches, the more moderate ENGOs recognized the value of the league rankings: “Greenpeace plays...a hugely important role in getting the laggards to go along” (NGO-Wych).

The momentum was really boosted by the first supermarket league tables...suddenly sustainability and seafood became competitive [when] they [supermarkets] were going to be publicly bashed or lauded depending on where they were on the list. And while some companies may know that they are never going to be number one, they certainly don’t want to be the last. (NGO-Acacia)

Table 6-5 shows the Greenpeace rankings over the years; surprisingly, quite a lot of movement can be seen by firms like Safeway: “A company like Safeway...their brand is not about sustainability...The fact that they [Greenpeace] rate them top of the list is huge for them, to keep them engaged” (NGO-Osier).

Table 6-5 Greenpeace supermarket scorecard rankings, 2008-2012 (Greenpeace 2012)

Rank	2008	2009	2010	2011	2012
1	Whole Foods	Wegmans	Target	Safeway	Safeway
2	Ahold USA	Ahold USA	Wegmans	Target	Whole Foods
3	Target	Whole Foods	Whole Foods	Wegmans	Wegmans
4	Harris Teeter	Target	Safeway	Whole Foods	Harris Teeter
5	Walmart	Safeway	Ahold	Ahold	Target
6	Safeway	Harris Teeter	Harris Teeter	Harris Teeter	Aldi
7	Wegmans	Walmart	A&P	Aldi	Ahold
8	Kroger	Delhaize	Delhaize	A&P	Delhaize
9	Aldi	Kroger	Walmart	Price Chopper	A&P
10	Costco	Costco	Trader Joe's	Delhaize	H.E. Butt
11	A&P	Aldi	Price Chopper	Costco	Price Chopper
12	Giant Eagle	A&P	ALDI	Trader Joe's	Walmart
13	Publix	Supervalu	Kroger	Walmart	Costco
14	Winn-Dixie	Giant Eagle	Costco	H.E. Butt	Giant Eagle
15	Delhaize	Publix	Supervalu	Kroger	Trader Joe's
16	Supervalu	Winn-Dixie	Giant Eagle	Giant Eagle	Kroger
17	Trader Joe's	Trader Joe's	Publix	Publix	Meijer
18	Meijer	Meijer	Winn-Dixie	Supervalu	Supervalu
19	H.E. Butt	Price Chopper	Meijer	Winn-Dixie	Publix
20	Price Chopper	H.E. Butt	H.E. Butt	Meijer	Winn-Dixie

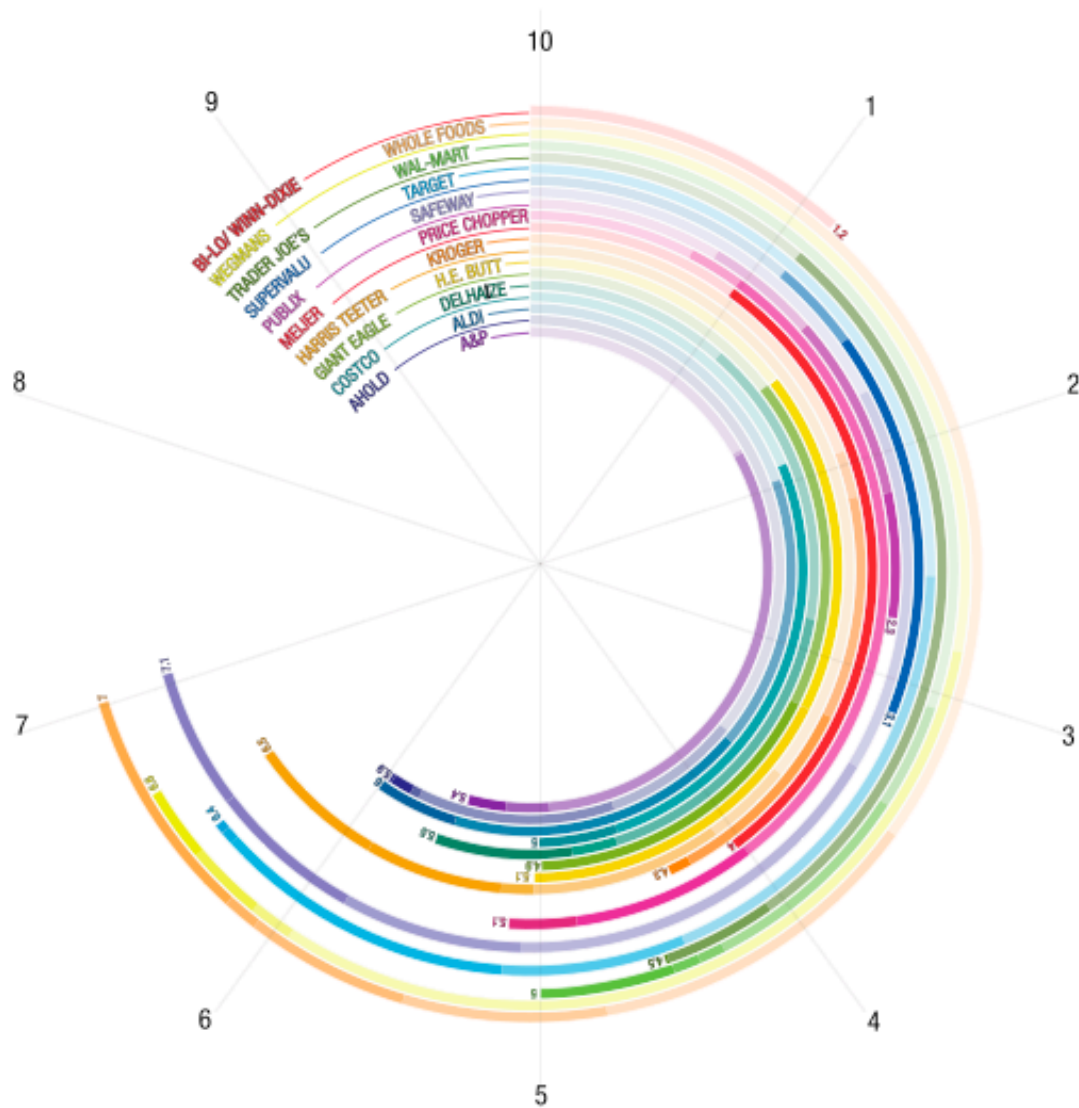
More evidence of the supermarket scorecards' influence can be seen in Figure 6-3, from Greenpeace's 2012 report, which shows that all the retailers' scores improved during the period between 2008 and 2012, whatever their ranked position¹⁵.

¹⁵ The highest score possible on the Greenpeace list is '10'; the numeric scores on this figure are depicted clockwise.

Figure 6-3 Greenpeace 2012 comparison of supermarket progress (Trenor 2012: 9)

An Industry Snapshot: Individual Retailer Progress

The 20 CATO retailers are marching towards seafood sustainability at vastly different paces. The graph below serves to illustrate their respective progress. Color intensity denotes change year-by-year, starting with the faintest (representing scores in 2008) and deepening each year until reaching their most intense hue (representing current scores.)



As supermarkets recognized the business risks involved in their current seafood sourcing policies and, as a result, began to add sustainability to their procurement specifications, they discovered that the seafood supply chain was much more opaque than most of their other products. Even Walmart, a company well-known for its

exacting control over its supply chain, had limited knowledge about the sources of its seafood products. This was a reality that many buyers faced as they tried to reform their purchasing.

You've got these really sophisticated companies with sophisticated systems and then you have the seafood in the company, and it's not on the same system. (NGO-Rowan)

An industry veteran described the conversations he often had with retailers and branded producers as he tried to work with them on their supply chains:

"Where has that fish come from?" "We get it from China." "No you don't. They don't grow that, or they don't catch that in China." "Well, their processing plant." "Okay. So where do they get it?" "Oh, we don't know." That was pretty much the rule, just no clue...it's only when you have that clear vision of the supply chain that you can begin to act. (IND-Ash)

As more and more major corporations made the commitment to sustainable sourcing, some ENGOs stepped in to work with buyers directly.

We actually ran what we called the 'Disney dialogues', where we brought in Darden and Disney, and Walmart, and a couple of other companies, and had sort of behind-the-scenes negotiations and discussions of lessons learned...we picked three or four seafood choices...Then, [talked about] how are we going to address the need, your commitments, and whether or not your suppliers can get you what you need. (NGO-Osier)

The ENGO/industry partnerships pioneered by the New England Aquarium, the Monterey Bay Aquarium, and EDF became the norm, as retailers came to realize how little they knew about their own supply chains, and how complex it was to translate a theoretical concept, 'sustainability', into material practices in the production system.

Industry leaders...repeatedly mention partnerships are critical...Establishing a sustainable seafood program undoubtedly means working with an outside organization for advice. There is no one-size-fits-all sustainability road map for companies to refer to. Most companies that have gone through the process have turned to conservation groups for help. (Seafood Business, 1 November 2008)

6.3.2 *Developing a new form of capacity: Relational standards*

If you asked me 10 years ago whether the seafood industry and conservation sector would be able to work together to move the sustainability issue to the forefront I would have said, "No way, no how." I'm glad I was wrong. (Seafood Business, 1 November 2008)

Conducting working relationships with recent adversaries required the construction of a new and different sort of capacity; while sensemaking in the second epoch focused on building capacity around technical and governance standards, sensemaking in this third epoch has revolved around developing and implementing a set of relational standards to guide individuals representing different stakeholder groups in confrontations that have the potential to become emotionally charged, threatening the viability of stakeholders' shared projects.

This was a new frontier for both stakeholder groups, and there was mistrust and suspicion on both sides. An initial rapprochement developed in 2000, in the middle of the second epoch, when a 30-year veteran of the mainstream industry, a well-respected consultant and author of an annual report on the state of the industry, wrote an essay directed at his peers.

I wrote a piece for an online internet news service drawing attention to the fact that this sustainability initiative was not going to end, and that I thought there was a need for industry to begin to understand what it is the NGO community was asking for. And on the other hand, I didn't believe that the conservation community or the NGOs really understood the industry and what they were capable of doing. (IND-Ash)

This caught the attention of Thomas Wych, by then a program officer at the Packard Foundation, who could see the value of learning about the business from an expert:

He [Ash] had written... "Maybe we should work with the conservation movement. Maybe they're not evil after all. They have a point, because a lot of fisheries aren't very well managed and they've collapsed. We need their help to make this industry more sustainable, so maybe we should sit down and work with them"... Very progressive, ahead of his time...he knew more about seafood than anybody I knew, and so I said, "[Jeff],

you've got to work for me. I need you to help me understand this industry and help all of our grantees become more effective at working with this industry". (NGO-Wych)

Ash agreed, but, knowing that he was setting himself at odds with the mainstream industry and still uncertain the NGO community could be trusted, he set conditions.

He said, "I'll work for you, but you can't use my name"...he was afraid he would lose all of his industry clients if he worked for me. (NGO-Wych)

[I said,] "Look, I'm not going to tell you how to bring the industry down, all I'm going to do is help you understand them so you can begin a better dialogue". (IND-Ash)

A short time later, SeaWeb repositioned itself, distancing itself from the traditional ENGO advocacy role. They were influenced partially by the negative downside of their successful 'Give Swordfish a Break' campaign.

It was a very hard-edged advocacy campaign...we've found that that approach doesn't necessarily buy us any friends in working with the industry for the long-term, because they saw us just like any other NGO out there...we realized that's not the best reputation to have...within the industry if you want to get them to come to the table...So we backed away from that hard-edged lobbying. (NGO-Osier)

SeaWeb viewed its role as 'conditioning the climate for change', working through the media as well as through intermediaries like chefs. The organization's revised positioning emphasized the role it would come to play in brokering relationships between the business community and the ENGO community.

For us...it's all about the relationships and building trust...we try to approach people where they are in terms of their placement on the sustainability or the environmental or conservation continuum, and not where we want them to be. (NGO-Osier)

This was based on a pragmatic consideration based on past experience.

If they are forced into doing something because they've been targeted by an NGO...[and] because they don't like the bad PR, or because they've been sued...or because Congress imposed something, as soon as the watchdogs aren't looking, or as soon as Congress changes...then they're going to go back to their old ways of doing things. (NGO-Osier)

While communications-based, SeaWeb saw its role as transcending simple public relations, a superficial task of media management, but instead as a social broker.

It is about the science of social marketing...But it's also about integrating the psychology, all of the social sciences as well as the economics, and understanding drivers of human behavior...different pathways to get people to change their behaviors...multiple different drivers of change...it's all the 'science of communication'. (NGO-Osier)

SeaWeb, too, utilized Ash's expertise, hiring him to write a sourcing guide for chefs, thinking the example might convince other ENGOs that working in tandem with industry could work.

One of the things that...helped people see that [Jeff] was not the enemy was we hired him to do that sourcing seafood guide [published in 2003]...We said, "Show people that you have all these relationships with the sustainable seafood suppliers, and then that...will help the NGOs feel more comfortable". (NGO-Osier)

Ash was one of the first representatives from industry to be invited to attend a Seafood Summit in the event's early years, before it was opened to the public. However, ENGO suspicion of industry was still so engrained at that point that Ash was asked to leave the room after he finished his own presentation. Journalists from the trade press received the same treatment. Representatives of ENGOs were worried about negative consequences if outsiders heard their discussion.

The same thing with...the first journalist that we allowed in to observe, and people were like, "What's he going to say about us?" (NGO-Osier)

Individuals within the ENGO community worried about how to perform their changing organizational roles before members of industry and the press.

They weren't really sure what they were feeling, and if they said something, would they look stupid in front of their peers, or would they be pushing their own organization further than maybe their board or CEOs wanted them to go in terms of some of the shifting? (NGO-Osier)

The Seafood Summit first opened its doors to the general public in 2006, and it attracted a diverse audience of "scientists, policymakers, charitable foundations,

conservation organizations, certification bodies, food wholesalers and retailers, chefs and restaurateurs, fishermen, and fish farmers” (Seafood Choices Alliance 2006).

Walmart, WWF, and the MSC issued a joint press release two days before the summit opened, announcing Walmart’s decision. McDonald’s, Tesco, Darden Restaurants, Xanterra Parks & Resorts, Marine Harvest, and food service company Bon Appetit made similar announcements at the event that year. The following year brought 275 attendees, including representatives from four major supermarket chains: Harris Teeter, Kings Supermarkets, Publix Super Markets, and Winn Dixie Stores. While much of the mainstream industry was still on the sidelines, it was clear that interest was growing.

Not a day passes without someone calling or e-mailing me about sustainable seafood. (Seafood Business, 1 March 2007)

The editor of *Seafood Business* also attended the 2007 conference and praised its cooperative spirit.

In January, I attended the Seafood Choices Alliance Seafood Summit for the first time and was pleasantly surprised to see so many seafood companies and non-profit groups in one venue. This would have been taboo in 1997, when the World Wildlife Fund and Unilever launched the Marine Stewardship Council. Clearly, a lot has changed in the past decade...For many years, the industry and NGOs have had competing views of what sustainable seafood means. (Seafood Business, 1 March 2007)

The 2008 summit attracted 350 attendees. At this point in the epoch, Walmart had mobilized its supply chain to change its production practices, and numerous other food service companies and retailers had made commitments to sustainable seafood. Greenpeace had published its first supermarket scorecard. Few if any industry firms had in-house capability on greening a seafood supply chain, so the demand for ENGO guidance had increased and was perched for further growth. As the ENGOs began working in partnerships and participating in summits, it became apparent that

there was significant variation in their approaches and guidelines. As the primary source of funding for most ENGO work on this issue in the US, the Packard Foundation stepped in and asked that the ENGOS set up a formal system of dialogue within the community, with a goal of establishing some core principles to guide their own consulting work with industry. The need to better coordinate the activities of the ENGO community was recognized early in the rush toward industry/ENGO partnerships; at the time the alliance was founded, the discussion “was very philosophical because at that point...there were no companies calling NGOs back” (NGO-Rowan).

[We said], “it’s not going to be productive for any of us if you don’t get to that place—we can’t move this issue forward, and we certainly don’t want our investments neutralized...You all need to establish what’s going to be the baseline of acceptance on how NGOs step into this space, because you’re all going to be here for a while”. (NGO-Rowan)

The foundation was unique among funders in its support of ENGOS’ direct engagement with business.

The partnership approach with companies and NGOs being advisors...can often be seen by advocates as a sell out...We’re actually agnostic, we really feel that they are of value...We’re not dogmatic about one solution and one way forward. (NGO-Rowan)

The Conservation Alliance for Seafood Solutions was started in 2008, and differences among the ENGOS were clear at the early meetings.

Certain groups at the table represented large international NGOs, so their perspective or domain was quite global...Others were very geographically based, and only working in maybe one market or one country...Others were only looking at buying...It was sort of like the ‘feel the elephant’ thing... It was really clear to me people were seeing different systems when they were speaking, when they were coming in the room. (NGO-Rowan)

Within the larger ENGOS, even intra-organizational communication was problematic.

Very often the policy strategy might be going about criticizing or putting in place regulations or laws that would affect some of the market-based agreements that were being developed that are voluntary and that are way different. It was like, “You guys, come on, you’ve got to talk to each other within your own organization, never mind across the organizations”. (NGO-Osier)

The Packard philosophy was that a variety of approaches was best: “We didn't want a single NGO, otherwise we would have funded that” (NGO-Rowan). However, the program officer did believe that the ENGOS receiving their support should understand the foundation’s commitment to experimentation, and believed that could only come about through dialogue.

They don't all see eye to eye...[but] there's a lot more respect and understanding than there was in the community before, and there is an appreciation for different approaches...People have got to want to do it...It's not going to be because a funder says you have to do it. (NGO-Rowan)

It was important to the program officer that among the ENGOS receiving foundation support, there should be some agreement on core principles. Increasingly, the importance of communication was becoming evident, within the ENGO community itself as well as across the industry/ENGO boundary.

What this collective [does]...the minimum, the bedrock...is it offers them a space for some honest dialogue. They need that. (NGO-Rowan)

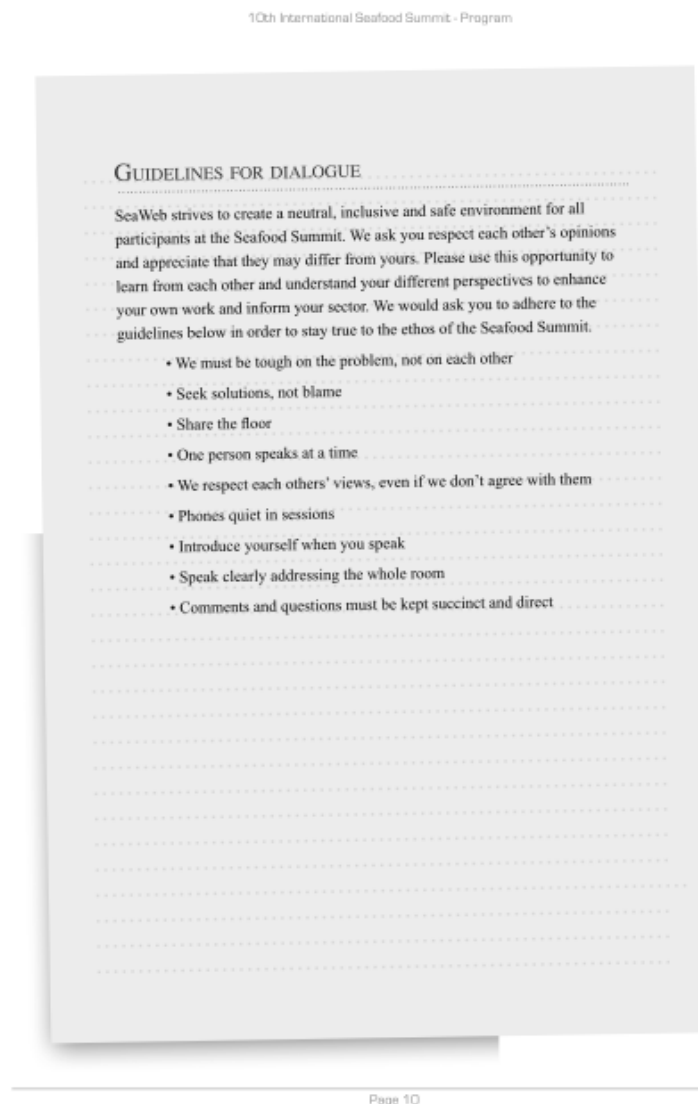
One of the benefits the alliance provided to firms seeking ENGO partnerships was a matching service, so within individual partnerships brokered through that means, assuming that an appropriate ENGO had been partnered with the business, conflict could be kept to a minimum. In contrast, the Seafood Summits attracted a wide and disparate audience, assembled with the express aim of fostering discussion, debate, and dialogue through plenaries, presentations, and panels.

What we’ve learned now, to really effect change, you have to have all those players at the table. It’s the NGOs, and industry, and the media as the communication vehicle, and the scientific community to ensure integrity of the system...more good comes out of

collaborating and bringing disparate people together to resolve problems than just sitting throwing darts at each other and suing or throwing accusations. (NGO-Osier)

Because the audience is so varied and the topics so volatile, the Summit organizers insist that participants adhere to a set of explicit guidelines, printed on large posters and displayed on easels at the front of every meeting room; see Figure 6-4. “The rules are important to repeat each time...you need to just make sure that there is room for opinions that might not necessarily agree with your own” (NGO-Osier).

Figure 6-4 Seafood Summit code of conduct (SeaWeb 2012) (p. 10)



To participants, sometimes the rules seemed unnecessary, even counterproductive.

Clearly we're grown-ups you know, it does seem a little bit childish, it's like, "Children, now behave, sit down, speak politely". (IND-Blackthorn)

But upon reflection, usually even they could see their value.

Maybe there were some sessions which were heated... I heard there was a hot one on oysters of all things¹⁶...maybe that's what it's there for. Maybe it's just a fire extinguisher. (IND-Blackthorn)

The organizers, too, see it as a sort of fire extinguisher.

There have been a couple of times where people have been a little accusatory of each other, and used tactics that would not necessarily be conducive to dialogue. So we've said, "Here's the rules, you know what the rules are, this is not consistent". (NGO-Osier)

'The rules' seem to have been theorized into more general principles of good faith that apply outside of the meeting rooms themselves; they are readily called upon to handle unusual situations which arise, most often due to the conference participation of representatives of the more radical ENGOs.

[In 2011] Greenpeace set up a wireless access. It said, "Seafood Summit participants, free wireless access"...Then they'd click on it and it was this entire bashing of Costco...obviously not consistent with what we were trying to do. And so we knew who did it, and we talked to them, and they took it down right away. (NGO-Osier)

The communications-oriented organizers even attempted to use such breaches to further dialogue between adversaries.

The good thing was there was a lot of misunderstanding between Greenpeace and Costco at that point, and we got them to sit down and talk to each other as a result of that. (NGO-Osier)

Other material aspects of the conferences support the spirit of business-like collaboration. The summits are held in upscale conference hotels, and to all

¹⁶ This reference was to farmed oysters, one of the few aquaculture products that normally generates no controversy.

appearances could be any business meeting, with nametags, totebags to hold attendees' conference papers, catered breaks, visits by local dignitaries, and, when set in non-English speaking countries, as they have been for two of the last three years of this study, translators and headsets. Most attendees, including even those representing the more radical wing of the movement such as Greenpeace, dress in suits or other business-appropriate attire. At luncheons, where participants are encouraged to mingle, donations of sustainable seafood are spotlighted and celebrated. Receptions include a generous bar service, and more sustainable seafood. The celebratory atmosphere at the opening reception is further enhanced by the announcement of the year's nominees for the organization's prestigious 'Seafood Champions' award.

Even so, and even with the rules visible in each room, sometimes tempers flared, particularly if a representative from one of the more radical ENGOs pushed hard enough, as had occurred when an executive from a major branded seafood producer exploded: "I've invested a lot in MSC, I'm tired of Greenpeace knocking good work!" (observation, SS2010).

Aquaculture representatives in general seemed to feel alienated. A former Seafood Champion¹⁷ who had gone on from his position at Walmart to work with the industry certification of farmed seafood, BAP, began his remarks at a closing plenary by saying, "I'm here as the red-headed stepchild, I believe" (observation, SS2010). 'The rules' exist mostly to keep industry in the room, but they also have maintained a certain level of comfort for those representing standards that are not well-respected within the

¹⁷ He received the award for his work at Walmart, leading their commitment to sustainable seafood.

ENGO community, including BAP and Friends of the Sea. One representative of an aquaculture standard described his reason for attending, which drew on his organization's fears of being seen as lacking legitimacy and the impact that would have on their attempts to gain market share, and at the same time, reflected the taken-for-granted legitimacy of the ENGOs at that point, in 2012.

The fact [is] that [by coming here] retailers can see that [we are] engaged in the debates. The fact that they can see that [we are] not hounded off the stage, that we're part of a dialogue process, gives them confidence that our program is part of the solution. Retailers are very nervous about image and reputation and they want some kind of assurance system, and if they consider that [our group] is kind of unwanted or unappreciated, or just nobody wants to talk to them...then our program will have no credibility. You see they're [the ENGOs are] quite rude with [a representative from a different standard], and he suffers the same thing, but more extreme because he's less liked by NGOs than [us], so he struggles to get his program acknowledged at these events. (IND-Blackthorn)

Newcomers from industry frequently had to overcome fears of confrontation, and, by 2012, were often convinced by testimony from their peers who could vouch for the summit being a 'safe space'.

They tended to put SeaWeb in the same camp as some of those other NGOs, and it took a long time to build that trust and the relationships and get them to return our calls...probably 99% of the credit I would give to our other industry colleagues who were willing to step up for us...to say, "SeaWeb is different...We have a business relationship. Let me just talk to you about my experience in these Summits and the value of that". (NGO-Osier)

Over time, the participants seemed to have internalized the guidelines more and more. Even for the aquaculturists, things were improving. After the closing session in 2012, the lone representative of the industry standard said:

Somebody else picked up on what I picked up on, which was positive talk about aquaculture...I was going to get up and make a comment and Jim kind of made it for me, so it's like right, there's two people saying it, it must be true...The tone of these conferences [has] shifted. It's more towards aquaculture as a solution, rather than aquaculture as a source of problems. (IND-Blackthorn)

This participant had come to understand that the ENGO community covered a range of views.

[The more moderate ENGOs] understand what we do, and as we explain...that we're not trying to be the elite standard, we're trying to spread best practices, so we want to be part of this issue. I think most people get it. (IND-Blackthorn)

The Summit organizer could look back with relief at the lack of interpersonal wrangling in his closing remarks to the 2012 conference:

There were a number of sessions...that could have gotten out of control, based on some of the provocative material that was being presented. But I thank you all for respecting that we all have a dialogue...it really is a testament to you all for maintaining a safe space and neutrality. (observation, SS2012)

By attending to interpersonal relationships and establishing norms about behavior, the conference helped bring stakeholders to a point at which, instead of prolonged discussion about the meaning of 'sustainability' in regard to seafood, which had dominated the early sessions, they could begin to talk about solutions.

The summit, in my view, is kind of the litmus test of how far this movement has come, because now you do have dialogue...and it's all pretty healthy...now you're at a point where there's more specific conversations going on about doing certain things. (IND-Ash)

The early days of the summit revolved around building relational bridges between individuals, representing their organizations. By 2012, those bridges had been fairly well established.

If you create the right forums for people to trust each other, meet each others' people, get past or get through...some of the real contentious pieces where they don't see eye to eye, they can still hang out, have a beer, understand, "We don't agree on this, but we're not trying to take you down or take you out." I get that a lot from industry. They think you're trying to put them out of business. I'm like, "You know, we actually are funding all these things on how to make your production more sustainable". (NGO-Rowan)

The movement, as an amalgamation of industry and ENGOs, was well on its way to establishing its own collective identity, asking themselves, "What are we *about?*", and

concluding that they were a team of sorts, with enough confidence in each other that they were able to concentrate on the task at hand.

I think the first decade was really about bringing the people together, and realizing the value of a safe place for discussion, where as you know we have our rules, where we're not about attacking each other, but we're really about solving some problems. (NGO-Osier)

There was a higher level of trust in each other's good intentions, and a determination to bridge gaps.

No one wants to see the ocean collapse. No one is mindlessly fishing to the bottom of the food web. It's that they don't have the right information, it's not put in the right context, or they don't have the tools to change their practices, whether that be changing fishing gear, or the tools being the science to make those right decisions. (NGO-Osier)

However, trust in the government seemed to be a casualty of the improving relationship between industry and ENGOs. Few government officials even attended the Seafood Summits, for example, and this was seen as arrogance by some.

It was the government officials who were the last ones to come to the table... they don't like being told what to do...they get lulled into the sense they're doing a really good job, and I think they also don't know what to do with this. (NGO-Alder)

Government officials were viewed by many at the Summits as obstructionists who were “not used to dealing with retailers (NGO-Alder)” and whose participation would just “slow everything down (observation, SS2012)”. Partnerships between industry and ENGOs addressed fisheries around the world, and thus the individuals involved had experience dealing with multiple governments. Their expectations about good government drew on the same governance standards they insisted upon in their certification schemes, as reflected in remarks made by one of the main consultants working on Fishery Improvement Projects (FIPs) around the world:

We're very careful to say that what we want in a government system is transparency, participation, reporting, and if that's all there, we want to run these [fishery]

improvement projects through those systems, respect the systems that are in place. (observation, SS2012)

Where governments failed to live up to those standards, they saw it as their role to implant their agreed upon governance standards.

It's when they're not there that you're going to see some private sector solutions coming in as temporary measures. That's our role. We have to implement and fill in the gaps and help build the government systems where they don't exist. (observation, SS2012)

But, while good governance was considered necessary, it was not considered sufficient. Outcomes were still critical.

Even in countries that do have these great government systems, there is always going to be a difference of opinion for when is something good enough and when should more be done...I think we're very respectful toward government, but we are going to push them to do a good job. (observation, SS2012)

At the 2010 Seafood Summit, at a panel discussion about the role for government in the movement, one ENGO representative from the audience came to the microphone during the question and answer period to say government should not have a role at all: “I think the role of government currently is to stay out of the way. They need to admit their problems and ‘seek help’ (observation, SS2010)”. In response, a member of the panel, a supermarket executive, voiced his agreement, saying, “the partnerships between NGOs and industry are ‘what’s productive’” (observation, SS 2010).

6.3.3 Stretching capacity: Embedding agency via process logics

You guys [industry] are going to be us, we're going to be on parallel paths working together. (NGO-Rowan)

As more and more retailers followed Walmart's lead, a different mimetic process began, as ENGOs' corporate partners started to identify with the movement itself. They began to work more directly with their suppliers on improving their production processes, they launched a sustainability dialogue within their own industry meetings,

and some retailers even attempted to raise public awareness by educating their customers. Gradually, they became agents of the movement within their own organizations. This had the potential to move the market exponentially, but it also raised concerns that the high standards that had been established in the second epoch would be eroded. To avoid this dilution, the ENGO community counted on industry adherence to the process logics that they had worked to inculcate within the standards. Their own capacity was stretched thin, and they were aware that more intractable fishery problems needed attention.

The fisheries that everybody knew were already sustainable...were the ones to get certified first—well, of course they did, they're the low fruit. They didn't have to do anything different to get certified. But that's just rubberstamping existing practice, right?...The MSC wasn't created to affirm what everybody already knew about Alaska salmon and Western Australian rock lobster. The MSC was created to improve fisheries. (NGO-Wych)

When Walmart announced its commitment to purchase third-party certified seafood, concern among the ENGOs had quickly mounted regarding the capacity of the MSC to produce enough certified product.

“What will happen...[if] there is not enough supply to meet what Walmart needs?”...at that point, the whole credibility around the certification and sustainability movement is jeopardized. (NGO-Osier)

The founders had always known that starting a certification program was risky and required careful control of capacity.

The challenge from the beginning was to balance demand and supply of sustainable products because if you get that out of balance either way, you're in trouble. (NGO-Wych)

The MSC had certified its first fishery, the Western Australian Rock Lobster, in 2000. By 2005, the MSC had only certified about 1.5 million tons of seafood, or a little over 1% of total world wild capture catches (Marine Stewardship Council 2009). Plagued with leadership issues during its first decade of existence, the organization had limped

along, constantly in financial trouble and dependent on the Packard Foundation for infusions of cash.

I was glad I was at the Packard Foundation in those days, because if I hadn't been, the MSC might have failed for lack of money. (NGO-Wych)

Some were confident, though, that, with Walmart's business in the balance, simple economics meant producers would rush forward for assessment.

These things are exponential...[they] go along for a number of years flat, and then all of the sudden it catches on, there's a tipping point, like Walmart's announcement, and then everybody wants to get certified...We knew that would happen because we'd seen it happen with the FSC. So we concentrated on building the demand because we knew the supply would follow. It always does. It's a law of supply and demand, so why wouldn't it apply to seafood? (NGO-Wych)

Walmart's power over the supply chain meant that those fisheries that were already being managed well had a powerful incentive to take on the expense and inconvenience of MSC certification, and many of them did. However, there were not enough well-run fisheries to meet the growing demand for certified product, and the pipeline needed to be replenished. Fisheries interested in achieving MSC certification first underwent a confidential pre-assessment. When fisheries failed the pre-assessment, they learned what changes they would need to make to meet the standard. They often needed help making those improvements, and this led to the formation of a new ENGO, the Sustainable Fisheries Partnership (SFP), that worked with the fisheries as consultants. Unlike the other ENGOs working with businesses in partnerships, this one was designed from the ground up as a consultancy. They worked with major buyers to bring their suppliers up to the level of sustainability mandated within their purchasing specifications, in consulting jobs that were referred to as 'Fishery Improvement Projects', or FIPs, later adding 'Aquaculture

Improvement Projects', or AIPs, to their portfolio. For the ENGO community, these projects were the beginning of real progress in making seafood sustainable.

Now we're getting to the interesting ones that aren't such a shoe-in, and might have to do some work to get certified...When I saw that [FIPs were underway], I thought, 'This is it. This is the most important development in a decade,' because it is what is going to connect the movement of the market to change on the water. And change on the water is what it's all about. (NGO-Wych)

In 2006, SFP hired industry consultant Jeffrey Ash, who saw a need for helping poor fisheries make the transition to certifiable ones.

Their business model was very much business to business...it was all about the kind of stuff I was already interested in doing, and that's bringing industry more directly involved in improving fisheries they were sourcing from. (IND-Ash)

Johnson felt that retailers had an obligation to help fisheries improve, rather than just dropping them if they could not achieve the new standards that had been set.

It's one thing to tell them [buyers], "Buy from an MSC certified fishery," it's another to say, "Look, you're sourcing from a fishery that's a mess, but rather than walk away from it you need to help them and you can do that through your buying power"...that's the model of the Sustainable Fisheries Partnership, we work very much with the supply chain from one end to the other to really foster improvement in fisheries. (IND-Ash)

The Walmart decision, along with a commitment that same year by Darden¹⁸, put similar pressure on the existing aquaculture standard, BAP. At the time the commitments were made to purchase only BAP-certified farmed shrimp, just 50 processing plants and 26 farms had been certified (Rosenberry 2007). Walmart required suppliers to meet BAP standards by the end of 2007, and one year later, they had made progress, but there were still only 73 accredited processors and 50 shrimp farms (Chamberlain 2008). Ramping up the certification process to ensure that

¹⁸ Darden is the parent company of several US casual dining restaurant chains, including Red Lobster, Olive Garden, and LongHorn Steakhouse.

sufficient supply would be in place to meet the needs of such huge firms strained the capacity GAA had in place through ACC. Capacity constraints hampered the effort on the producer side, as well. Both Darden and Walmart relied to a great extent on small, often family-owned and operated farms in Asia. Unlike the large, integrated farms that were typical of Central and South America, which were able to adapt easily to the certification system, these small producers were generally ill-prepared to take on the production changes, data collection, and record-keeping requirements of BAP. The GAA decided the solution to the problem was to help multiple small farms form clusters that could collectively achieve BAP certification. Changes were then made to the BAP standards to facilitate small farms' participation within cooperative clusters (Global Aquaculture Alliance 2005; Hudson 2007).

While FIPs and AIPs represented the very change the sustainable seafood movement sought, for the ENGO community they brought a new problem. The only organizations that had the necessary resources to conduct the projects were WWF and SFP, and by 2012 they were conducting as many projects as they had the capacity to run. At the same time, ENGO counterparts in industry had in many cases become true partners, and had increasing levels of familiarity with and commitment to the ENGO point of view. It seemed the time had come to tap into the much greater resources of industry, to delegate some of the improvement work to their corporate partners, while maintaining authority over how such projects were conducted.

The conservation community...is catalyzing industry to kind of do this on their own. And then the role of the NGOs or the conservation community is to...truth check what they're doing to make sure it's legitimate, maybe helping them, guiding them, advising them.
(IND-Ash)

Now we're actually getting companies to create the sustainable supply. That's a whole different impact level... "How do you wire it in to do it differently?" ...It's a much more

engaged approach...I'm not waiting for it to become sustainable and then I'll buy it. I'm going to help make it sustainable, do my part...the challenge becomes, "who is watchdogging it?"...We have to start to figure out, "What should be the norms for saying this is what it's intended to do?" (NGO-Rowan)

At the closing session of the 2012 Seafood Summit, the founder of SFP told the audience:

I'll make a prediction: This will be the last summit at which the majority of those fishery improvement projects will be linked to SFP or WWF. By this time next year they will be largely industry driven, and there will be many, many more of them. (observation, SS2012)

The reason for this, according to the speaker, was that retailers had essentially become part of the movement, pushing suppliers actively toward certification.

Why will these FIPs be industry driven? Because we are seeing a fundamental change as of this year, for the first time, with retailers systematically...asking [their suppliers] if it's not certified what are you doing to get it there? (observation, SS2012)

Yet, even though it seemed their partners on the business side had become active proponents of sustainable seafood, again the question of norms and watchdog responsibilities were invoked.

How do you tell what's a good one? How do you distinguish greenwashing? How do you ensure good progress? How do you keep them all on track? (observation, SS2012)

The speaker went on to talk about the new round of sensemaking the ENGO community would need to go through to define and standardize the improvement methodology if they were to safely delegate the improvement jobs to the supply chain. They would need to institutionalize their process logics within standards for FIPs and AIPs, so that their business partners were left only with the job of implementing, their own sensemaking constrained within the ENGO framework.

What is a FIP? What makes it credible? What are the tools? ...How do we standardize the tools? What do we learn from the ones that have succeeded? How do we replicate? (observation, SS2012)

That ENGO sensemaking exercise would need to adhere to the community's own agreed upon rules of governance.

That conversation has to be out in the public domain. (observation, SS2012)

He concluded that this direct involvement by industry would result in contestation by governments, who would see it as a threat to their sovereignty.

We are going to see as a result...more vitriolic and angry arguments and disagreements over who gets to define sustainability, and who gets to say what the fisheries should be managed for and what the objectives should be. These are national resources for the most part. No one likes having international buyers impose constraints...We're going to end up with a very interesting space, and I think you're going to see the UN and governments becoming more involved. (observation, SS2012)

Nevertheless, by teaching industry to do the work of the ENGOs, the environmental community could extend its capacity well beyond the current limits, and achieve the ambitious goals of the movement.

[We can succeed] if we can systematically push this work down through the supply chain, until it reaches the point where we have these natural leaders in every one of these issues, where that is their bread and butter, that is their business, that's what they do. (observation, SS2012)

In spite of the concerns of the ENGO community, it did seem as if at least some of their industry partners had fully internalized the sustainability mindset. At a panel discussion at the 2010 Seafood Summit, a supermarket executive described discussions he had had with his peers.

Why are you selling red list? You shouldn't even be selling it!...I say we need to be telling the other side of the story, retailers, telling consumers what is being done that's bad. That's why I'm saying, "Show red/yellow/green and then get red off the shelves". (observation, SS 2010)

More evidence that sustainability was becoming embedded within mainstream industry came in 2010 when the International Boston Seafood Show added a 'sustainability track' to their conference along with the existing two tracks. The

presentations and discussions in this track were similar to the kinds of offerings at the Seafood Summit. At a panel discussion at that conference, retailers spoke of engaging their customers on the issue, saying, “Even if customers aren’t pushing us, sometimes we have to push them”, giving the example of in-store displays aimed at “telling consumers to demand sustainability of them [the retailer], and to ask other stores about their policies” (observation, BSS 2010). The sustainability track has been included in the IBSS program annually since 2010, and in 2012, Diversified Communications, the parent company of both IBSS and *Seafood Business*, partnered with SeaWeb, sponsoring the Hong Kong summit and giving them a visible role at their Asian Seafood Expo.

They were great partners...they gave us a tremendous amount of branding opportunities...we got a lot of visibility...Huge banners everywhere with SeaWeb’s logo...Then the reception was sponsored by SeaWeb...they gave us that. It was very generous. (NGO-Osier)

Business leaders also had begun proactively engaging with ENGOs and their funders.

We’re in the room more now with industry...[A CEO of a major seafood processing firm]...said NGOs are playing an important role, the foundations are backing behind the NGOs, we want to know what you’re thinking, we want to know where you see things are headed. So it’s quite interesting that there’s a space for that, there’s an acknowledged space for that...clearly we have a voice, they understand we can have an effect. (NGO-Rowan)

Where wild capture fisheries are concerned, the MSC standard remains the only certification viewed as credible by the environmental community. On the aquaculture front, it remains to be seen whether the market will accept a two-tier set of certification standards in which the ASC represents a ‘gold’ standard and the BAP serves as an entry level of improvement. In fact, there is evidence that isomorphic pressures are pushing the two aquaculture standards toward convergence: Retailers’ increasing need for environmental credibility, along with pressure on the BAP system

due to competition from the ASC, has already led the BAP standard-setters to begin to address one criticism of the standard, that most of the product was certified only at the processor level and not at the farm, where most environmental impacts occurred.

One star product...certified at the processor level only... is being squeezed enormously...the retailers that at one time were happy with one star product now say, "No, we've got to have two star, we need the farm covered"...Now we're seeing over half of everything is two star...we understand we can't be an aquaculture certifier if we don't absolutely require the farm to be certified. So...we're telling them, "There's got to be a closeout on this", because aquaculture certification needs to include the farm. (IND-Blackthorn)

For the ENGOs, Asia is "the elephant in the room" (NGO-Osier), and as this study came to a close, there was an increasing sense of urgency within the community about expanding their efforts to target Asia more directly: "Everyone had been basically complaining about no matter what we do, it's only a drop in the bucket compared to Asia" (NGO-Osier). This concern had led SeaWeb to locate the 2012 Seafood Summit in Hong Kong, because the community "needed to know directly what we were facing and who we were dealing with" (NGO-Osier). There was a sense that the movement was sufficiently established that attention could turn toward Asia: "It's time to pick the high fruit. We've picked all the low fruit...we always knew the prize was Asia, but we couldn't go there until the MSC was well-enough established elsewhere" (NGO-Wych).

The desire to expand their focus to Asia increased pressure within the ENGO community to devolve responsibility for improvement projects to industry, and by 2012 several retailers were already engaged in these efforts. Yet, at the same time, there were signs that not everyone in the industry approved of the level of intermingling that was taking place between retailers and ENGOs.

Ten years ago the office joke used to be that if you couldn't get a buyer on the phone, it's probably because he or she had gone to work for a supplier. Today, the assumption is that

they've joined a non-governmental organization (NGO) that dishes out sustainability advice to buyers... industry leaders are starting to vocalize doubts that NGOs funded by private companies, which invariably have their own political agendas, should be setting seafood sustainability standards for the industry. (Seafood Business, 4 May 2012)

In particular, the emphasis placed by industry on fisheries as a 'public resource' that should be outside the influence of ENGOs hints at the continued existence of the old logic of inexhaustibility.

NGOs have been necessary to push the envelope with policymakers, but not to the extent that they are influencing the outcome of a public resource. (Seafood Business, 4 May 2012)

In turn, the ENGO community seems to sense that the old logic remains salient, but leaders also express optimism that, if industry internalizes the process principles they advocate, it may yet be able to manage itself, without ENGO interference.

I think when industry can demonstrate that it's also transparent, it's willing to hold up where it's failed, as part of that system...I think we're not quite there yet, but I don't doubt that the capacity and the resources are there. (NGO-Rowan)

7 DISCUSSION: MAKING SENSE OF COMPETING LOGICS

In seeking to understand processes of deinstitutionalization, my initial review of existing accounts within the institutional theory literature left me with a sense of discontent at the paucity of work describing instances of institutional change in which a preferred solution was not immediately accessible, as could be expected to be the case when, for example, disrupting events revealed scientific uncertainty or misunderstanding (Maguire & Hardy 2009). Such circumstances could cast doubt on an existing dominant logic and bring a competing logic into play, yet, in the absence of scientific certainty, those logics would likely co-exist for a prolonged period. Suspecting that interested actors would respond to these disrupting events and would try to glean meanings appropriate to their interests, with varying consequences, I turned to the sensemaking perspective as a useful tool for theorizing the micro-level processes that come into play when actors confront such a confounding situation. In Chapter 6, I presented the case study data, divided temporally into three distinct ‘epochs’ marked by characteristic patterns of sensemaking by interested groups of actors, taking place within particular institutional contexts. In this chapter, I relate the case data to specific themes from the literature, and I extend existing theory by elucidating the role that a repertoire of sensemaking processes play when actors are confronted with competing institutional logics in a context marked by scientific uncertainty. Figure 7-1 situates the theoretical concepts presented in this chapter in relation to the Greenwood et al (2002) model of the stages of institutional change.

The first section of this chapter discusses *problematizing*. In the account presented here, contradictory institutional logics become apparent as actors with divergent interests (Greenwood and Hinings 1996; Seo and Creed 2002) enact interpretations that stem

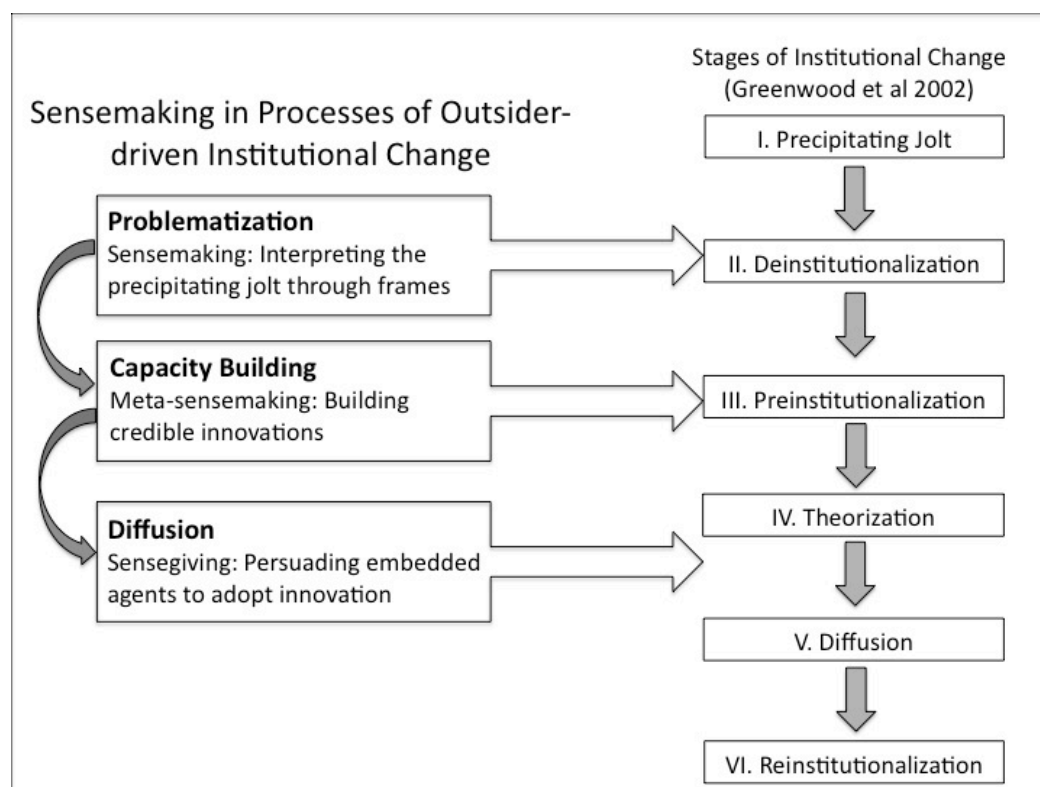
from their own abstracted histories, called *frames* in the sensemaking literature (Weick 1995; Czarniawska 2006). The disparate actors engage in *sensemaking*, enacting interpretations and generating solutions based on those experience-based abstractions, their organization's internal logics, and in accordance with their perceived roles, and, importantly, take note of and respond to the enactments of others in the field. It is the unfolding evolution of these interrelated enactments that unveils the inefficiencies, inability to adapt, and inter-institutional misalignment theorized by Seo and Creed (2002). Combining concepts from institutional theory and sensemaking thus helps to reveal the genesis of conflicting logics, and highlights the importance of the socio-historical context in explaining the appearance of dissensus.

The second section of this chapter shows how interested external actors strategically undertake projects to *build capacity* (Zucker 1988) for alterations to the industry's material practices (Davis and Marquis 2005), alterations that reinforce the challenger logic. It explores, first, how actors reassess their initial enacted responses, both in light of their own experiences, and in response to new information generated by other actors in the sensemaking field; second, how they alter their enactments in ways they believe will move the problem toward plausible resolution; and third, how these new enactments undergo modifications in response to legitimacy challenges from other actors in the field. This capacity building stage is associated with *meta-sensemaking*, that is, sensemaking about what forms of sensemaking are deemed proper and appropriate by interrelating actors. The actors here alter their own patterns of sensemaking in a conscious fashion, and deconstruct the problem at the core of the competing logics in ways that make coping with a large change project more manageable.

The third section shows how a group of actors engage in activities associated with *diffusing new practices*, the material practices developed in the previous stage of capacity building that align with the new logic, within the industry. These activities revolve around *sensegiving*, involving both cognitive and emotional elements. The aim of this sensegiving is initially to structurally embed the new logic in material practices by adding a single concept, sustainability, to retailers' purchasing specifications.

Instituting that change to a single document effectively harnesses the power of the supply chain, requiring producers to discard taken-for-granted techniques, based on the old logic of inexhaustibility, and replace them with material practices associated with the new logic of scarcity. The third section concludes with a discussion of how firms' adoption of these practices relates to their perceptions about legitimacy, reputation, and status. In this first round of diffusion, firms' uptake of the new practices is based initially on technical considerations of business risk. As diffusion spreads, reputational and legitimacy concerns come into play. The end of the study saw the beginnings of status differentiation in the field, as 'corporate evangelists' began to take on the ENGO role, championing the practices associated with the new logic with actors who were not attracted by diffusion efforts in the first stage. This stage is associated with collaborative arrangements involving collective sensemaking between corporate representatives and environmental activists. Firms moving to this higher level of embedded agency appear to achieve status goals in doing so.

Figure 7-1 Sensemaking in processes of outsider-driven institutional change



To summarize, the processes I describe below contribute to efforts to better integrate sensemaking with institutional theory by demonstrating how the component processes of sensemaking can result in a new logic that comes to be viewed as an increasingly plausible (Weick 1995) competitor to a dominant institutional logic that underpins collective activity at a field level. They show how interested actors may build material capacity to align with the new logic, and how they are able to achieve structural adherence to the new logic through the diffusion of the new material practices. Finally, this chapter illustrates how uptake of these new practices may serve identity-related purposes of legitimacy, reputation, and status for firms, including those currently acting as embedded agents, assuming an intra-organizational and inter-organizational activist role.

7.1 Problematising institutional inconsistencies

How actors respond to an institutional shock or disruption in its immediate aftermath, and which actors respond, can be critical events in the case of competing logics. The analysis in this section focuses on the currently under-theorized early stages of attention and engagement (and the inverse, inattention and disengagement): By zooming in, it is possible to build, first, a greater understanding of how previously taken-for-granted contextual arrangements come to be questioned, second, how they come to be deemed worthy (or unworthy) of engagement, and third, how actors conduct the critical activity of ‘problem authoring’, working to “convert a problematic situation to a problem” (Weick 1995: 9). I conclude this section with a discussion of the various elements and variations of sensemaking and their relation to logic competition.

7.1.1 *Events, attention, and the actionable domain*

‘Events’ that are potentially disruptive to institutional logics regularly occur, and remarkably similar events occurring at different times or in different places may bring on hugely varied responses. Maitlis and Lawrence (2007) described a state of ‘bounded responsibility’ among sensegivers, who rarely attempted to influence the meaning generation of others, and a similarly limited motivation can be observed at the initial sensemaking level of attention in this study: Actors generally prefer not to think too much about existing institutional orders.

The precipitating shock, or disruption, in this case, illustrates this reality and further provides a dramatic example of how institutions can act as constraints on sensemaking (Berger and Luckmann 1967; Zucker 1991; Barley and Tolbert 1997). The cod collapses off the US and Canadian coasts occurred because the actions of government

officials, scientists, and members of the seafood industry were entrenched in a highly institutionalized system of fishery management and resource allocation, a system which was so taken-for-granted that the industry press could credibly and understandably refer to “pounds of quota” (*Seafood Business*, January/February 92, pp. 14 & 16) rather than pounds of fish. Basing their policies on the logic of inexhaustibility that had dominated the fishing industry for centuries, the US and Canadian governments had not only failed to reduce fishing pressure when stocks declined, they had heightened it, by subsidizing increases to their national fishing fleets, impelling fishermen to maintain high catch levels in order to service the resulting debt on boats and equipment. Scientists remained wedded to outdated, but strongly entrenched, stock estimation models, resulting in unrealistically high quotas. Furthering the downward spiral, these quotas were routinely and flagrantly exceeded by fishermen, without rebuke, demonstrating that institutional norms may, in fact, routinely take precedence over coercive regulations, much as highway drivers, routinely and without sanction, exceed posted speed limits. Buyers contributed to the problem by adhering to their traditional product mixes, because, according to conventional wisdom at the time, “you cannot replace cod” (*Seafood Business*, September/October 1989, p. 88).

Failing to question taken-for-granted assumptions about fishery management, actors inadvertently maintained “the rules and norms that provide the bedrock for a situation in which crisis is almost inevitable” (Maitlis and Sonenshein 2010: 557). Thus, taken-for-granted institutional arrangements shaped and constrained the actions of those who traditionally controlled the use of the groundfish resource, blinding actors to the unfolding catastrophe they themselves had generated (Wicks

2002). Such endogenous generation of crises is typical of the sensemaking perspective, which is grounded in a taken-for-granted context which only becomes the subject of active sensemaking when cognitive dissonance disturbs actors and distracts them from their ongoing projects.

7.1.1.1 Initial sensemaking in the existing field: Identity maintenance and plausibility

The concept of selective attention (Simon 1947; Ocasio 2001) usefully suggests not only that actors do not attend to external events or situations equally, but also that the objective characteristics of the event do not determine the attention paid to it. Rather, according to this principle, it is the event's *enactment* (Weick 1979; Ocasio 2001) that determines its salience, and salience is what drives attention. Salience is a perceived characteristic, and thus the corollary to the previous statement is that an event that is not perceived by potential sensemakers to be salient will not attract attention, even if it is in their interest to do so. For sensemakers, attention is a constrained resource.

In the case described here, early indications that cod stocks were in trouble were not viewed by industry as a real and serious threat to their long-term operations; rather, they were seen, at first, as consistent with ordinary fluctuations in supply, as members of the industry applied their sensemaking frames (i.e., abstractions of previous experience) to the cues coming in about declining stocks. Reductions in supply in a particular geographic area due to natural variations were, and still are, a routine occurrence in wild fisheries. When the problem persisted, it was not only self-interest, but the industry's previous experience with scientists' inconsistent reports that led participants to initially discount the new accounts: "Cod stocks have remained stable at about 900,000 tons for the last few years...It's the [scientists'] estimates that have

varied” (*Seafood Business*, September/October 1990, p. 135), and later to conclude that the ocean itself was quixotic and scientific understanding was simply unknowable: They saw how cod that “seemed to be in such great shape, [went] down so rapidly (IND-Acer)” and concluded that “the ocean remains a black box” (*Seafood Business*, November/December 1990, pp. 84, 88). Together, scientists and government agencies had enacted management of the stocks in such a way that their pronouncements were not viewed as credible.

Once the moratoria were imposed, industry firms found they must attend more closely to the problem. Confronted with the absolute reduction in supply mandated by the moratoria, the industry was forced to engage in active sensemaking in order to stay afloat financially. However, because sensemaking does not happen ‘in real time’ but is always retrospective, cues are a source of ambiguity and confusion (Weick 1995: 27), which lead sensemakers to prioritize “the *feeling* of order, clarity, and rationality (p. 29) [emphasis in original]” over prolonged searches for meaning. With its sensemaking firmly grounded in identity construction (Weick 1995), the industry enacted its response in accordance with firms’ organizational identities as producers, engaged in the work of meeting demand—and payroll. Their role was to find enough product, and to stay in business: “In order to survive, we had to go global” (IND-Acer). However, in sensemaking terms, global sourcing was a plausible solution, not an accurate one (Weick 1995), inasmuch as it failed to acknowledge that the cod collapse might be a symptom of a systemic problem that would ultimately threaten the industry’s existence. In Weick’s (1995) sentence completion metaphor, early decisions begin to narrow the range of later opportunities for alternative choices, as the first word chosen in a sentence limits the set of options for the next word, and so on, with

options for the completed sentence being reduced with each choice. Thus, initial sensemaking moments are critical to future developments. Not having altered its underlying assumptions regarding stock abundance, the industry inadvertently triggered stock disruptions along the lines of the cod collapse in fishery after fishery in the coming years, around the world.

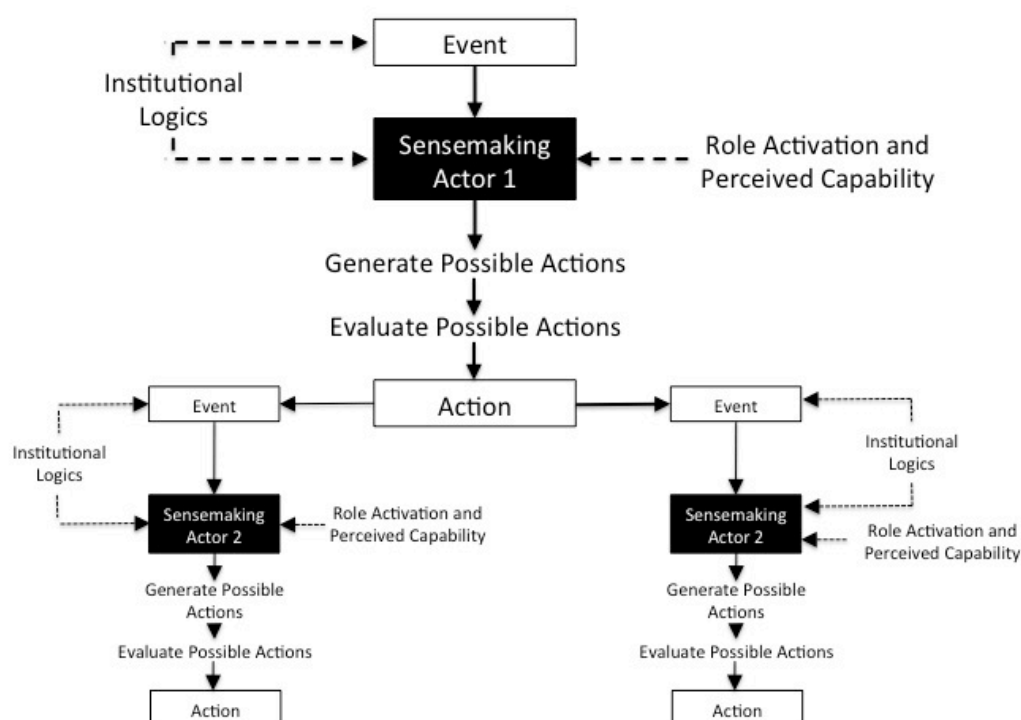
In contrast, by the time of the collapse, the scientific community recognized the role they had played in the cod's demise, but this initially led to the existential crisis described by Ludwig's Ratchet (Ludwig, Hilborn et al. 1993). The cod collapse had become "the fishery parable" (Cook and Daley 2003), in which scientists, by clinging to their institutionalized assumptions and measurement techniques, had failed to fulfil their societal role, leading them to question their capacity to do so. In such settings, where identities unravel, "sensemaking can be difficult or impossible, leading to confusion and distress" (Maitlis 2005: 22).

7.1.1.2 Attracting new sensemakers: Role activation and the actionable domain

Certain circumstances make actors more likely to attend to an event. One important source of variation has been shown to be the entrance of external entities into the sensemaking field (Hoffman and Ocasio 2001; Zilber 2002; Maguire and Hardy 2009). In explanations emphasizing outsider-driven change, the motivation for the external entities' engagement is not generally emphasized, yet their involvement cannot be assumed. Furthermore, the actions that result from actors' sensemaking can serve as 'events' for other sensemakers, spreading engagement and building the

relational field¹⁹, and this is a development that is highly shaped by the perceived legitimacy of the actors. In contrast to discursive accounts that focus exclusively on persuasive efforts and their reception, the analysis presented here problematizes the attentional moment when a potentially logic-disrupting event has occurred and disparate actors must assess and make sense of its implications. Figure 7-2 shows a process model relating the events, attention, and engagement discussed below.

Figure 7-2 Logic disrupting events and attentional process flow in sensemaking



¹⁹ This contrasts slightly with the Wooten and Hoffman (2008) proposal that “one actor takes note of another and through this process of referencing one another, actors bring a field into existence.” Wooten, M. and A. J. Hoffman (2008). *Organizational Fields: Past, Present and Future*. *The Sage Handbook of Organizational Institutionalism*. R. Greenwood, C. Oliver, K. Sahlin and R. Suddaby. Thousand Oaks, California, Sage: 130-147.; the idea presented here provides greater clarity in claiming that it is the enactments of others that actors notice.

Engagement occurs when an actor perceives an event as being part of the ‘actionable domain’. The term ‘actionable domain’ is introduced here to serve as a corollary to the notion of ‘bounded responsibility’ introduced by Maitlis and Lawrence (2007). Where the emphasis in the latter term is on actors’ failure to engage in sensegiving processes, the idea of actionable domain is meant to describe an actor’s zone of salience, the area in which the actor will respond to a cue with active, engaged sensemaking. I propose that the actionable domain is a function of two antecedent conditions, role activation and perceived capability. Theorizing these factors sheds light on the micro-processes implicated when alterations in membership occur within a relational field.

The concept of actionable domain is useful for understanding both the entrance of new, previously external participants as well as the exit of existing members. For example, the Maguire and Hardy (2009) DDT narrative begins with the appearance of a book in 1962, *Silent Spring*, by Rachel Carson. It only briefly touches on the question of how Rachel Carson came to write the expose, or why her claims were taken seriously, yet these factors influenced both her decision to write the book and the book’s reception. As Maguire and Hardy noted, Carson had formal training as a biologist, which meant she had the capacity to credibly tackle the scientific aspects of the issue, and, as a well-known nature writer, she was highly regarded as an author. Critical, though, is how she became aware of the problems associated with DDT use; Carson had been concerned about pesticide use, including DDT, beginning in the 1940s when the chemicals were used in World War II, and, just prior to writing *Silent Spring*, she had been working for the Audubon Society to protest the US government’s aerial spraying of private property with pesticides that included DDT; thus, there was already dissent from researchers and activists about the use of DDT prior to the

publishing of *Silent Spring*. Her nearly two decades of private work on pesticides like DDT only came to the fore when others began to protest the aerial spraying that was taking place, not in some faraway theater of war or even on an industrialized farm, but in the backyards of ordinary people (Lear 1997). Consequently, in contrast to earlier industrial uses of DDT, a cue to sensemaking only available to certain individuals due to institutional constraints, aerial spraying was a ‘public’ cue that invited sensemaking by a wide range of people, “juxtaposing actors to other actors, cues, identities, frames and action expectations” (Weber and Glynn 2006: 1650).

Similarly, the rise of the sustainable seafood discourse was a result of circumstances peculiar to its socio-historical context. The collapse of the cod fisheries off the US and Canadian coasts were not completely novel events; fisheries have collapsed many times in many places, without catalyzing prolonged contestation aimed at fundamentally changing the logic behind commercial exploitation of seafood resources. A key difference between the cod collapse and earlier instances of abrupt decline was that, by the early 1990s, a new, professionalized class of environmental organization was available in the US, one that viewed its role as that of a watchdog and advocate for the natural environment. Thus, the sustainable seafood discourse had its beginning when US ENGOs took note of the cod collapse in the early 1990s. Having “viewed fisheries as kind of limitless” (NGO-Albizia), they were subject up until that time to the same logic of inexhaustibility as industry, government, and scientists. News of the precipitous decline of codfish stocks, however, generated “a sense of crisis about what people were doing to the oceans” (NGO-Albizia). The staff members of the ENGOs recognized fishery depletion as falling within their actionable domain, since their role was that of environmental watchdog. As to their perceived

capacity, while they had no experience with fishery advocacy at the time, they had a great deal of experience with environmental advocacy in general.

Of the two antecedent conditions, role activation is primary, and it occurs in a multi-stage process. Identity is at the heart of sensemaking, and thus actors' first response to an event is to ask, "who am I?" (Weick 1995), a question that is likely to have multiple responses; in a sense, the question is "*which* I am I?" Actors determine which of their multiple identities to use in responding to the event, and typically this identity will have a corresponding role. These identities can be seen as complements to the 'competing interests' of institutional theory (Seo and Creed 2002), which are theorized as a source of institutional change. However, the identity demands associated with competing interests would likely lead to role conflict; consequently, this circumstance would exert pressure on the organizational actor to choose between the competing interests and enact the role of the 'winning' interest.

In contrast, in symbolic interactionist thought, roles "reflect norms, attitudes, contextual demands, negotiation, and the *evolving definition* of the situation *as understood* by the actors" (Biddle 1986: 71) [emphasis added]. This idea that actors' understanding of the situation might evolve reflects the fact that the nature and scope of events may fall outside the actor's direct experience, while still falling within the purview of his or her role obligations and general capabilities. In the presence of this sort of 'role ambiguity', actors must invent role-appropriate ways of coping with the challenge (Rizzo, House et al. 1970). Thus, in interpreting the event, actors rely on their understanding of whichever role is associated with the activated identity, and the actor's understanding of what the role seems to entail affects his or her answer to the second fundamental sensemaking question, "what is going on here?" (Goffman 1974;

Weber and Glynn 2006). Accordingly, in institutional terms, roles are ‘soft’ structures, in that they are objectified and reproducible by others, but they are imperfect constraints, as they are prone to variation in individual performances due to their interpreted nature; this has been theorized as one likely source of change in institutional arrangements (Barley and Tolbert 1997). As noted above, actors’ understandings about what constitutes a credible performance of the activated role evolve over time, and this, too, introduces the prospect of variation and institutional change.

7.1.1.3 Perceived capability and the actionable domain

Perceived capability refers to the actor’s belief that he or she has the capacity to respond appropriately to the event, and it is associated with but not required for engagement. Capacity, or the lack thereof, tends to determine which events actors acknowledge as cues, since “people see those events they feel they have the capacity to do something about” (Weick 1988: 311); within institutional theory, a lack of capacity has been theorized as an impediment that can slow the pace of organizational change (Oliver 1992).

When the US ENGOs interpreted the cod collapse as an example of environmental degradation, and thus an issue that fell within their actionable domain, they also felt confident in their ability to respond, even though they had no direct experience with fishery-related problems. Litigation and lobbying were a core part of a strategy that had risen to prominence among a new professionalized class of US ENGOs by the 1970s, and in the early 1990s, the effects of globalization had yet to dull those tools for change: there was no reason to think they would not be effective in solving the problem of fishery collapse. The Conservation Law Foundation had already used

litigation to force modifications to fishery management in New England, and the US ENGOs attracted to the overfishing issue by the cod collapse were able to continue and build on that strategy, winning Congressional overhaul of US fishing regulations in 1996.

7.1.2 Sensemaking around competing logics: Elements and variations

When the ENGOs entered the seafood sensemaking field, they introduced a strong version of the competitor logic to compete with the dominant logic of inexhaustibility. This competitor, a logic of collapse, or scarcity, was hinted at in the assessments of scientists and the actions of government agencies, but was perceived as a temporary, localized version of a guiding belief by the industry, government, and even many scientists. Since dominant logics are the bedrock of what are likely to be accreted layers of institutional elements, disrupting them is difficult and is likely to involve multiple kinds of sensemaking; it is unsurprising that the cod collapse invoked a weak version of the logic of scarcity among existing members of the field. The introduction of the new, strong version of the logic into the sensemaking field was provocative and contested, as the industry, in particular, clung to the logic of inexhaustibility. As seen in this case, logic competition may not be easily resolved, and disparate logics may co-exist in a state of sensemaking tension, inflicting heavy demands on sensemakers, both those advocating the new logic, and those defending the old (Battilana and Dorado 2010; Dunn and Jones 2010; Greenwood, Diaz et al. 2010). Furthermore, because logics are nested (Thornton and Ocasio 1999; Seo and Creed 2002), the competing industry logics described in this study were alternately weakened and strengthened by various logics and discourse streams taking place within larger society.

Yet, resourceful sensemakers may employ multiple forms of sensemaking to advance their cause. Sensemaking elements include problem definition and amplification, and these are initial and necessary steps which, to clearly identify those activities as part of the sensemaking process, can be thought of as sensesseeking. Sensemaking variations include sensebreaking (Pratt 2000) and sensegiving (Gioia and Chittipeddi 1991; Maitlis and Lawrence 2007); they are not required, but are relational activities frequently engaged in by sensemaking actors. Both elements and variations may occur sequentially or simultaneously, and are quite likely to occur in iterative processes.

7.1.2.1 Problem definition

The actionable domain concept theorizes antecedents to actors' engagement in sensemaking processes, and helps to explain the entry of new entities to a sensemaking field. Both new entrants and existing actors must engage in sensemaking work to elucidate what is problematic about the event, a form of sensesseeking. While much research into institutional change has focused on challengers' advocacy of preferred alternative arrangements, a great deal of sensemaking work must be done merely to define the problem before it is possible to generate alternatives, much less frame those alternatives and champion them. In essence, a problem is a collapse of meaning, what Weick called '*vu jàdè*', the opposite of *déjà vu*: "I've never been here before, I have no idea where I am, and I have no idea who can help me" (Weick 1993: 633-634).

In the initial reaction to the cod crisis, only the scientific community questioned its ability to make sense of the situation with its existing assumptions and tools; it had already begun the process even as cod stocks declined, when what they saw happening in the water differed from their predictions, causing them to "drop their tools" (Weick 1993), to question their institutionalized assessment methods and begin working with

new tools to arrive at more accurate estimates. As has already been described in sections 7.1.1.1 and 7.1.1.2, this case saw the other sensemakers (those in the field originally as well as the ENGOs that were attracted due to the cod collapse) draw on their own existing sensemaking frames initially. Thus, industry interpreted the problem as an instance of short-term scarcity, albeit on a much larger scale than usual, and the ENGOs interpreted it as an example of inadequate US environmental regulation. In Canada, the government reverted to the anti-foreign argument that had led to its adoption of a 200-mile Exclusive Economic Zone, blaming the fishing boats of the European Union for their “total disregard for quotas” (*Seafood Business*, July/August 1992, p 38), and defending their own fishery management while they shifted blame to the Europeans, as when the minister declared Canadian regulation of its EEZ “futile unless there is conservation outside as well ” (*Seafood Business*, January/February 1992, p. 32).

However, initial definitions of a problem are vulnerable to review and revision. While industry continued to perceive the problem as ‘solved’ with the move to global sourcing, other actors began to reassess or build on their starting positions.

7.1.2.2 Problem amplification

According to Nigam and Ocasio (2010), salient events trigger sensemaking about the broader organizational field as well as the event itself; this can be seen as another form of senseseeking. The results of such senseseeking may result in sensebreaking interpretations that serve to amplify the initial problem. In this amplification process, the retrospective nature of sensemaking predominates, as actors review past events and make new sense of them.

In this case, nowhere was this more evident than in the efforts of fishery scientists to grapple with the fundamental flaws in their systems of estimation. Fishery scientists reexamined the assumptions and methods upon which their science was built, and produced a long list of previous failures that had become institutionalized in their field. Further, they expanded their focal scope in multiple directions; spatially, temporally, and by species. Accordingly, they moved away from single species studies in a relatively small geographic area to examine complete ecosystems, global impacts, and historical trends. In the middle epoch described in this case (section 6.2.1), fishery scientists concluded that: humans were emptying the oceans of much more sea life than had previously been calculated; scientists had routinely miscalculated baselines over the years; past levels of abundance had greatly exceeded anything known in the modern era; the very nature and proportional composition of the food web was being changed by commercial fishing; recovery of depleted fisheries was more problematic and slow than had been realized in the past; and current methods of reporting global statistics were skewed in such a way that declining catch trends had not been caught by the UN officials whose job it was to provide accurate data to policy makers.

Together with the ENGO community, scientists also amplified the problem in the direction of wild capture's competing technique, aquaculture. While initially their problematization of aquaculture focused on mangrove deforestation, and thus was only tangentially linked to the overfishing problem that was being authored regarding the wild capture technique, the Naylor et al (2000) article that quantified the inputs of wild-caught forage fish necessary for farming the most popular carnivorous seafood species, shrimp and salmon, linked aquaculture irrevocably to the wild capture overfishing problem. Cumulatively, these findings about wild capture and farmed

seafood represented a mass of sensebreaking that provided cognitive support for deinstitutionalization of the dominant logic of inexhaustibility (Oliver 1992; Maguire and Hardy 2009).

This disruptive shift in the underlying science was a profound amplification of the original problem seen in cod stocks off the northern coasts of North America, and it illustrates the point made by Nigam and Ocasio (2010), that the significance of an event may persist over a long period of time as actors continue to engage in sensemaking about the event (Nigam and Ocasio 2010: 830). Over time, these re-interpretations may accrue and increase the perceived salience of a given event; the event may even achieve an iconic stature if it comes to be viewed as critical to a larger shift in existing logics or highly representative of a new logic. Thus, in interviewing field participants twenty years after the cod collapse, respondents referred to it again and again, and described it as ‘the’ event that had started the movement toward seafood sustainability; to the industry, the cod collapse is seen today as a “wake-up call” that was “devastating” (IND-Acer), even though the environmental import of that wake-up call was not initially recognized and has in fact only recently been accepted by firms. The sensemaking perspective’s emphatic adherence to the notion that all sensemaking is retrospective makes this kind of retrofitting the rule rather than the exception; the view in the rearview mirror is an ever changing one, and new landscapes provide actors with different perspectives on past events.

The scientific amplification noted in this case demonstrates that deinstitutionalization does not require the presence of a preferred alternative; rather, sensemaking by actors in the relational field can create ‘aftershocks’ that cause those involved in enacting the dominant institutional arrangements to re-evaluate the importance of the original

disrupting event. These aftershocks can reduce actors' cognitive and emotional investment in existing arrangements, an intermediate stage of sensebreaking that precedes the generation of preferred alternatives.

7.1.2.3 Problem deconstruction

The process of amplification may decrease cognitive and emotional investment in the dominant order, but it can complicate efforts to generate alternatives if actors in the relational field find the magnified problem too complex to easily resolve. Thus this case exhibited another intermediate stage prior to the generation of alternatives. In this stage, sensemaking actors engaged in a particular type of theorization (Strang and Meyer 1993; Greenwood, Suddaby et al. 2002; Nigam and Ocasio 2010), 'problem deconstruction', breaking the newly amplified set of facts down into 'solution chunks' that they could then use to guide, and institutionalize, sensemaking.

For example, one major category that emerged here was that of 'illegal, unreported, and unregulated fishing' (commonly referred to as 'IUU fishing'). At first glance, the three adjectives seem like an odd grouping, since fishing that flouts laws has very different moral implications from fishing that is not subject to any laws in the first place. However, in terms of the emerging theorization of the new logic of scarcity or collapse, actors had become aware that major negative consequences had resulted from past deficiencies in 'counting fish'; consequently, they perceived that one critical programmatic goal was to aim for a complete accounting of resources used. The institutionalization of 'IUU fishing' as a major category within the 'overfishing' problematization had knock-on effects in terms of the possible solutions to a problem thus delimited, in keeping with the 'sentence completion metaphor' (Weick 1995). In a context in which greater global regulation was unlikely, in which major buyers were

taking on a governance role, and where technological advances in the larger environment made tracking commodities as they moved through the supply chain increasingly feasible, the concept of ‘traceability’ emerged in the discourse as the dominant solution to IUU fishing, with new firms and technologies appearing in the market to provide ‘traceability solutions’ to producers and buyers.

7.1.2.4 Intruder logics

In the case described here, one factor in the persistence of two mutually exclusive industry logics, one of abundance or inexhaustibility, and one of scarcity or collapse, is that additional logics came into play as the discourse unfolded. The discourse around these new logics intruded into the sustainable seafood discourse, and was used strategically by its conversants. The entrance of new logics was a catalyst for sensemaking; competition among these ‘intruder logics’ resulted in both dynamism, as they seemed to move either the incumbent or the intruder logic toward a position of dominance, and stasis, as new opposing developments induced reversion to the previous equilibrium. The result was a sort of ‘logic wobble’.

The increasing global influence of a societal level logic, the ‘logic of sustainability’, in the years after the 1992 Rio Earth Summit, was an important development that brought normative pressures from larger society to bear on the sustainable seafood discourse, in support of the challenger logic. Other normative pressures arose in the larger environment regarding the claims organizations could make for self-regulation, resulting in the institutionalization of various standards like those offered by the International Standards Organization.

Particularly in the United States and the European Union, discourse around issues relating organizational enactments to individual health consequences strengthened during the two decades covered in this study. In this study, this ‘medicalization’ of food consumption was particularly associated with ‘logic wobble’, as scientific studies linked seafood consumption to heart health in the form of omega-3 fatty acids, but generated strong fears when many fish were found to contain dangerously high levels of mercury contamination, particularly for pregnant women and children. As food consumption decisions in larger society became increasingly ‘medicalized’, defenders of both the dominant and challenger logics were able to draw on medicalized discourse in ways that supported their own projects. Accordingly, evidence of health benefits were touted within industry discourse, and evidence of health harms questioned; the reverse was true of ENGO accounts of health consequences of seafood consumption. Thus, as discursive elements related to higher-level logics appeared, they served as events for actors in the field, who incorporated them into their interpretive frames.

7.2 Meta-sensemaking: Building capacity for change

The previous section discussed the elements and processes of problematization, heeding the Maguire and Hardy (2009) call to examine settings where scientific facts are unclear, and thus there are no new practices available yet to promote. This section describes an intervening stage observed in the study described in these pages, one in which capacity building dominated the change agents’ agenda. Here, actors seeking institutional change worked to build the set of new practices they would later promote and attempt to diffuse in the mass market. Doing so required that they not only collect and disseminate the most up-to-date fishery science in order to meet technical

expectations, but also that they incorporate and demonstrate practices that signal institutional legitimacy.

Key to this capacity building were actors' responses to the sensemaking of other actors engaged in problematization around the catalyzing event. In particular, the mountain of paradigm-shifting, sensebreaking scientific findings that had emerged provided strong cognitive support for deinstitutionalization of the dominant logic of inexhaustibility (Oliver 1992; Maguire and Hardy 2009). However, the complexity of the science made it difficult to disseminate, leading to the creation of a new form of ENGO, founded specifically to bring communications expertise into the arena.

Furthermore, cognitive support for the new logic in the form of better science was not sufficient to overcome the inertia associated with the entrenched dominant logic within the industry: It was necessary to change the industry's material practices so that they supported the new logic (Davis and Marquis 2005). Most studies of institutionalization take regulation as an endpoint to change processes (cf Leblebici, Salancik et al. 1991); from this perspective, regulation effectively rules in favor of a new institution or logic and embeds it in practices using coercive power (DiMaggio and Powell 1983). Yet, as the ENGOs seeking change reassessed their initial response in light of new information about fishery problems, it became clear that much seafood production fell outside the realm of any possible regulatory embedding of these material practices. Members of the industry seeking to defend the status quo or avoid business risk were similarly unable to lobby regulators on their own behalf. Thus, both the ENGOs and the industry turned to transnational private regulation (Bartley 2007) in the form of certification standards.

This led to a prolonged period of ‘meta-sensemaking’. During this meta-sensemaking, interested parties engaged in contestation, confrontation, and collaboration about just what kind of sensemaking around the issue of sustainable seafood, particularly in the form of standard requirements and governance processes, but also in regard to partnerships and other cross-category collaborations, would be considered legitimate within the sensemaking field. Thus, while actors drew on institutional elements from a variety of sources in order to creatively engineer innovations that they hoped would move their change project forward, they were constrained in their ability to stray too far from recognized institutional forms by ‘social policing’ by both colleagues and adversaries.

In particular, innovations that created a bridge between conversant groups could violate peers’ notions of what constituted legitimate activities; a great deal of identity-based meta-sensemaking took place around those boundary-spanning innovations, aimed at delineating how far actors could go in working with adversaries whilst still adhering to the basic rules underlying membership in their particular conversant class. Consequently, this period of ‘meta-sensemaking’ empirically supports the ‘editing’ mechanism theorized by Weber and Glynn (2006), simultaneously reinforcing the concept discussed previously in this chapter, that actors’ enactments become ‘events’ for other actors, disruptions that provoke their own round of sensemaking. Further, it exemplifies the legitimacy linkage this study foregrounds between institutional theory and sensemaking, revealed here in the form of sensemaking work that focuses on identity-based contestation over institutional legitimacy.

At the same time, engaging in social policing uses significant attentional resources. Thus, over time, and particularly across certification platforms, a set of ‘watchdog of

the watchdog' standards and norms has arisen, providing a sort of shorthand vocabulary that both simplifies, and institutionalizes, social evaluation processes.

7.2.1 Reassessing previous enactments and problematizations

As the ENGO community delved more deeply into issues related to seafood production and ocean conservation, they gradually became aware of obstacles to their change projects, including two major ones: the complexity of the science, and the global nature of the overfishing problem. As a result of these impediments, the ENGO community experimented with different strategies, deploying new structures, engaging different types of expertise, and drawing on institutions from other settings. Two events were particularly pivotal for the sustainable seafood discourse: the entry of a professional communications organization into the ENGO community, and the decision to develop global seafood certification standards.

7.2.1.1 Importing expertise from external sources

The emerging scientific portrait, while presumably more accurate than the models it replaced, and certainly more plausible, given the growing number of stock collapses, was dauntingly complex, making it difficult to communicate the urgency of the problems arising from seafood production practices to policy makers or the general public. This led to the move by Pew Charitable Trusts to create an ocean conservation ENGO dedicated completely to communications, a significant innovation for the ENGO community. By putting the new organization under the guidance of an established public relations specialist, Pew invited a new kind of sensemaker to the relational field, and, just as was the case when the ENGOs themselves had entered the field in the aftermath of the cod collapse, this new type of

entrant brought new logics into the arena, resulting in novel strategic enactments, and, over time, significantly changing the tenor of ENGO/industry communications and relationships. In particular, by shifting the movement's focus from 'fish' to 'seafood', the organization demonstrated how framing decisions can result in bottom-up alterations to meso-cultural and macro-cultural discourse (Lawrence and Phillips 2004) .

7.2.1.2 Looking to internal experience on other issues

In the aftermath of the ENGOs' successful advocacy for stricter fishing regulations in the US, awareness began to grow that the problems associated with seafood production that were revealed by the cod collapse were in fact indicative of a systemic trend, global in its scope, and increasing in severity, thanks to the industry's widening geographic sourcing footprint. The ENGOs' strategy in pushing US legislative action to tighten fishery management was not one that could be replicated on a global scale, since political commitments to Westphalian sovereignty²⁰ preclude global regulation, and even controlling the production methods of product coming into the US as imports had been proven impossible with the GATT ruling on the Dolphin/Tuna case and the WTO ruling on the Shrimp/Turtle case (Howse 2002; World Trade Organization 2010). Furthermore, even gaining and maintaining domestic regulation was difficult: ENGOs were frustrated by the "slow pace of the public policy process" (NGO-Wych). Moreover, "because industry opposes conservation measures", they

²⁰ Westphalian sovereignty underpins the modern system of international relations and refers to the privileging of the interests of the nation-state over those of individuals or rulers. It is based on the principle that nation-states have the right to political self-determination without intervention into their external affairs by another nation-state.

had to be constantly prepared to launch a “rear guard action to keep it [fishery regulation] intact” (NGO-Wych).

In contrast to the move by Pew Charitable Trusts to bring in outside expertise, the decision to develop global seafood certification standards drew heavily on recent experiences and developments within the larger ENGO field. Importantly, ENGOs had come to the conclusion that enlisting end consumers in their fights was an inefficient way to bring about change, since “it would take 50 years for a bottom up consumer driven action” (NGO-Wych). Looking to the experiences of the recently established Forest Stewardship Council for guidance about strategies that were effective, as well as those that weren’t, those actors engaged in building certification standards focused on major buyers, reasoning that it is they who “make the decisions for us” (NGO-Wych). Past experience in yet a different environmental fight supported that concept: One merely had to “look at dolphin-safe tuna. You can’t buy dolphin-unsafe tuna” (NGO-Wych).

These two developments clearly reflect the characteristics of sensemaking. For the subjects of this study, sensemaking was ongoing (Weick 1995), with actors experiencing cues each time their projects were interrupted, either by surprises when their own enactments encountered obstacles, such as when their attempts to describe the impending crisis were poorly understood by policy makers, or by the enactments of others, such as when scientists produced groundbreaking papers, or when the industry’s sourcing turn replaced a localized shortage with a global one.

Sensemaking’s retrospective nature leads to ongoing sensemaking about the narrative thus far, with that sensemaking itself enacted, and productive of altered enactments, as actors attempt to correct course in pursuit of their projects. This sort of reflexivity has

not been acknowledged in institutionalist accounts, but it is critical for understanding processes of institutional change.

7.2.2 *Performing institutional bricolage*

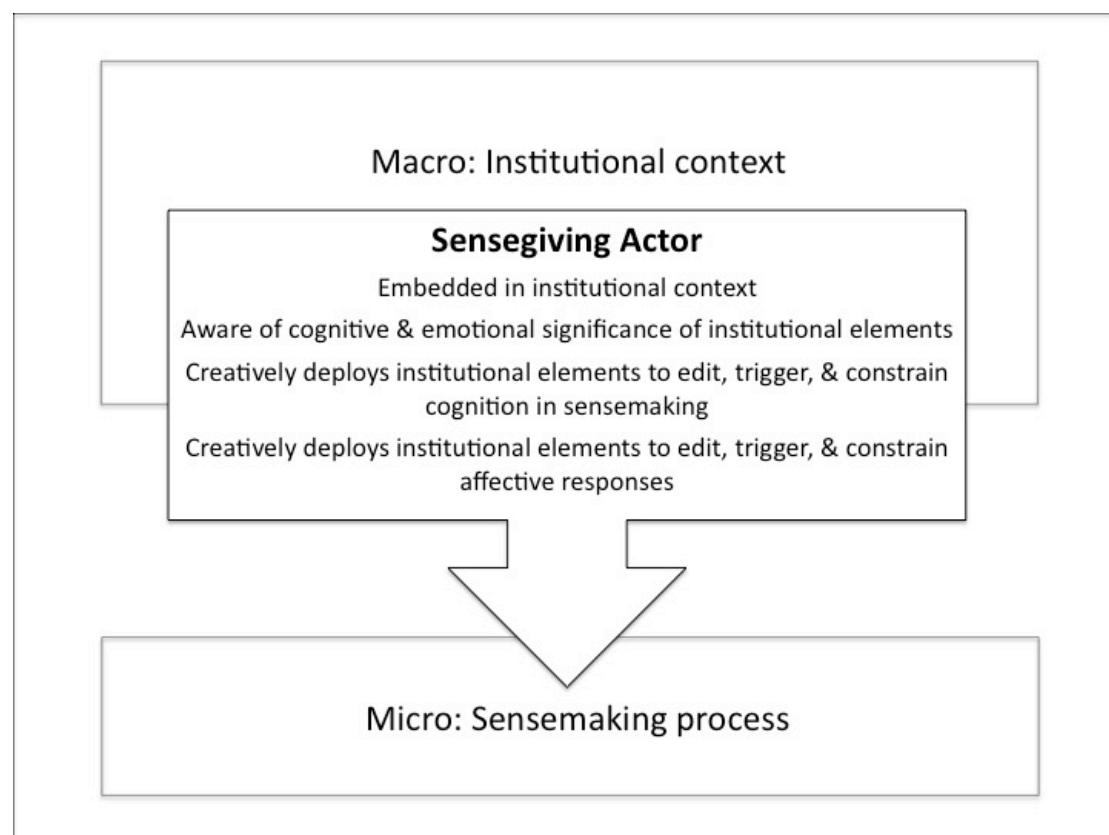
Besides demonstrating the characteristics of sensemaking in field participants' enactments, this case also illustrates how sensemaking is intertwined with institutions; the study data verifies empirically the Weber and Glynn (2006) theorization that "*institutions may be the feedstock for sensemaking*" (Weber and Glynn 2006: 1655) [emphasis in original]. Where the dominant view was that institutions influenced sensemaking only by acting as constraints, Weber and Glynn proposed three additional mechanisms of influence: priming, editing, and triggering. (The model they used to illustrate their theory is reproduced in section 3.5.1 of this document.)

The data presented here empirically illustrates this theorized relationship between institutions and sensemaking in two ways: First, actors were seen to draw heavily on institutions from the larger environment, using them as building blocks (Weber and Glynn 2006) in their attempts to construct plausible solutions. In some instances these were re-purposed, modified versions of institutions from within the conversant group, and in other cases, actors appropriated institutional elements from larger society, or even, in the case of the BAP aquaculture standard, from an adversary group. In this way, actors incorporated not only their own experiences, but also those they were able to glean second-hand from others, into their sensemaking frames, thereby illustrating one mechanism explaining how frames might change over time.

Second, and significantly, actors demonstrated a sophisticated awareness that institutions carry both cognitive and emotional meaning. That is to say,

organizational actors, through their skilful deployment of institutional elements as part of their sensegiving project, showed that they themselves knew that institutions shape sensemaking. The events described here show not only that contextual circumstances can serve as signs to sensemaking actors, thus priming them for certain events or triggering particular enactments on their part, as Weber and Glynn (2006) proposed; they also reveal that actors in a sensemaking field may actively deploy specific institutional elements as part of their attempts at sensegiving. Thus, it adds an element of active agency to their model, in which institutions are used strategically by actors engaged in social interactions to influence the sensemaking of others. This is depicted in Figure 7-3.

Figure 7-3 Agentic deployment of institutional elements to alter sensemaking



This shows that sensemaking actors are not merely passive recipients of institutional cues, but can also be active manipulators of such signals. Thus, by shifting the focus to sensegiving, I build on the Weber and Glynn concepts in this section; here I discuss how organizational actors deployed institutional elements creatively, deliberately aiming to prime targeted audiences to be receptive to their message, to trigger particular responses, and even to preempt similar enactments by others in the relational field.

7.2.2.1 Variations on the environmental certification standard model

The institutional source for a substantial portion of the institutional bricolage described in this study was the Forest Stewardship Council (FSC), innovated by WWF in the early 1990s. All three certification standards described here, the Marine Stewardship Council (MSC), Best Aquaculture Practices (BAP), and Aquaculture Stewardship Council (ASC), were derived, to greater or lesser extent, from the FSC. Yet, none of these standards replicated the FSC model exactly; rather, the FSC served as a springboard, or foundation, for interpretations more in line with the founding agents' interests, according to their sensemaking.

In turning to the FSC model to create the MSC, the WWF agents were looking to their own organization's cupboards for inspiration. This type of standard arose to combat the very sort of global market problem that the agents of the ENGO believed seafood production had become. Its philosophical basis was effectively neoliberal, though perhaps less informed by blind trust in market forces than in distrust of government's willingness and ability to regulate effectively. In this view, "the only force powerful enough to reverse the unsustainable use of resources is commerce itself...we can't rely on governments to do that by regulation" (NGO-Wych). The FSC

was innovative in its structure and field position, since, even though it existed as a substitute for government regulation, it was also a sort of bridging organization, connecting the traditional ENGO community with the business community toward which it had traditionally existed in opposition. However, the WWF agents who borrowed the FSC framework did not adopt it without modifications. In particular, the MSC departed from the FSC model by eschewing the membership governance structure, under which the organization would be “hamstrung by democracy”, and instead using the more common NGO form, a board comprised of “donors” and “people of gravitas that others will listen to” (NGO-Wych). Agents thus combined institutionalized elements in a flexible and creative way.

In contrast to the WWF, the Global Aquaculture Alliance (GAA) industry association’s development of the Best Aquaculture Practices (BAP) standard is an example of a phenomenon that could be described as co-opting, but which also might be called ‘defensive mimicry’: The BAP standard was introduced into the market in a deliberate preemptive move to avoid an ‘FSC-like’ entrant from the ENGO world. The founder and president of the GAA described the threat in the association newsletter: “The FSC label is already gaining acceptance among consumers...Will a similar activist program be used to compel seafood retailers to adopt eco-labels? ...Let us act together as an industry to...avoid the need to act later to an expensive, impractical program operated by groups that may not have our best interests—or consumers’ wishes—at heart” (Chamberlain 2000, p. 2). In this enactment, however, behind the FSC-like façade were industry-generated technical standards and governance mechanisms that were very different from those behind either the FSC or the FSC’s sister certification, the MSC, once again demonstrating the flexibility and

creativity of agents deploying and combining institutionalized elements from various sources.

The third major certification standard, the Aquaculture Stewardship Council (ASC), further illustrates the tendency of actors within a relational field characterized by intensive sensemaking (a ‘sensemaking field’) to assess previous enactments and problematizations, and to alter future enactments on that basis, as described in section 7.2.1.2. Both the Aquaculture Dialogues that led to the formation of the ASC, and the ASC itself, were an enacted rebuke to the BAP, intended to address that standard’s perceived shortcomings in a performative fashion. Based on and meant to be a complement to the MSC, the ASC and the Aquaculture Dialogues nevertheless differed from that predecessor in fundamental ways, particularly in regard to stakeholder input. Here, too, the choice of different institutional structures and processes served as an enacted rebuke to the MSC.

7.2.2.2 Innovating around internal institutions and borrowing from outside

While the use of the FSC framework as a model institution for the three major seafood certification standards provides the most pervasive and striking evidence of how institutional bricolage occurs and of how it is intertwined with sensemaking, there were many other examples of creative borrowing of institutional elements from other spheres, and innovative enactments of institutional elements from within agents’ own industries. For example, when SeaWeb pursued its strategic aims regarding swordfish by organizing a boycott, they were using an institutionalized element common within the activist repertoire. However, while the form itself was *de rigueur* for an ENGO, the SeaWeb enactment involved multiple innovations. Chief among these, the

organization drew on its founder's public relations background in conducting market research to determine which messages, which messengers, and, related to the latter, which venues of engagement would be most effective at reaching consumers, leading the organization to adopt a targeted approach rather than the traditional route of direct appeals and general press releases.

In another example, the Monterey Bay Aquarium's Seafood Watch pocket guide was an innovative move for an ENGO, and for an aquarium, but it also clearly had an institutional ancestor in the common restaurant guide, such as those bearing the Michelin or Zagat names. Even the guidance categories of the pocket guide drew on a commonly understood institution: by categorizing fish to avoid as 'red', fish to eat as 'green', and fish to use as a 'good alternative' yellow, the museum used the traffic signal as an institutional metaphor, taking advantage of people's taken-for-granted, engrained beliefs about traffic rules. Similarly, Greenpeace's supermarket seafood sustainability rating was based on the 'league table', an institutional form commonly used to rank everything from sports teams to universities according to a limited set of performance statistics.

When the ENGOs began to enter consulting partnerships with industry, they were borrowing a model of engagement institutionalized within the management consulting firm structure that is a taken-for-granted component of the modern business arena. The ENGOs took the basic framework and modified it to suit their needs, beginning with EDF's pioneering arrangements in the early 1990s working with McDonald's and other large firms on reducing paper waste; this paved the way for similar work between other ENGOs and corporate partners on a variety of issues. Engaging in sensemaking about its early partnerships, EDF then went on to institutionalize a

modified version of the consulting partnership in a basic template, which was available to guide the EDF partnerships described in this study. The actors' enactment of the borrowed structure was sufficiently convincing that, to their industry counterpart, EDF "felt like a business partner" (IND-Zelkova). Further examples of this sort of mimicry of common business institutions can be seen in the sustainable seafood conference, the Seafood Summit, which deploys the familiar setting of the business conference to create a relational space where firm representatives feel comfortable interacting with ENGO representatives.

Even the scientists looking for solutions to the growing crisis drew on existing institutions. The concept of a marine reserve is taken directly from the world of land conservation, where wildlife reserves are an institutionalized form. Fishery scientists' calls for ecosystem-based management echoed the systemic approach theme that has arisen in recent decades within the larger field of environmental management.

This section has shown how actors in the relational field use institutions as building blocks, adopting forms from other contexts and modifying them or combining them in creative ways that result in new institutions. The institutions become vehicles for experimentation and partial solutions (Nigam and Ocasio 2010), as actors perform interrelated sensemaking on an issue of common interest. Further, in doing so they use institutions as sensegiving tools, seeking to change the sensemaking of others by setting a new, but familiar, scene for their interpretations. As Weber and Glynn (2006) theorized, "*institutions may be the feedstock for sensemaking*" (Weber and Glynn 2006: 1655) [emphasis in original], that is, contextual circumstances can serve as signs to sensemaking actors, thus priming them for certain events or triggering particular enactments on their part. The empirical data presented in this section further shows

how actors in a sensemaking field may actively deploy specific institutional elements as part of their attempts at sensegiving, a development not foreseen in the Weber and Glynn model. Here, actors are seen adopting institutional forms in deliberate attempts to guide and influence the enactments of others; particular forms are chosen to prime targeted audiences (Weber and Glynn 2006), so that they are receptive to their message and respond in particular ways; they are even deployed to preempt similar enactments by other actors.

7.2.3 The legitimacy tightrope: Interest-based social judgments and meta-sensemaking

In the traditional view of linkages between institutional theory and sensemaking, institutions were seen to emerge from sensemaking (Weick 1995; Scott 2001; Suddaby and Greenwood 2005). When Weber and Glynn augmented that understanding by conceptualizing institutions as contextual mechanisms that shape sensemaking (Weber and Glynn 2006), as well, they linked the two theoretical streams in a social mechanisms framework (diagram reproduced in section 3.5.1 of this document), theorizing the relationship as a sort of circle of interrelated, temporally staggered processes. However, they did not imply that movement within this mechanism would proceed smoothly; rather, they invoked sensemaking's social nature, and proposed that institutions inform social judgments. In this reading, the fact that roles and scripts are themselves institutionalized enables actors to gauge the actions of others, and thus "institutions serve to edit, modify or amend the emerging sense in social interactions" (Weber and Glynn 2006: 1652), which may lead to 'social policing' if audiences question the legitimacy of an enactment that does not adhere to existing norms.

In the case described here, this type of social policing did occur, as ENGOs deployed institutional elements from other contexts and worked to achieve plausible enactments, their plausibility determined by their audience. In the empirical context of this case, though, what also becomes clear is that legitimacy judgments may differ among field participants whose interests or expectations differ; any organizational actor is likely to have to prove legitimacy on more than one front, for more than one group of judges. In particular, actors adopting innovations aimed at boundary-spanning may be subject to criticism from peers, if the innovations are deemed to violate core tenets of group identity. This is a source of tension and variation among different enactments of a similar institutional form, one which must be navigated by the innovating actors if they are to remain legitimate in the eyes of both peers and collaborators from other conversant categories. A preoccupation with identity and legitimacy were clearly evident in this case, where the participants engaged in sensemaking about sensemaking, or meta-sensemaking, contesting and defending various enactments that attempted to institutionalize particular interpretive systems, in the form of certification standards and inter-group partnerships.

7.2.3.1 Differing evaluations of legitimacy

As seen in section 7.2.2, novel circumstances forced actors engaged in the sustainable seafood discourse to engage with former adversaries using institutions that were not part of their customary repertoire. Performing in such circumstances generates a paradox: in order to be viewed as legitimate by the adversaries they hope to engage, actors must enact the borrowed institution as credibly as possible; on the other hand, adhering too closely to the script associated with the institution may decrease the organization's perceived legitimacy among its peers.

This tension can be seen in this case in the area of the adoption of the consulting partnership form by ENGOs. To industry, this form of engagement is highly legitimate, since it mimics the institutionalized form of a management consulting engagement. The corporate/ENGO partnerships came to be viewed as “critical” to firms attempting to adopt more sustainable sourcing practices, a move which “undoubtedly means working with an outside organization for advice” (*Seafood Business*, November 01, 2008). This legitimacy conferred by industry actors is partly a reflection of the ENGOs’ perceived legitimacy as arbiters of sustainability, but it also reflects credible performances by the collaborating ENGOs: while, “the classic concern is that the NGO doesn’t work at the speed of business” in fact, as one partner described, “We didn’t find that...[instead] it felt like a business partner...they understood that business supply chains had to be respected” (IND-Zelkova). One firm representative contrasted his dissatisfaction in working with government, the traditional voice on fishery resource use, to his good experiences working with the ENGOs, saying, “the partnerships between NGOs and industry are what’s productive” (observation, SS 2010).

In contrast, in the ENGO community, where traditionally “any engagement [with industry] is seen as legitimization” (NGO-Alder), borrowing this institutional form could be perceived as a “sell out” (NGO-Rowan), and enacting it credibly resulted in disquiet and concerns about the collaborating ENGOs’ ability to remain legitimate among their peers. Charging for consulting services was especially problematic, because doing so gave firms “leverage to tell us what to do” (NGO-Albizia); not accepting compensation meant an ENGO “could walk away if we needed to”, and that “gave our partnership process real integrity” (NGO-Albizia). Variation in ENGO

policies on this matter led to concerns that firms might engage in ‘forum shopping’, choosing less demanding partners (*Seafood Business*, November 2009), and thus lowering the effectiveness of their commitment to sustainability.

7.2.3.2 Meta-sensemaking: Regulating the regulators

By using the FSC as a model for their certification standards, actors were able to make their enactments more understandable and, it might seem, more legitimate, since the form was already accepted as part of the global governance landscape. However, the downside of this, for actors attempting to piggyback on the concept, was that variations from the FSC model could be seen as reductions in the new standard’s credibility and legitimacy: even though the FSC was a recent innovation, its structure and process rules were already sufficiently institutionalized that the legitimacy of deviations was questioned. Thus, two of the three standards described in this study, the MSC and BAP, were subjected to prolonged, interrelated sensemaking efforts by actors in the field. The third standard, the ASC, was itself a response to their contested enactments; the ASC enactment attempted to address the concerns raised during the period of questioning the other two standards underwent.

Just as was seen in the case of ENGO/corporate consulting partnerships, engagement with industry was viewed with great suspicion by the ENGO community. The MSC-founding partnership between WWF and Unilever was seen as “getting in bed with the enemy” (NGO-Wych). Eventually, in 1999, the organization became fully independent, but in the early years, the association with industry probably led to greater scrutiny of the standard by the ENGO peer community than it would have otherwise.

Besides the criticisms over WWF's corporate alliance, expectations in regard to the technical standards represented a core difference between WWF and its critics. While the organization's critics were focused on 'best' practices, WWF sought to move the mass market: "the MSC is not about taking fisheries from 80% to 100%. The MSC is about taking fisheries from 20% to 80%" (NGO-Wych). Thus, the critics worried that the technical standards would be set too low, whereas from WWF's perspective, "if you set the bar too high all you have is a couple of boutique fisheries that are not very significant" (NGO-Wych). Similarly, the ENGO community criticized the BAP standard on technical grounds since its inception, and there is lingering suspicion that the BAP standard, developed ostensibly to address environmental concerns, has morphed into a food safety standard instead.

Yet, while sensemakers in the relational field have questioned the legitimacy of the MSC and BAP technical standards, and continue to do so, it is the governance standards that have generated the most heated dialogue, probably because it is these standards that codify the rules for interrelating, with profound implications for other stakeholders regarding identity, standing, and trust. Of the two standards, the BAP certification attracted the most negative attention. While the MSC generated a good deal of debate within the ENGO community regarding its choice of a non-representative governance *structure*, the governance *processes* they put in place were considered generally credible, mostly due to the transparency of the certification process itself and the built-in mechanism permitting public comment on MSC decisions prior to finalization, together comprising "a process where they [MSC] can be publicly criticized...it's a system that allows for some forms of checks and balances, that doesn't shut voices out" (NGO-Rowan). Furthermore, as societal expectations

about what constitutes a credible certification have evolved, the MSC has been quick to incorporate stricter requirements. In contrast, the BAP governance processes have been sharply denounced by members of the ENGO community, already primed to be suspicious of an industry-sponsored standard. The debate has dragged on, as the GAA's response to ENGO accusations has been slow. For example, though the group responded to demands for third-party certification by forming the Aquaculture Certification Council (ACC), they retained control of the ACC, and failed to comprehend why this was considered illegitimate; they "really didn't understand why people were getting involved in their business" (NGO-Rowan).

Since the early 1990s, when the FSC was created, many more certification standards have been established to address a variety of issues besides forests and seafood. As actors in these fields sought legitimacy and achieved it to greater or lesser extents in accordance with their enactments, a set of ideals began to crystallize about legitimacy of governance in this sort of private regulation system. Independence, inclusiveness, transparency, and impartiality are the four critical values a legitimate standard is now expected to demonstrate. Those values were distilled through many rounds of sensemaking regarding individual standard systems, and have in recent years been institutionalized in 'watchdog of the watchdog' arrangements that effectively create and codify subunits of agreed-upon legitimacy. Consequently, in the sustainable seafood arena, 'legitimate standards' now follow the FAO's *Guidelines for Ecolabelling of Fish and Fishery Products from Marine Capture*, the International Standards Organization's ISO 65 *General requirements for bodies operating product certification systems*, and the ISEAL (International Social and Environmental Accreditation and Labelling Alliance) *Code of Good Practice for Setting Social and Environmental Standards*, to name a few. The reliance of

legitimate certifications on third-party assessment has even given rise to a new organizational form that employs a specialized type of auditor, expert in fishery management. By adopting these ‘watchdog of the watchdog’ subunits, standards-setters are able to use a kind of shorthand to signal their legitimacy to the actors in the relational field; for example, after its shaky beginnings, BAP is today increasingly viewed as a reasonably legitimate standard for making incremental improvements to the mass market, in the wake of its adoption of the ISO 65 standard, and now that its certification body has become independent.

In contrast to the MSC and BAP, the Aquaculture Dialogues and resulting ASC certification are frequently referred to by actors in the relational field as the ‘gold standard’. The format of the dialogues was aimed at achieving consensus among a wide range of stakeholders, employing a “*true* multi-stakeholder approach” [emphasis added] (Villalon 2008), and thus addressing concerns about the closed-door development process that resulted in the BAP. Yet, even the ASC is subject to increasing demands for legitimacy by the ENGOs, who admit to having “played them [ASC and BAP] off each other” so that “the governance changes that happened in the BAP program actually pushed ASC to improve their communication and governance, which is exactly what our intent was” (NGO-Alder). Thus, and perhaps surprisingly, the actors engaging in meta-sensemaking about the legitimacy of others’ enactments may also use legitimacy determinations strategically, to advance their own projects: “We want credible systems out there. We don’t care if it’s industry doing it well and NGOs not. We’ll force that conversation to happen” (NGO-Rowan).

Finally, the meta-sensemaking about what constitutes a legitimate enactment of an institution shows signs of itself becoming institutionalized. Knowledgeable actors in

the field are beginning to use the set of questions embedded in the meta-sensemaking described in these paragraphs as a taken-for-granted template for assessing Fishery Improvement Projects (FIP) and Aquaculture Improvement Projects. Until now, innovating experts have run these improvement projects in an ad hoc way, crafting individualized guidance for clients. At this point, however, they seek to institutionalize the process so that it can be performed by retailers who lack their expertise. In thinking about how to go about that, they ask a list of questions that encapsulates the thinking of the past fifteen years of standard-setting: “What is a FIP? What makes it credible? What are the tools? ...How do we standardize the tools? What do we learn from the ones that have succeeded? How do we replicate?” (observation, SS2012).

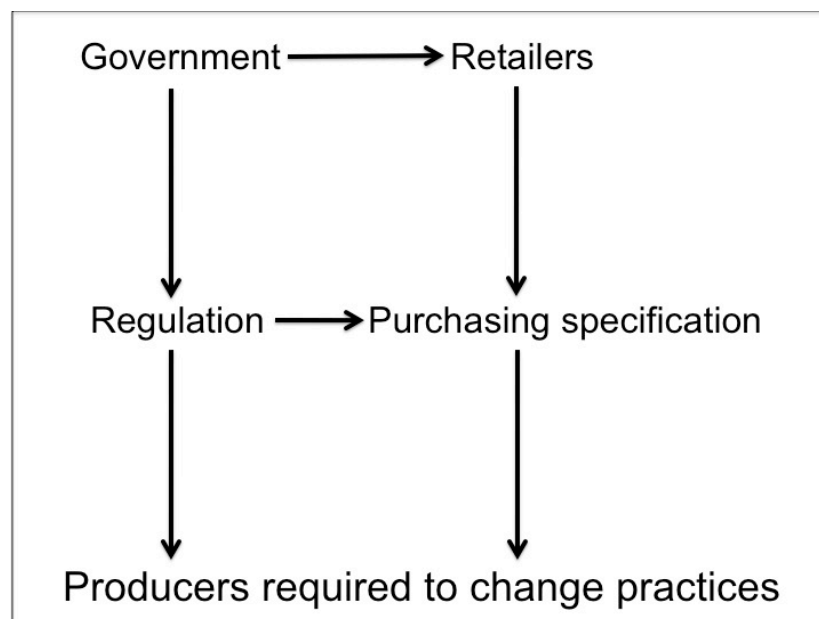
7.3 Diffusing the new logic in the mass market

The politics of fishing is still dominated by the big old dinosaur of seafood processors that try to stop conservation measures wherever they can....[but] they don't have as much clout as they used to...because sustainability has really taken over. It's bypassed them. Now they have to go along with that; they don't have much of a choice. (NGO-Wych)

As this narrative has demonstrated, it can be difficult to bring about a change in the dominant institutional logic in an industry which is heavily invested in equipment, technology, and techniques; materials embody the sensemaking associated with the dominant logic, and their lock-in facilitates institutional lock-in. However, by the same token, if equipment, technology, and techniques should be replaced with different practices, practices that materialize the new logic, this very characteristic, the material embodiment of a particular type of sensemaking, effectively institutionalizes the new logic, with or without widespread normative, cognitive (Scott 1995), or emotional investment (Voronov and Vince 2012) in the new order. This structural lock-in is essentially what occurs when diffusion relies on regulatory (Scott 1995) fiat

mandating technologies or performance standards. In the case presented here, though, government regulation was not practically feasible. Consequently, actors wishing to structurally embed the material practices that would support a new logic of scarcity looked to the seafood supply chain, identifying retailers as the member group with the most government-like power over producers. The retailer node in the supply chain already controlled a wide variety of product characteristics through buyers' purchasing specification sheets, including such dimensions as species, quality, size, and provenance. In effect, adding a single attribute, 'sustainability', to the specification sheet, would have a similar effect to a government regulation. Thus, for those actors wishing to change production practices in accordance with their preferred solution to the overfishing crisis, the newly-created certification standards that embodied material practices more in line with a logic of scarcity, retailers assumed the coercive government function in the supply chain, and the specification served as a focal boundary object (Star and Griesemer 1989), as depicted in Figure 7-4.

Figure 7-4 Shift of government regulatory function to retailers in seafood supply chain



However, in contrast to the setting in which ENGOs performed their previous advocacy work, consisting of litigating and lobbying government, they now had to work in conditions where uptake of their standards was voluntary. This section shows the importance of identity concerns to the diffusion process for sustainable seafood purchasing practices. As a first step, in order to persuade firms to voluntarily adopt the new standards, the ENGO actors devoted considerable resources to building, maintaining, and repairing relationships with members of industry, developing new relational capacity that reconciled both groups' identity concerns around interactions. By deploying this new capacity in combination with their more traditional confrontational approaches, these actors were able to adjust the emotional intensity of the sustainable seafood discourse in ways that increased their influence with the target retailer group.

Diffusion of the change project, in the form of modifications to retailers' purchasing standards and their commitment to supply chain sensemaking projects with ENGOs, has proceeded thus far in what appears to roughly align with the often-seen two-stage model of diffusion (Tolbert and Zucker 1983). However, as this section describes, movement from the first stage, in which technical considerations served as motivations to firms, to the second, mimetic stage, in which identity-related legitimacy concerns more often served as catalysts, did not flow automatically. Rather, in this case, an ENGO-produced shock jolted laggards by invoking reputational risks; retailers' interpretations of this shock were grounded in identity concerns, and they led to a new understanding among firms that purchasing practices incorporating seafood sustainability had become necessary for legitimacy, at both the organizational and industry levels. The study closes as some firms are beginning to take on the activist

role of the ENGOs, advocating awareness among customers, colleagues, and peers, and moving to initiate and manage seafood production improvement projects themselves. This ‘embedding of agency’ may reflect more than rhetorical skill on the part of persuasive ENGOs; in fact, retailers’ assumption of the activist mantle may reflect their own identity-related motivations related to status. Thus, to summarize, this section illustrates the way that the diffusion of a new institution supporting an industry logic that challenges the dominant logic may revolve around identity concerns, leading actors to engage in relational and emotional work, and resulting in organizational adoption decisions that involve more than a dichotomous determination of legitimacy.

7.3.1 Finding common ground

In changing course and prioritizing working with the seafood industry over pursuing regulatory relief, the ENGOs faced a challenge in convincing the industry that their intentions were benign, yet they had to build a more amicable relationship with firms, for at least two reasons. First, of course, they wished to persuade them to change their purchasing specifications to require sustainability in their seafood offerings; however, at least in theory, this goal might be achieved through other means, such as consumer action, which had worked in the past on efforts such as the dolphin-safe tuna campaign. However, the more compelling impetus was that the opacity of the seafood supply chain meant that firms needed ENGO assistance if they were to actually implement and enforce any revision to the purchasing standard. Thus, the organizations seeking to build collaborative relationships with industry began to come to the same conclusion SeaWeb had reached, that a “hard-edged advocacy

campaign...doesn't necessarily buy us any friends in working with the industry for the long-term... if you want to get them to come to the table" (NGO-Osier).

However, their previous advocacy was seen by the industry as attacks, the ENGOs "intent on putting many [firms] ...out of business" (*Seafood Business*, July/August 1996, p. 8). To the industry, it seemed that seafood was "becoming vilified in the minds of consumers", and viewed as "politically incorrect" (*Seafood Business*, October 1999, p. 22). Sensemaking is based in identity, with the result that sensemakers view questioning in interpersonal terms, so that their perceptions of the reality of the sensemaking circumstances "tend to be translated into questions of intentions and personalities" (Weick 1995: 59). Actors respond not only to others' actions, but also to their perceptions of how their own actions are received by others, since "identities are constituted out of the process of interaction" (Weick 1995: 18-19).

7.3.1.1 Building relational capacity

While initially sharing the larger industry's suspicion of ENGOs, retailers in particular had several important characteristics that made them more receptive to ENGO efforts. For one thing, seafood was often just one of hundreds of product categories retailers stocked, and working with multiple supply chains meant they were exposed to contradictions in institutional logics, reducing their embeddedness and decreasing their investment in the status quo for any particular product line's production practices (Greenwood and Suddaby 2006). On the other hand, retailers occupied a position that was central, both in the sense that their interests were well served by existing arrangements (Leblebici, Salancik et al. 1991) and in that they wielded significant power over the rest of the supply chain. However, within the seafood supply chain, retailers were the most vulnerable to bad publicity and consumer action,

and thus their interests were not perfectly aligned with the dominant interests of the field, interests shared by other parts of the supply chain such as seafood producers, processors, and distributors (Greenwood and Hinings 1996).

Proof that it was possible for a corporation and an ENGO to collaborate could be seen in the decision by Unilever and WWF to co-found the boundary-spanning MSC. In that case, Unilever was motivated to do so out of a desire to lessen business risk, whereas WWF was motivated by its commitment to ocean conservation, thereby demonstrating that a corporation and an ENGO could work together on a common cause without necessarily interpreting the meaning of the project in the same way (Fiol 1994).

However, as Fiol (1994) found, though interpretive content could differ, shared frames (defined differently from the sensemaking conceptualization, instead seen here as the forms actors used to describe their differing views of reality) were necessary. In seeking to shift the industry from its defensive response, and instead move toward acquiescence or at least compromise (Oliver 1991), the environmental groups found they must embrace certain logics that had proved to be core components of the industry's self-image, in particular, the value-laden attribute of an industry whose purpose was 'feeding a hungry world'. Thus, a significant development in the road to finding common ground came when SeaWeb, due to its market research and successful swordfish boycott, realized that it was more successful to "talk about fisheries as seafood and not protecting fisheries" (NGO-Osier). That so-called 'ocean-plate connection' paved the way for the ENGO community to accept and embrace the industry-held view of itself, as "an industry that employs hundreds of thousands of people who supply food to millions around the world" (*Seafood Business*, April 1999, p.

18). The ENGOs also had to learn to frame their arguments not just in terms of conservation benefits, but in financial terms, as well, showing their corporate partners where old seafood production methods represented business risk or new ones might boost profits; where they previously were “afraid of their economic self-interest...[they had] to help them [firms] see it so they believe it” (NGO-Rowan).

While representatives of corporations and their ENGO counterparts developed their own individual working relationships, SeaWeb became a sort of ‘relationship broker’ within the sustainable seafood relational field: “For us...it’s all about the relationships and building trust” (NGO-Osier). To this communications-based organization, it was essential to ensure the field was as broad and inclusive as possible, in the belief that “to really effect change, you have to have all those players at the table...more good comes out of collaborating and bringing disparate people together to resolve problems than just sitting throwing darts at each other and suing or throwing accusations” (NGO-Osier).

In convening representatives from groups that did not see eye-to-eye in fora like the Seafood Summit, SeaWeb employed a set of ‘relational logics’, a phrase I use here to refer to prescriptions underpinning social relationships and interactions. These guidelines for interactions provided a cognitive and emotional framework that helped participants achieve the ‘heedful interrelating’ (Weick and Roberts 1993) in their collaborative sensemaking that would enable coordinated action even in the absence of shared beliefs or knowledge. Thus, for example, SeaWeb staff were referring to relational logics when they repeatedly spoke of the need to “approach people where they are...not where we want them to be (NGO-Osier)”, and of working to change the contextual circumstances for industry sensemaking by “conditioning the climate for

change”, that is, building cognitive support for the new logic through actions like helping scientists promote their findings and working to educate and enlist ‘infomediaries’ (Deephouse and Heugens 2009) like chefs and the media. These two relational logics were offshoots of an umbrella relational logic that has gained purchase within the larger ENGO community over the last two decades, as corporate engagements have been the site of more and more environmental activism: ‘be tough on the message, but gentle on the messenger’. This logic has been paraphrased in the Seafood Summit ‘rules’ as “we must be tough on the problem, not on each other”, but respondents in this study referred to it using both phrasings.

These logics, particularly the admonition to be “gentle on the messenger”, helped ensure that, in these potentially volatile settings, the answer to individual sensemakers’ question relating identity and others’ evaluations of them, “How can I know who I am until I see what they do?” (Weick 1995: 23), was not one that threatened their identities, inasmuch as ‘what they do’ necessarily was constrained by the relational logics. Relational logics thus address the duality of the individual representing an organization, where “individual behavior is more “macro” than we usually recognize” (Chatman et al. 1986, p. 211, in Weick 1995, p. 23).

Identity was not solely the concern of industry representatives, either. As was seen in the early Seafood Summits, individuals within the ENGO community worried about performing their changing organizational roles, without jeopardizing their organizational identity, before an audience containing outsiders like the industry and the press as well as peers.

They [the ENGO representatives] weren’t really sure what they were feeling, and if they said something, would they look stupid in front of their peers, or would they be pushing

their own organization further than maybe their board or CEOs wanted them to go in terms of some of the shifting? (NGO-Osier)

Relational logics thus provided the ENGO representatives with a rubric for conducting their relationships with members of industry, and gave individuals representing their firms some assurance that meetings with ENGOs would not be confrontational. The effect of the logics could be seen in the willingness by 2012 of business contacts already participating in the Seafood Summit to make phone calls to their reluctant peers, to vouch for the summit being a ‘safe space’.

7.3.1.2 Strategic adjustment of emotional intensity

In this case, developing practices to support a new logic required adversaries to engage in collective sensemaking, with ENGOs contributing environmental expertise and firms contributing business and supply chain expertise. However, attracting and retaining participants involved breaking emotional ties to the dominant logic (Voronov and Vince 2012), and promoting commitment to the new logic and to the sensemaking field itself, and this required significant effort. This section illustrates how the ENGOs in this case, in their work as sensegivers, used their ‘relational logics’ to help them attend to the emotion their efforts elicited while invoking institutionalized ‘process logics’ strategically to adjust the emotional environment in the relational field; in keeping with those process logics, sensegivers employed a variety of practices and rituals that were themselves institutions borrowed from other settings.

Reexamining the ENGOs’ ‘umbrella’ relational logic, being ‘tough on the message’ emphasized the cognitive aspects of the ENGOs’ use of discourse to promote industry change, though being ‘tough’ also did involve emotional ramifications. Being ‘gentle on the messenger’ emphasized affective awareness, revealing ENGOs’ recognition of

the emotional vulnerability of the corporate representatives dispatched to work with them. In calling for ‘gentleness’, this relational logic appears to be diametrically opposed to traditional ENGO tactics, which generally had seemed to take as their mantra famed community organizer Saul Alinsky’s assertion that, “The enemy properly goaded and guided in his reaction will be your major strength” (Alinsky 1971). Yet, in fact, in this case the ENGOs deployed institutional elements creatively, manipulating the emotional context within the sustainable seafood discourse in ways that both ‘goaded’ and ‘guided’, thereby enacting ‘toughness’ and ‘gentleness’ in various combinations to advance the change agenda.

In communicating cognitive rationales for the new logic, ENGOs often enacted ‘being tough’ by framing their messages in ways that provoked emotional responses from members of the industry. The following are salient examples. Each builds on dry facts, aimed at influencing cognitive understandings of the natural world. Enrobed in institutionalized signification, however, the facts achieved emotional resonance, eliciting audience responses that reflected listeners’ lingering identification with the dominant logic of inexhaustibility.

Boycott. Boycotts are institutionalized signifiers whose perceived meaning often looms larger than their objective impact. When SeaWeb launched its chefs’ boycott of swordfish in 1998, aimed at rebuilding US stocks, the industry responded with fear and anger that persisted long after the campaign ended. For the industry, the SeaWeb boycott fell within a sensemaking frame that was an abstraction of previous experiences such as the dolphin-safe tuna boycott, and this frame was a carrier for the emotional content associated with those experiences as well as cognitive interpretations.

Traffic signal. The Monterey Bay Aquarium’s Seafood Watch program provides science-based sustainable shopping recommendations, and these logic-based appeals are presented using a traffic signal metaphor: red for ‘avoid’, yellow for ‘good alternative’, and green for ‘best choice’. This color-enriched metaphor conducted strong emotional messages to the targeted industry, and has become part of their thinking; its ability to excite was evident when a supermarket executive at the Summit practically shouted his question for fellow executives, “Why are you selling red list? You shouldn’t even be selling it!...I’m saying, “...Get red off the shelves!” (observation, SS2010). The metaphor also resonates among frontline producers. In one overheard conversation between fishermen, a monkfish producer expressed anger, disgust, and wounded pride with his question to a broker: “Why are you even working with me, monkfish is on the red list?” (observation, BSS, 2010)

League rankings. The previous signifiers encourage negative emotions around existing practices, but industry actors who strongly identify with the dominant logic may perceive them as threats to industry identity and respond with collective ego-defense efforts (Brown and Duguid 1991). An ENGO yearly ranking of supermarkets’ seafood sustainability impeded any such collective defense, instead fostering industry division by sparking competitive emotions like jealousy, pride, and anxiety. According to one activist, the rankings “really raised the bar across the board...companies may know that they are never going to be number one, [but] they certainly don’t want to be the last” (NGO-Acacia).

Evidence of the ‘being gentle’ aspect of the umbrella relational logic was visible at the Seafood Summit. Whereas, in the practices mentioned above, ENGOs worked to create and intensify negative feelings among industry actors about the environmental

consequences of the practices aligned with the dominant logic, and their own relative performances, the Seafood Summit exemplified positive ‘guiding’ work, aimed at buffering negative emotions to create an emotional climate that would build identification with the sustainability effort among industry attendees. In keeping with the theorization by Weber and Glynn (2006) that institutions are the feedstock for sensemaking, the Summit invoked numerous ‘process logics’, institutionalized guidelines about ‘how things should be done’, including appropriate demeanor and behavior in a given setting. They are taken-for-granted prescriptions, available to socially competent sensemakers, enabling disparate actors to work in a coordinated fashion on a project of mutual interest (Weick and Roberts 1993).

For example, many material aspects of the Summit supported the spirit of business-like collaboration by providing cues to all attendees about the appropriate ‘process logics’ to follow: To review, the summits were held in upscale conference hotels, and to all appearances could be any business meeting, with nametags, totebags to hold attendees’ conference papers, catered breaks, visits by local dignitaries, and, when set in non-English speaking countries, as they have been for two of the last three years of this study, translators and headsets. Most attendees, including even those representing the more radical wing of the movement, dressed in suits or other business-appropriate attire, contrasting with the more casual clothing those same ENGO members often wore at the Boston industry conference. A key activity was ritual consumption of sustainable seafood at lunches and receptions, where industry and ENGO representatives dined and drank in convivial mixed groups. Consuming seafood together served an identity-preservation function for the industry, since, like the US petrochemical industry in the 1950s (Hoffman and Ocasio 2001: 416), members of the

seafood industry consider their work vital to the nation and a force for good in the lives of individual Americans, providing nutritious food for a growing population, and in doing so employing thousands. Also, a pageant ritual fostered excitement and goodwill; at the Summit, nominees were announced for the year's 'Seafood Champions'—leaders in the effort to move production practices toward sustainability, hailing predominantly from industry. Final champions were announced at a well-attended celebratory reception at the Boston industry conference.

That this positive way of engaging with each other was unaccustomed, though, was evident in each meeting room, where large, centrally-placed posters listed 'the rules' (shown in chapter 6 in Figure 6-4); these guidelines were aimed particularly at maintaining respectful attitudes during post-presentation question and answer sessions, when tempers sometimes flared, as when one executive responded to prodding by an employee of an ENGO by erupting, "I've invested a lot in MSC, I'm tired of Greenpeace knocking good work!" (observation, SS2010). The rules themselves made explicit certain standards of behavior that organizers could not count on participants comprehending implicitly through the positive and business-like context.

Relational and process logics were deployed by ENGOs to shape the emotional climate in ways that would advance their change project, but they also made it possible for less-favored members of the relational field to participate, albeit often with discomfort. In particular, aquaculture was seen as problematic by the ENGOs, and the BAP standard resistant to improvement, with the consequence that those representing BAP often described a feeling of alienation, of being the "red-headed stepchild" (observation, SS2010) at the event. It was important to them to be seen as

belonging, particularly in the view of retailers, the prospective customers for their certification system; the arbiters of that legitimacy were the ENGOs: “If they [the retailers] consider that [our group] is kind of unwanted or unappreciated...then our program will have no credibility. You see they're [the ENGOs are] quite rude with [a representative from a different standard], and he suffers the same thing, but more extreme because he's less liked by NGOs than [us]” (IND-Blackthorn).

7.3.2 Two-stage ‘plus’ diffusion: Processes of legitimacy, reputation and status

Beginning in 2000, when the first few retailers began to enter into collaborative engagements with ENGOs in order to review and modify their purchasing specifications to increase the sustainability attribute of their seafood offerings, they were motivated by concerns such as maintaining long-term supply, or by a desire to garner first-mover reputational benefits associated with corporate social responsibility. When Walmart announced its own commitment in 2006, the company sought to counter-balance reputational harms it had suffered due to publicity about social malfeasance. These early commitments stemmed from strategic consideration of business risks and benefits, technical considerations typical of the first of the two stages of institutionalization theorized by Tolbert and Zucker (1983). In that stage, functional pressures evoked conscious sensemaking about an institutionalized practice’s instrumental value, demonstrating the validity of Oliver’s observation, that “the perceived worth of an institutional practice...is not invulnerable to re-evaluation or reconsideration in technical terms” (Oliver 1992: 571).

The size and supply chain power of Walmart led knowledgeable observers to predict that competitors would quickly follow that company’s move to add seafood

sustainability to the purchasing specification, these predictions perhaps reflecting a layman's implicit awareness of the existence of a two-stage diffusion process (Tolbert and Zucker 1983). Surprisingly, however, Walmart's move did not lead to immediate imitation by other grocers, implying that the new purchasing practices were not yet institutionalized. Broad uptake of those practices did not come until after Greenpeace began publishing a report ranking supermarkets according to the sustainability of their seafood purchasing policies. This section theorizes the implications of this case in which normative pressures were invoked through the introduction into the discursive field of reputation-related sensemaking, leading to increasing legitimization of the new practices.

The section concludes with a discussion of a phenomenon that was just beginning to appear as the study came to an end. In 2012, with seafood sustainability on the agenda of virtually every major supermarket chain in North America, corporate leaders began to differentiate their own activities from those of competitors, who by then had made increasingly similar and legitimated commitments to modify their purchasing practices. In this most recent stage, select retailers are going beyond the now-expected level of engagement to work directly with problematic producers on improving their operations. This is effectively striating the retail industry's social field by creating a new 'upper' level of commitment, bringing status considerations back into play, those benefits having been neutralized when the earlier standards became widely diffused, and thus requirements of legitimacy rather than marks of distinction.

7.3.2.1 Normative pressures, reputation, and the creation of legitimacy

Any retailer that wants to survive will have to develop a sustainable seafood program to compete against Wal-Mart for eco-conscious consumers. (Seafood Business, March 01, 2006)

Walmart's 2006 move failed to instigate the mass shift among retailers that was expected. Considered in the context of the Tolbert and Zucker two-stage model of diffusion, this can be interpreted as evidence that the new practices were not yet taken-for-granted as necessary components of legitimacy for retailers. One possible explanation for this failure to adopt the new standards quickly may be found in asking who, in this industry, holds authority over legitimacy determinations (Deephouse and Suchman 2008). For retailers, customers have great (though not exclusive) power, and certainly at that point in time, very few of them were expressing any interest in seafood production practices. Even years later, there was "no huge footfall of customers storming the customer service desk" (observation, SS2010); "the average consumer...[wasn't] screaming at his/her local seafood store or restaurant about their seafood purchasing habits" (*Seafood Business*, February 01, 2010).

It was only in 2008 that mainstream firms began to dramatically increase their adoption of the new purchasing practices, in the aftermath of an ENGO-produced shock that disrupted their field: Seeking to prod lagging retailers, Greenpeace introduced reputational considerations into the organizations' sensemaking when it published its first US supermarket scorecard. Unlike legitimacy determinations, which have been theorized to be dichotomous, "reputation is fundamentally a *continuous* measure, placing each actor on a continuum from best to worst [emphasis in original]" (Deephouse and Suchman 2008: 62). Thus, "as a ranking of actors, reputation is fundamentally *rival* [emphasis in original]" (Deephouse and Suchman

2008: 62), and the effect of this rivalry quickly became apparent in the retailer community, as firms scrambled to improve their standing vis-à-vis competitors: “Suddenly sustainability and seafood became competitive [when] they [retailers] were going to be publicly bashed or lauded depending on where they were on the list” (NGO-Acacia). In responding, retailers and ENGOs came together in collaborative partnerships which not only allowed for information exchange, but also provided firms with legitimacy by association, inasmuch as connections with other organizations seen as legitimate can bestow legitimacy (Galaskiewicz 1985).

With greater diffusion, the new practices became more institutionalized. However, they are not yet fully institutionalized, to the point of being taken-for-granted (Phillips and Malhotra 2008). This is evident inasmuch as firms’ dialogue continues to seek technical rationales for their adoption of sustainability-oriented purchasing policies. In particular, they speculate that customers do not ask that seafood products be sustainable because they never realized they had not been in the past; rather, retailers have come to believe that customers expect supermarkets to ensure that production processes are responsible: “[Consumers] trust us. We don’t flaunt our food safety, that’s expected. I think sustainability’s going to become similarly expected” (observation, BSS 2010). In this interpretation, sustainability is part of the retailers’ brand, a core part of their identity and projected image, and therefore a sacred trust: “when he goes into a supermarket [the consumer] expects certain things. He expects the seafood to be sustainable and he expects it to be safe...[a brand] represents all that” (IND-Ash). Nevertheless, even though this search for a rationale implies that the practices are not fully institutionalized, the fear revealed in the reasoning, that is, that customers might lose trust in the supermarket as a whole if they learned the seafood

products they bought at the supermarket were not produced sustainably, does indicate that adopting the new practices is now considered necessary by firms because doing so “protects the organization from having its conduct questioned” (Meyer and Rowan 1977: 349).

By 2012, the majority of US supermarket chains had altered or were in the process of altering their seafood purchasing policies in accordance with the new logic of scarcity. The idea that retailers should have some sort of sustainability initiative in place was well on its way to being considered essential for legitimacy. By introducing a competitive element to compliance, Greenpeace’s annual supermarket league rankings prevented solidification of a ‘lowest-common-denominator’ purchasing standard, instead fostering a range of compliance behaviors and a trend toward continuous improvement. Basic standards for compliance, however, were fairly well established and available for firms content to land somewhere in the middle of the rankings but unwilling to suffer reputational damage by falling too low: “while some companies may know that they are never going to be number one, they certainly don’t want to be the last” (NGO-Acacia).

7.3.2.2 Corporate evangelists: True believers or status seekers?

You guys [industry] are going to be us, we’re going to be on parallel paths working together. (NGO-Rowan)

As this study neared a close, a subset of retailers had begun to show a new, deeper level of engagement. These retailers have recently started to take on the role of sustainable seafood activists, championing the cause before customers, within their organizations, and among competitors. Thus, one supermarket executive spoke of ‘pushing’ customers using in-store displays: “Even if customers aren’t pushing us,

sometimes we have to push them” (observation, BSS 2010). Another advocated a more assertive role of consumer education for the industry, one that went beyond praising sustainable offerings to instead spotlight what was not sustainable: “I say we [retailers] need to be telling the other side of the story...telling consumers what is being done that’s bad. That’s why I’m saying, ‘Show red/yellow/green and then get red off the shelves’” (observation, SS 2010).

On the upstream end of the supply chain, these retailers are now starting to move beyond simply requiring that their seafood come from MSC, ASC, or BAP certified sources, taking on the more challenging job of working directly with existing suppliers whose practices do not yet qualify for certification to improve their production methods. In this new development, “for the first time...retailers systematically...[are] asking [their suppliers] if it's not certified what are you doing to get it there?” (observation, SS2012)²¹.

This new development might indicate that the new logic of scarcity is in the process of gaining a position of true dominance. In this reading, corporate actors are moving beyond the pragmatic concerns focused on technical considerations, basic legitimacy, or competitive position which accounted for the initial, structural diffusion of new practices in the mass market, to a more thorough institutionalization involving moral, cognitive, and emotional investment. This would align with theorizations about legitimacy, reputation, and status that propose that “surface conformity [may] lead

²¹ It is worth noting that these fishery and aquaculture improvement projects still are defined in relation to certification standards, exemplifying Weick’s sentence completion metaphor, in that early turns in sensemaking set the path for future developments.

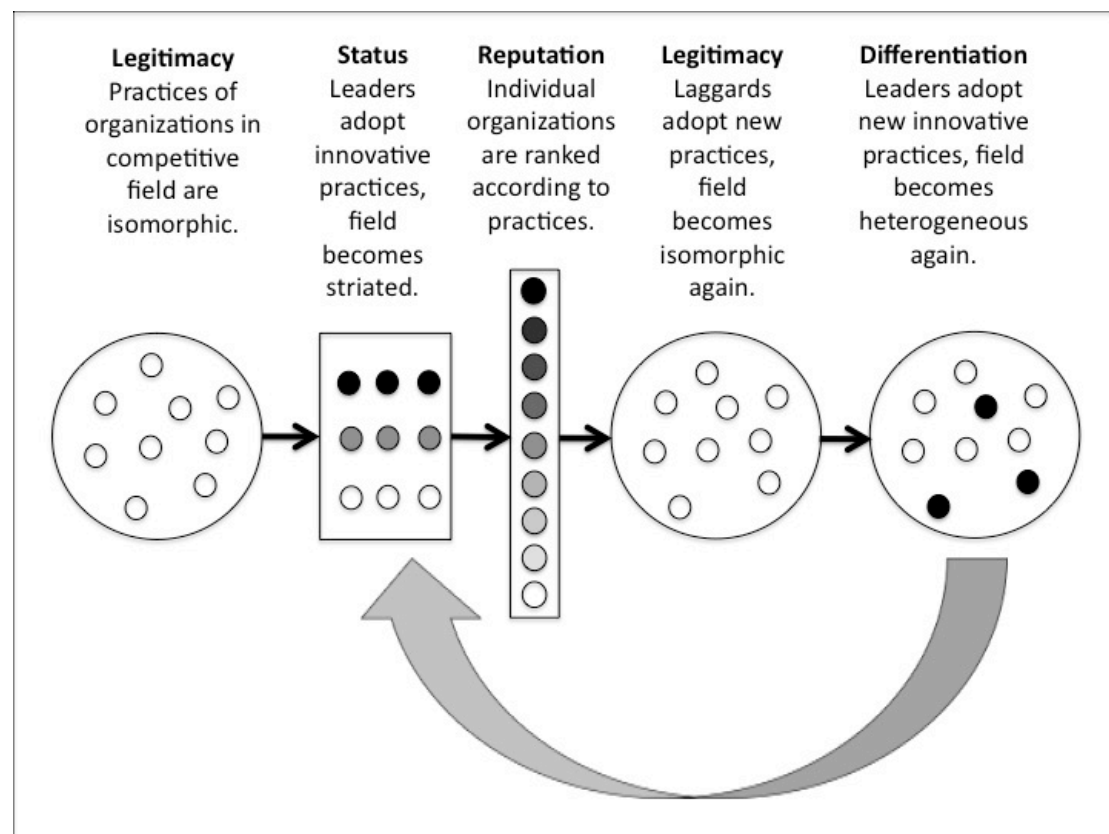
over time to internalization, despite initial cynicism” (Deephouse and Suchman 2008: 60).

Another possibility, and one that is not mutually exclusive with the first, is that this deeper level of engagement arises from a desire to achieve a status differentiation by distinguishing those firms demonstrating greater dedication to the cause. This latter interpretation hints at a possible identity-focused aspect to processes of institutional diffusion. In this conceptualization, shown in Figure 7-5, first movers adopt a new practice, thus distinguishing those in that group as a privileged subset of the larger field, with identity-related status benefits. Over time, the new practices become accepted by legitimacy arbiters, leading to vulnerability on the part of laggards to reputational damage on the basis of within-industry comparisons. Reputational concerns lead to increasing legitimization of a basic level of conformity.²² However, because legitimacy is dichotomous, and typically believed to be homogenous (Deephouse and Suchman 2008), identity-related benefits of status differentiation are no longer available through adherence to a “collectively legitimated template” (Deephouse and Suchman 2008: 61). This leads those seeking status benefits to ‘move the bar’, “interposing new bases of distinction...in order to maintain group boundaries (Weber 1946)” (Deephouse and Suchman 2008: 63). Thus, “higher-status groups tend to jettison status markers as soon as those markers become contaminated by

²² Here, the supermarket executive’s admonition to his peers to ‘Show red/yellow/green and then get red off the shelves’ (observation, SS 2010) may indicate that a belief has taken hold among retailers that the unsustainable seafood sourcing policies of one retailer reflect poorly on the industry as a whole: If customers really do tacitly expect seafood offerings to have been sourced responsibly, just as they expect retailers’ offerings to be safe, then there may be a ‘reputation commons’ problem associated with non-compliance, in which deviant behavior on the part of one retailer harms the category. King, A., M. Lenox, et al. (2002). Strategic responses to the reputation commons problem. Organizations, policy and the natural environment: Institutional and strategic perspectives. A. Hoffman and M. Ventresca. Stanford, CA, Stanford University Press: 393-406..

imitation” (Deephouse and Suchman 2008: 61)”, a situation possibly reflected in this case as industry leaders demonstrate their greater engagement by moving beyond merely requiring external certification of the products they buy to working directly with producers to improve practices: “It’s one thing to tell them [buyers], ‘Buy from an MSC certified fishery,’ it’s another to say, ‘Look, you’re sourcing from a fishery that’s a mess, but rather than walk away from it you need to help them and you can do that through your buying power’” (IND-Ash).

Figure 7-5 Reputational considerations and adoption decisions



It is beyond the scope of this analysis to determine if this corporate activism reflects true belief or a desire to gain status benefits. However, it is clear that the ENGOs catalyzing this latest development have concerns about retailers taking on this new role, concerns that go beyond worries about their capacity to manage the projects to

question also their sincerity, to ask, “How do you distinguish greenwashing?” (observation, SS2012). With this new development, “the challenge becomes, ‘who is watchdogging it?’” (NGO-Rowan), and the answer so far is that the ENGOs retain the right to determine the legitimacy of the retailer efforts: “the role of the NGOs or the conservation community is to...truth check what they’re doing to make sure it’s legitimate, maybe helping them, guiding them, advising them” (IND-Ash).

While changes to purchasing policies have embedded the new logic of scarcity in the material practices of many producers, and the latest development, in which embedded agents in the retail sector have internalized the activist agenda, has the potential to expand the reach of the new logic exponentially, many in the industry still chafe at ENGOs’ resolve to maintain authority over determinations of legitimacy where fishery exploitation is concerned, and this may reflect a lingering commitment to the original dominant logic of inexhaustibility:

Industry leaders are starting to vocalize doubts that NGOs funded by private companies, which invariably have their own political agendas, should be setting seafood sustainability standards for the industry...NGOs have been necessary to push the envelope with policymakers, but not to the extent that they are influencing the outcome of a public resource. (Seafood Business, May 04, 2012)

The ENGO position on industry’s ability to self-regulate is guarded, but optimistic for the long run:

I think when industry can demonstrate that it's also transparent, it's willing to hold up where it's failed, as part of that system...I think we're not quite there yet, but I don't doubt that the capacity and the resources are there. (NGO-Rowan)

Chapter summary: This chapter has focused on three processes involved in institutional change, problematization, capacity building, and diffusion of new

practices, using a sensemaking perspective to highlight the cognitive, emotional, and identity-related demands faced by actors coping with a context in which a challenger logic has arisen in opposition to the dominant logic underpinning industry practices. Within a context dominated by scientific uncertainty, actors were seen to devote significant resources and effort to problematizing existing practices, engaging in progressive rounds of sensemaking that was constrained by existing frames, enabled by available institutional elements, and informed by social evaluations. As scientific uncertainty decreased, entrepreneurial actors engaged in capacity building activities, creatively deploying and modifying existing institutional elements to construct standards aimed at re-sculpting industry practices to align with the new logic. In the final stage described in this study, a stage which is presently ongoing, actors were seen to creatively use institutional resources to shape cognition and emotion with a goal of institutionalizing the new logic in material practices, and to adopt new practices in ways that supported organizational identity goals.

8 CONCLUSION: A SENSEMAKING PERSPECTIVE ON COMPETING INSTITUTIONAL LOGICS

This study originated from an interest in institutional theories of deinstitutionalization, conflicting logics, and institutional change, particularly where corporate practices that impact the natural environment attract scrutiny by industry outsiders. Intuitively, it seemed that such a context was likely to produce rich, consequential interactions among organizations with different perceptions of the truth status and resulting material ramifications of contradictory logic claims, and this raised questions about how actors with such different interests and beliefs would cope with the contradictions and dissonance inherent in such a situation. In particular, in a context characterized by scientific uncertainty, alternatives to existing arrangements are not immediately apparent, implying that significant work is involved in simply understanding the nature of disruptions in the natural environment, much less generating preferred alternatives that actors might then champion. Existing scholarship on deinstitutionalization and institutional change has not focused on the earliest stages of attention and interpretation around a disruptive event whose significance is unclear; rather, the literature generally presumes the existence of a preferred alternative, and this shortcoming led me to the sensemaking stream of inquiry to inform my first research question: How is it that individual actors engage in the institutional work of sensemaking and sensegiving in order to reduce the credibility of a dominant logic and make a new logic plausible?

To address this question, I embarked on a case study of the sustainable seafood discourse arising in the aftermath of the cod collapse off North America's eastern seaboard in the early 1990's. The data revealed that, while early efforts at outsider-

driven change were concentrated on the regulatory solutions typical of institutionalist accounts, the contemporary change project involved a transformed commodity chain whose globalized nature precluded straightforward regulatory relief. Thus, outsiders' efforts were focused on persuading corporate actors to demand and enforce change using their power over the supply chain. The implication of this finding was that, in processes of outsider-driven change, the question of embedded agency is less relevant than processes of *embedding agency*, and this led me to my second research question: How do change agents creatively use institutional resources to shape cognition and emotion in an adversarial collaborative sensemaking project aimed at institutionalizing a new logic in material practices?

The case data, presented in chapter 6, showed how the institutionalized assumptions of different groups of field participants regarding the cod fishery resulted in the stock's collapse, attracting a new group of actors to the relational field who introduced an opposing logic to the dominant logic underpinning the seafood industry. It further showed that, in their initial efforts to interpret and respond to the event, actors were constrained in their thinking by existing institutional arrangements and interpretive frames, resulting in short-term solutions that allowed the underlying problem to grow. Efforts to cope with the escalating magnitude of the problem led change agents to creatively deploy institutional elements in new ways in order to create capacity for institutional change. The dialogical approach to the data presentation provided evidence of different groups of actors' beliefs about how their actions were perceived by others, including emotional ramifications, and thus revealed how actors strived to develop relational as well as technical capacity. Using these relational resources, change agents persuaded powerful actors in the supply chain to demand that front-

line producers implement the new material practices that the change agents believed would effectively institutionalize the new logic.

The following discussion (chapter 7) drew on theories of sensemaking as well as identity-related typologies of organizational social evaluation in order to develop a general process model relating the institutional change process to the progression of sensemaking activities by disparate actors over time. By unpacking initial efforts to interpret a disruptive event, it was possible to develop an identity-related and ‘other-aware’ process of event attention. Finding that institutional processes of change in this case were highly related to institutionalized relational capacity, reflecting inter-group awareness of actions’ affective effects, the chapter further theorized an identity-related and ‘other-aware’ process of diffusion, characterized by concerns about legitimacy, reputation, and status.

This conclusion relates the findings of the study to the goals set forth in the conceptual framework (chapter 4), demonstrating how this work contributes to organizational scholarship. After summarizing the contributions this research makes to academic knowledge, the chapter discusses limitations and then concludes with proposals for future research.

8.1 Scholarly contributions

The scholarly contributions of this study fall into four areas: attempts to link institutional theory and sensemaking; institutional theory; sensemaking; and methodology. The primary contributions lie with attempts to link the two streams; those are discussed in the first section below. Contributions to institutional theory are

discussed in the second section, and the third section covers contributions to sensemaking. The fourth section shows the study's methodological contributions.

8.1.1 Contributions to attempts to link institutional theory and sensemaking

This study has sought to combine institutional theory with sensemaking in order to analyze a case of institutional complexity. In contrast to institutional theory, which struggles to adequately theorize how actors whose beliefs and actions are conditioned by institutions might awaken to the notion of institutional change, theories of sensemaking focus on that moment of awakening, and the enacted interpretations that ensue. Thus, in this case, concepts from the sensemaking perspective provided the analytical insights and vocabulary necessary to describe actors' confusion and attempts to understand the parameters of an ambiguous problem characterized by scientific uncertainty. Taking a sensemaking perspective illuminated the cognitive and emotional demands inherent in actors' attempts to cope with disruptive events, to develop cognitive and emotional support in defense of competing institutional logics, and to build technical and relational capacity around a change project designed to embed a challenger logic in material practices, and therefore institutionalize the logic by structural means. Thus, this study contributes to recent attempts to link institutional theory and sensemaking by providing empirical support for that project and by extending existing theorization about the relationship between the two theoretical streams. Two analytical design decisions facilitated the development of the linkages described in this study.

First, emphasizing legitimacy as the common core that links institutional theory and sensemaking brought considerations of identity to the forefront, since the concept of

legitimacy incorporates not just the twin faces of identity and social judgment, in which evaluations take place in a recursive cycle of performance and observation by interested others, but also dialogical awareness of the judgments of others, so-called ‘construed image’ (Foreman, Whetten et al. 2012). Thus informed by a recognition that both theories are fundamentally social in nature, and that actors in both are aware of the judgments of others, the search for theoretical explanations moved beyond the politicized, dialectical accounts of deinstitutionalization and institutional change that have dominated research thus far. By incorporating dialogism into the analysis of the data, the theoretical lens extended to encompass relational processes among disparate groups of actors as well as the cognitive elements of their discourse. This use of dialogism constitutes a methodological contribution to both independent theoretical streams as well as to attempts to link institutional theory and sensemaking. The focus on social interaction also contributes empirical evidence in support of recent theorization that institutional processes take place in a field that is relational in nature (Wooten and Hoffman 2008), rather than industry-based, or even strictly issue-based.

The focus on a relational field in which discourse has evolved in a cycle of performance and observation by interested others revealed an emotional component to stakeholders’ interactions that has not been developed in previous institutional accounts. This provides empirical support for recent efforts to recognize elements of affective investment and disinvestment in institutional change processes (Voronov and Vince 2012). In particular, Voronov and Vince (2012) theorize that cognitive disinvestment in existing institutional arrangements may not suffice to bring about deinstitutionalization in the presence of emotional investment, and the data in this

case support that proposal, and further point toward emotional work as being critical to processes of ‘embedding agency’ in cases of outsider-driven change.

In exploring the emotional work undertaken as part of sensemaking around an institutional change project, this research has extended the institutional theory conceptualization of actors as “active carriers of institutions” who “perceive the meaning of institutions and infuse their actions with meaning based upon these perceptions” (Dacin, Goodstein et al. 2002: 47) to theorize how those actors perceive emotional significance as well as cognitive meaning in institutions, and then use institutions to alter the emotional context, saturation, and overall investment in existing arrangements and the change projects that challenge them. In doing so, it further extends theory regarding the role of emotion in institutional processes by demonstrating that actors strategically develop relational logics to guide interactions, and invoke process logics by deploying meaning-laden institutional elements, thereby altering the tone and saturation of the emotional environment. In doing so, it also extends existing theorization of how institutions constrain, prime, trigger, and edit sensemaking (Weber and Glynn 2006) to show, first, that institutional constraint, priming, triggering, and editing take place on an emotional plane as well as a cognitive one, and second, that organizational actors do not merely encounter these catalysts, they deploy institutions strategically to bring about those ends.

Second, by building theory around the earliest aspects of stakeholders’ attention to the disruptive event, this research illuminates the processes that unfold when actors initially lack capacity to change (Oliver 1992), impeding efforts at deinstitutionalization of a dominant logic. Typically, processes of institutional change have presumed the existence of alternative arrangements, in the form of ‘independent

innovations' arising during preinstitutionalization (Greenwood, Suddaby et al. 2002)²³ or 'representations' (Nigam and Ocasio 2010)²⁴. The Nigam and Ocasio (2010) and the Greenwood et al (2002) accounts examine processes related to diffusion; during theorization in these analyses, actors evaluate existing institutional elements and innovations and make adoption decisions about them. In contrast, this study does not take those innovations or representations for granted, but instead goes back a step further, to examine how they arise, as enacted responses of sensible agents, acting on behalf of stakeholder organizations, developing capacity to respond to perceived technical failings.

Together, these two design choices paved the way for development of a process model that builds on the previous conceptualizations by Greenwood et al and Nigam and Ocasio, by explaining the flow of enactments arising in the aftermath of a disruptive event, from problematizing, to capacity building, and finally to diffusion. To align these stages with the stages of institutional change set forth by Greenwood et al (2002): problematizing, including the attraction of external actors, can be seen to be a function of deinstitutionalization; capacity building takes place during preinstitutionalization; and diffusion straddles their theorization and diffusion stages. However, where the flow in that diagram goes in one direction, the presence in this case of identity-related attempts to gain reputation- and status-related benefits by adopters points toward a more recursive process, in which innovation is once again induced when earlier innovations become legitimized, showing some similarity to the

²³ The Greenwood et al stages of institutional change are listed in chapter 4 and depicted in chapter 7, Figure 7-1.

²⁴ The Nigam and Ocasio diagram is reproduced in chapter 2, Figure 2-2.

Nigam and Ocasio (2010) model, though those authors' model does not incorporate identity-concerns as motivators for diffusion.

By adopting the terminology of sensemaking, it is possible to see how these actors, in their efforts to interpret a surprising, disruptive event, at the same time 'author' a particular sort of problem. In enacting responses to these authored problems, actors generate events, which in turn disrupt other actors and draw responses, both from existing members of the field and from actors previously external to the field. It is through these social processes, in which actors take note of the enactments of other actors, that the relational field develops, and this leads to a novel conceptualization of new institutional arrangements arising out of collective sensemaking.

The attempts of actors in this case to build capacity are creative processes of institutional bricolage, as they deploy and modify existing institutional elements to create the innovations captured in the 'preinstitutionalization' stage (Greenwood, Suddaby et al. 2002) that comes before theorization. The data in this case demonstrate that these innovations are subject to ongoing social evaluation, and, coining terminology consonant with the sensemaking perspective, the study shows that actors engage in processes of 'meta-sensemaking' about the legitimacy of proposed institutional arrangements. This theorized stage further adds to current knowledge by showing that relational capacity-building may require actors to deploy, and enact credibly, unfamiliar institutional forms for interrelating in a project aimed at embedding agency. The enactment of these forms can be seen to have consequences for enactors' identities, as peers question the legitimacy of thus deploying institutions associated with adversaries.

Finally, the focus on identity in this case study has two important ramifications for diffusion. First, it illuminates actors' attention to the affective elements discussed above in the diffusion stage of the process model. Second, it explains the identity-related benefits sought by actors in adopting the innovations developed in the second stage of the process. Here is seen a flow of adoption that moves from first-mover status advantages that accrue to a subset of organizations, to an individualized ranking that introduces reputational threats, to the development of a consensus-level of legitimacy that evens the playing field once more, to a new round of status-seeking as particular organizations seek to re-establish a striated field based on status determinations.

8.1.2 Contributions to institutional theory

Besides contributing to efforts to combine institutional theory and sensemaking, this study also makes four contributions to institutional theory. First, as discussed above, is the further development of a theoretical concept, the 'relational field', and empirical backing for the concept. Second, this study adds to a slim collection of empirical explorations of processes of deinstitutionalization, and an even-slimmer portfolio of outsider-driven cases. Third, the longitudinal data in these pages empirically develops a narrative of institutional complexity, demonstrating that temporal dynamics hold relevance as new logics come into play, altering the resonance of different logics and introducing 'logic wobble' that has the effect of building or maintaining complexity. Fourth, this study opens a new area of inquiry, that of 'embedding agency' as a process, with implications for relational capacity that invite further exploration.

8.1.3 Contributions to sensemaking

This study also contributes to sensemaking scholarship, in three areas. First, while most existing accounts of sensemaking address these moments of attention and interpretation at the level of the individual or the organization, the study presented in these pages has demonstrated that it is possible to discern processes of sensemaking at the higher level of the field. Second, in developing the concept of ‘actionable domain’ to explain the attraction of outsiders to the field, this study extends the notion of ‘bounded responsibility’ (Maitlis and Lawrence 2007) from sensegiving to sensemaking, and provides evidence that these concepts hold at the organizational and industry level as well as within interactions among individuals. Third, by undertaking a longitudinal analysis, the study shows how frames (abstractions of experience) may change over time.

8.1.4 Methodological contributions

Finally, the research presented here makes four methodological contributions. First, as already discussed, it demonstrates that dialogism can be used to surface identity concerns, thus helping to develop linkages between institutional theory and sensemaking through their shared preoccupation with legitimacy. Second, this study begins the process of extending dialogism as an analytical tool from its traditional application at the level of individuals to higher levels of organizations, industries, and fields. Third, by including academic scientific discourse as a conversant in the ‘constructed dialogue’ around key sensemaking moments in the institutional change process, this study introduces an important voice in contemporary organizational discourse which has received little prior attention. Finally, sensemaking scholars should consider looking to instances of scientific uncertainty as venues for

sensemaking, inasmuch as they make sensemaking processes visible in the same fashion as situations of crisis or change, and offer the advantage of a longitudinal account that can reveal how sensemaking evolves and how actors' frames (abstractions of experience) may change over time.

8.2 Limitations of current findings

Many of the strengths of the study presented here can also be seen as its limitations. The research strategy, methods employed, and phenomenon of interest were deliberate choices made in pursuit of a particular theory-building objective, but inevitably, these choices involve certain trade-offs.

The choice of a single case study enabled the development of a longitudinal analysis spanning a 20-year timeframe, and produced rich streams of data from a set of core stakeholders. However, the findings of such a qualitative analysis focusing on a single case are not statistically generalizable. This study illuminated important, undertheorized concepts and processes that join two major theoretical streams, but it remains to future efforts to determine whether these findings apply to other actors and other contexts. Likewise, the longitudinal perspective limited the ability to probe deeply into any single time period; given the richness of the processes and relational work described here, future research might profit by pursuing deeper investigations of subunits of the larger narrative.

Selecting a case in which scientific uncertainty was prolonged and adversaries clashed over interpretations made sensemaking processes more evident; however, it is not clear if sensemaking proceeds similarly in contexts where understandings are arrived at more rapidly or amicably. That said, certain sensemaking aspects, in particular,

‘bounded responsibility’, have been studied in less fraught, more ordinary circumstances, which implies that the ‘actionable domain’ concept would be equally valid.

In studying a global environmental problem, the insignificant role of government and the lack of available regulatory relief effectively reduced the conversant groups to three from four early on in the chronology, and forced these three groups to come to understandings among themselves, without the coercive pressure of regulation. It is unclear how coercive pressures with the force of law might alter the processes described here. In particular, it is unclear what circumstances would foster or hinder the development of relational capacity described in these pages.

Finally, the fragile nature of the relationships in a context of adversarial collaboration meant that not all interviewee comments could be incorporated directly into the findings, at the request of some informants. In those instances, informants asked that their remarks only be used as guiding concepts for the researcher’s investigations, and these requests were strictly honored. Through triangulation with other sources, most of those remarks found official voice, but some few had to be excluded from the analysis.

8.3 Themes for future research

Some themes for future research have been alluded to in the previous section; I close with a discussion of research opportunities that emerged out of the discoveries of this study. Attempts to join institutional theory and sensemaking are in their infancy, and many veins remain to be mined.

Scholarly interest in ‘event attention’ has not prioritized the role of identity in its theorizations of salience, particularly as it relates to actors’ roles and their perceived capacity, as described here in the concept of ‘actionable domain’. By examining a wider variety of instances of outsider-driven institutional change, it should be possible to determine if the ‘actionable domain’ concept applies generally, or is limited to certain contexts. In particular, sensemaking theory holds that a lack of capacity blinds sensemakers to problems, yet in this case, actors awakened to their lack of capacity and undertook projects to build it. Given that lack of capacity is undertheorized in institutional theory, further investigation into its causes and consequences is warranted.

Given the paucity of previous scholarship around affective elements in both theoretical streams, the role of emotion should be examined much more extensively. The research here has explored its role in a particular institutional change project, but much more needs to be learned about the generalizability of those findings, as well as the role emotion plays in other institutional and sensemaking processes. Within the arena of institutional change projects, future research might build on the concepts developed here around relational and process logics. In particular, instances of ‘non-trust’ collaboration, especially ‘adversarial collaboration’, have drawn only limited attention from scholars, yet they are increasingly relevant to inter-organizational project work, and thus deserve greater development. Here, attention to the presence or absence of emotional work is of interest, and it should also be seen whether or not the use of institutional elements to alter the emotional environment takes place in other settings. Similarly, scholarly attention to field-configuring events would benefit from an explicit incorporation of institution-based emotional manipulation. To

support these inquiries into relational effects, it would be beneficial to develop dialogical analysis further as a tool for examining organizational and field-level interactions.

Finally, data collection for this study came to a close just as developments began to point toward a dynamic process of theorization and diffusion that revolved around participating organizations' motivations in the area of legitimacy, reputation, and status. This intriguing development invites further development of the model implied by the findings of this case. Useful theory building could come from inquiries along two paths; first, there should be ongoing attention to the phenomenon that formed the context of this study, for both purposes of verification as well as further development of the model; and second, other contexts should be examined for evidence of commonality as well as possible differences.

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Appendices

Appendix A: Top 50 Scientific Articles from *Science* and *Nature*, 1992-2012

	Year	Authors	Title	Abstract
1	1993	Ludwig, D; Hilborn, R; Walters, C	Uncertainty, Resource Exploitation, and Conservation: Lessons from History	There are currently many plans for sustainable use or sustainable development that are founded upon scientific information and consensus. Such ideas reflect ignorance of the history of resource exploitation and misunderstanding of the possibility of achieving scientific consensus concerning resources and the environment. Although there is considerable variation in detail, there is remarkable consistency in the history of resource exploitation: resources are inevitably overexploited, often to the point of collapse or extinction. We suggest that such consistency is due to the following common features: (i) Wealth or the prospect of wealth generates political and social power that is used to promote unlimited exploitation of resources. (ii) Scientific understanding and consensus is hampered by the lack of controls and replicates, so that each new problem involves learning about a new system. (iii) The complexity of the underlying biological and physical systems precludes a reductionist approach to management. Optimum levels of exploitation must be determined by trial and error. (iv) Large levels of natural variability mask the effects of overexploitation. Initial overexploitation is not detectable until it is severe and often irreversible. In such circumstances, assigning causes to past events is problematical, future events cannot be predicted, and even well-meaning attempts to exploit responsibly may lead to disastrous consequences. Legislation concerning the environment often requires environmental or economic impact assessment before action is taken. Such impact assessment is supposed to be based upon scientific consensus. For the reasons given above, such consensus is seldom achieved, even after collapse of the resource.
2	1994	Hughes, TP	Catastrophes, Phase-shifts, and Large-scale Degradation of a Caribbean Coral-reef	Many coral reefs have been degraded over the past two to three decades through a combination of human and natural disturbances. In Jamaica, the effects of overfishing, hurricane damage, and disease have combined to destroy most corals, whose abundance has declined from more than 50 percent in the late 1970s to less than 5 percent today. A dramatic phase shift has occurred, producing a system dominated by fleshy macroalgae (more than 90 percent cover). Immediate implementation of management procedures is necessary to avoid further catastrophic damage.

3	1995	Pauly, D; Christensen, V	Primary production required to sustain global fisheries	THE mean of reported annual world fisheries catches for 1988-1991 (94.3 million t) was split into 39 species groups, to which fractional trophic levels, ranging from 1.0 (edible algae) to 4.2 (tunas), were assigned, based on 48 published trophic models, providing a global coverage of six major aquatic ecosystem types. The primary production required to sustain each group of species was then computed based on a mean energy transfer efficiency between trophic levels of 10%, a value that was re-estimated rather than assumed. The primary production required to sustain the reported catches, plus 27 million t of discarded bycatch, amounted to 8.0% of global aquatic primary production, nearly four times the previous estimate. By ecosystem type, the requirements were only 2% for open ocean systems, but ranged from 24 to 35% in fresh water, upwelling and shelf systems, justifying current concerns for sustainability and biodiversity.
4	1997	Roberts, CM	Connectivity and management of Caribbean coral reefs	Surface current patterns were used to map dispersal routes of pelagic larvae from 18 coral reef sites in the Caribbean. The sites varied, both as sources and recipients of larvae, by an order of magnitude. It is likely that sites supplied copiously from "upstream" reef areas will be more resilient to recruitment overfishing, less susceptible to species loss, and less reliant on local management than places with little upstream reef. The mapping of connectivity patterns will enable the identification of beneficial management partnerships among nations and the design of networks of interdependent reserves.
5	1997	Hixon, MA; Carr, MH	Synergistic predation, density dependence, and population regulation in marine fish	Understanding natural causes of density dependence is essential for identifying possible sources of population regulation. Field experiments on a model system of coral reef fishes showed that small juveniles of <i>Chromis cyanea</i> suffer heavy mortality that is spatially density-dependent only in the presence of two suites of predators: transient piscivores attacking from above, and reef-resident piscivores attacking from below. In the absence of either kind of predator, early mortality of <i>Chromis</i> is virtually density-independent. Because piscivores may have regulatory roles in this and similar marine systems, overfishing these predators may have ramifications for the remainder of the exploited community.
6	1997	Botsford, LW; Castilla, JC; Peterson, CH	The Management of Fisheries and Marine Ecosystems	The global marine fish catch is approaching its upper limit. The number of overfished populations, as well as the indirect effects of fisheries on marine ecosystems, indicate that management has failed to achieve a principal goal, sustainability. This failure is primarily due to continually increasing harvest rates in response to incessant sociopolitical pressure for greater harvests and the intrinsic uncertainty in predicting the harvest that will cause population collapse. A more holistic approach incorporating interspecific interactions and physical environmental influences would contribute to greater sustainability by reducing the uncertainty in predictions. However, transforming the management process to reduce the influence of pressure for greater harvest holds more immediate promise.

7	1997	Costanza, R; d'Arge, R; deGroot, R; Farber, S; Grasso, M; Hannon, B; Limburg, K; Naeem, S; O'Neill, RV; Paruelo, J; Raskin, RG; Sutton, P; vandenBelt, M	The value of the world's ecosystem services and natural capital	The services of ecological systems and the natural capital stocks that produce them are critical to the functioning of the Earth's life-support system. They contribute to human welfare, both directly and indirectly, and therefore represent part of the total economic value of the planet. We have estimated the current economic value of 17 ecosystem services for 16 biomes, based on published studies and a few original calculations. For the entire biosphere, the value (most of which is outside the market) is estimated to be in the range of US\$16-54 trillion (10 ¹²) per year, with an average of US\$33 trillion per year. Because of the nature of the uncertainties, this must be considered a minimum estimate. Global gross national product total is around US\$18 trillion per year.
8	1998	Pauly, D; Christensen, V; Dalsgaard, J; Froese, R; Torres,	Fishing Down Marine Food Webs	The mean trophic level of the species groups reported in Food and Agricultural Organization global fisheries statistics declined from 1950 to 1994. This reflects a gradual transition in landings from long-lived, high trophic level, piscivorous bottom fish towards short-lived, low trophic level invertebrates and planktivorous pelagic fish. This effect, also found to be occurring in inland fisheries, is most pronounced in the Northern Hemisphere. Fishing down food webs (that is, at lower trophic levels) leads at first to increasing catches, then to a phase transition associated with stagnating or declining catches. These results indicate that present exploitation patterns are unsustainable.
9	1999	Swearer, SE; Caselle, JE; Lea, DW; Warner, RR	Larval retention and recruitment in an island population of a coral-reef fish	For close to a century, recruitment of larvae to a local population has been widely accepted as a primary determinant of marine population dynamics(1,2). However, progress in elucidating the causes of recruitment variability has been greatly impeded by our ignorance of the sources of recruits. Although it is often assumed that recruitment is independent of local reproduction(3-6), there is increasing circumstantial evidence that physical(7,8) and behavioural(9,10) mechanisms could facilitate larval retention near source populations. To develop a direct method for reconstructing the dispersal history of recruiting larvae, we put forward the hypothesis that differences in nutrient and trace-element concentrations between coastal and open oceans could result in quantifiable differences in growth rate and elemental composition between larvae developing in coastal waters (locally retained) and larvae developing in open ocean waters (produced in distant locations). Using this method, we show that recruitment to an island population of a widely distributed coral-reef fish may often result from local retention on leeward reefs. This result has implications for fisheries management and marine reserve design, because rates of dispersal between marine populations-and thus recruitment to exploited populations-could be much lower than currently assumed.

10	1999	Miralto, A; Barone, G; Romano, G; Poulet, SA; Ianora, A; Russo, GL; Buttino, I; Mazzearella, G; Laabir, M; Cabrini, M; Giacobbe, MG	The insidious effect of diatoms on copepod reproduction	The productive regions of the ocean are characterized by seasonal blooms of phytoplankton which are generally dominated by diatoms. This algal class has, therefore, traditionally been regarded as providing the bulk of the food that sustains the marine food chain to top consumers and important fisheries. However, this beneficial role has recently been questioned on the basis of laboratory studies showing that although dominant zooplankton grazers such as copepods feed extensively on diatoms, the hatching success of eggs thus produced is seriously impaired(1). Here we present evidence from the field showing that the hatching success of wild copepods feeding on a diatom-dominated bloom is also heavily compromised, with only 12% of the eggs hatching compared with 90% in post-bloom conditions. We report on the structure of the three aldehydes isolated from diatoms that are responsible for this biological activity, and show that these compounds arrest embryonic development in copepod and sea urchin bioassays and have antiproliferative and apoptotic effects on human carcinoma cells.
11	1999	Hastings, A; Botsford, LW	Equivalence in yield from marine reserves and traditional fisheries management	Marine reserves have been proposed as a remedy for overfishing and declining marine biodiversity, but concern that reserves would inherently reduce yields has impeded their implementation. It was found that management of fisheries through reserves and management through effort control produce identical yields under a reasonable set of simplifying assumptions corresponding to a broad range of biological conditions. Indeed, for populations with sedentary adults (invertebrates and reef fishes), reserves have important advantages for sustainability, making marine reserves the preferred management approach.
12	2000	Alexander, RB; Smith, RA; Schwarz, GE	Effect of stream channel size on the delivery of nitrogen to the Gulf of Mexico	An increase in the flux of nitrogen from the Mississippi river during the latter half of the twentieth century has caused eutrophication and chronic seasonal hypoxia in the shallow waters of the Louisiana shelf in the northern Gulf of Mexico(1-5). This has led to reductions in species diversity, mortality of benthic communities and stress in fishery resources(4). There is evidence for a predominantly anthropogenic origin of the increased nitrogen flux(2,5-7), but the location of the most significant sources in the Mississippi basin responsible for the delivery of nitrogen to the Gulf of Mexico have not been clearly identified, because the parameters influencing nitrogen-loss rates in rivers are not well known. Here we present an analysis of data from 374 US monitoring stations, including 123 along the six largest tributaries to the Mississippi, that shows a rapid decline in the average first-order rate of nitrogen loss with channel size-from 0.45 day⁻¹ in small streams to 0.005 day⁻¹ in the Mississippi river. Using stream depth as an explanatory variable, our estimates of nitrogen-loss rates agreed with values from earlier studies. We conclude that the proximity of sources to large streams and rivers is an important determinant of nitrogen delivery to the estuary in the Mississippi basin, and possibly also in other large river basins.

13	2000 Hutchings, JA	Collapse and recovery of marine fishes	Over-exploitation and subsequent collapse of marine fishes has focused attention on the ability of affected populations to recover to former abundance levels(1-3) and on the degree to which their persistence is threatened by extinction(4,5). Although potential for recovery has been assessed indirectly(1), actual changes in population size following long-term declines have not been examined empirically. Here I show that there is very little evidence for rapid recovery from prolonged declines, in contrast to the perception that marine fishes are highly resilient to large population reductions(6,7). With the possible exception of herring and related species that mature early in life and are fished with highly selective equipment, my analysis of 90 stocks reveals that many gadids (for example, cod, haddock) and other non-clupeids (for example, flatfishes) have experienced little, if any, recovery as much as 15 years after 45-99% reductions in reproductive biomass. Although the effects of overfishing on single species may generally be reversible(1), the actual time required for recovery appears to be considerable. To exempt marine fishes from existing criteria used to assign extinction risk(6,7) would be inconsistent with precautionary approaches to fisheries management and the conservation of marine biodiversity.
14	2000 Rabel, FJ	Homogenization of fish faunas across the United States	Fish faunas across the continental United States have become more similar through time because of widespread introductions of a group of cosmopolitan species intended to enhance food and sport fisheries. On average, pairs of states have 15.4 more species in common now than before European settlement of North America. The 89 pairs of states that formerly had no species in common now share an average of 25.2 species. Introductions have played a larger role than extirpations in homogenizing fish faunas. Western and New England states have received the most introductions, which is a reflection of the small number of native fishes in these areas considered desirable gamefish by settlers.
15	2000 Finney, BP; Gregory-Eaves, I; Sweetman, J; Douglas, MSV; Smol, JP	Impacts of climatic change and fishing on Pacific salmon abundance over the past 300 years	The effects of climate variability on Pacific salmon abundance are uncertain because historical records are short and are complicated by commercial harvesting and habitat alteration. We use Lake sediment records of delta N-15 and biological indicators to reconstruct sockeye salmon abundance in the Bristol Bay and Kodiak Island regions of Alaska over the past 300 years. Marked shifts in populations occurred over decades during this period, and some pronounced changes appear to be related to climatic change. Variations in salmon returns due to climate or harvesting can have strong impacts on sockeye nursery Lake productivity in systems where adult salmon carcasses are important nutrient sources.
16	2000 O'Brien, CM; Fox, CJ; Planque, B; et al.	Fisheries - Climate variability and North Sea cod	The stock of North Sea cod is under pressure because of overfishing, and we show here that it is also threatened by a decline in the production of young cod that has paralleled warming of the North Sea over the past ten years. The combination of a diminished stock and the possible persistence of adverse warm conditions is endangering the long-term sustainability of cod in the North Sea. To decrease the risk of collapse, fishing pressure must be reduced.

17	2000	Naylor, RL; Goldburg, RJ; Primavera, JH; Kautsky, N; Beveridge, MCM; Clay, J; Folke, C; Lubchenco, J; Mooney, H; Troell, M	Effect of aquaculture on world fish supplies	Global production of farmed fish and shellfish has more than doubled in the past 15 years. Many people believe that such growth relieves pressure on ocean fisheries, but the opposite is true for some types of aquaculture. Farming carnivorous species requires large inputs of wild fish for feed. Some aquaculture systems also reduce wild fish supplies through habitat modification, wild seedstock collection and other ecological impacts. On balance, global aquaculture production still adds to world fish supplies; however, if the growing aquaculture industry is to sustain its contribution to world fish supplies, it must reduce wild fish inputs in feed and adopt more ecologically sound management practices.
18	2001	Roberts, CM; Bohnsack, JA; Gell, F; Hawkins, JP; Goodridge, R	Effects of marine reserves on adjacent fisheries	Marine reserves have been widely promoted as conservation and fishery management tools. There are robust demonstrations of conservation benefits, but fishery benefits remain controversial. We show that marine reserves in Florida (United States) and St. Lucia have enhanced adjacent fisheries. Within 5 years of creation, a network of five small reserves in St. Lucia increased adjacent catches of artisanal fishers by between 46 and 90%, depending on the type of gear the fishers used. In Florida, reserve zones in the Merritt island National Wildlife Refuge have supplied increasing numbers of world record-sized fish to adjacent recreational fisheries since the 1970s. Our study confirms theoretical predictions that marine reserves can play a key role in supporting fisheries.
19	2001	Palumbi, SR	Evolution - Humans as the world's greatest evolutionary force	In addition to altering global ecology, technology and human population growth also affect evolutionary trajectories, dramatically accelerating evolutionary change in other species, especially in commercially important, pest, and disease organisms. Such changes are apparent in antibiotic and human immunodeficiency virus (HIV) resistance to drugs, plant and insect resistance to pesticides, rapid changes in invasive species, life-history change in commercial fisheries, and pest adaptation to biological engineering products. This accelerated evolution costs at least \$33 billion to \$50 billion a year in the United States. Slowing and controlling arms races in disease and, I pest management have been successful in diverse ecological and economic systems, illustrating how applied evolutionary principles can help reduce the impact of human-kind on evolution.
20	2001	Thorrold, SR; Latkoczy, C; Swart, PK; Jones, CM	Natal homing in a marine fish metapopulation	Identifying natal origins of marine fishes is challenging because of difficulties in conducting mark-recapture studies in marine systems. We used natural geochemical signatures in otoliths (ear bones) to determine natal sources in weakfish (<i>Cynoscion regalis</i>), an estuarine-spawning marine fish, in eastern North America. Spawning site fidelity ranged from 60 to 81%, comparable to estimates of natal homing in birds and anadromous fishes. These data were in contrast to genetic analyses of population structure in weakfish. Our findings highlight the need for consideration of spatial processes in fisheries models and have implications for the design of marine reserves in coastal regions.

21	2001	Block, BA; Dewar, H; Blackwell, SB; Williams, TD; Prince, ED; Farwell, CJ; Boustany, A; Teo, SLH; Seitz, A; Walli, A; Fudge, D	Migratory movements, depth preferences, and thermal biology of Atlantic bluefin tuna	The deployment of electronic data storage tags that are surgically implanted or satellite-linked provides marine researchers with new ways to examine the movements, environmental preferences, and physiology of pelagic vertebrates. We report the results obtained from tagging of Atlantic bluefin tuna with implantable archival and pop-up satellite archival tags. The electronic tagging data provide insights into the seasonal movements and environmental preferences of this species. Bluefin tuna dive to depths of >1000 meters and maintain a warm body temperature. Western-tagged bluefin tuna make trans-Atlantic migrations and they frequent spawning grounds in the Gulf of Mexico and eastern Mediterranean. These data are critical for the future management and conservation of bluefin tuna in the Atlantic.
22	2001	Watson, R; Pauly, D	Systematic distortions in world fisheries catch trends	Over 75% of the world marine fisheries catch (over 80 million tonnes per year) is sold on international markets, in contrast to other food commodities (such as rice)(1,2). At present, only one institution, the Food and Agriculture Organization of the United Nations (FAO) maintains global fisheries statistics. As an intergovernmental organization, however, FAO must generally rely on the statistics provided by member countries, even if it is doubtful that these correspond to reality. Here we show that misreporting by countries with large fisheries, combined with the large and widely fluctuating catch of species such as the Peruvian anchoveta, can cause globally spurious trends. Such trends influence unwise investment decisions by firms in the fishing sector and by banks, and prevent the effective management of international fisheries.
23	2001	Jeremy B. C. Jackson; Michael X. Kirby; Wolfgang H. Berger; Karen A. Bjorndal; Louis W. Botsford; Bruce J. Bourque; Roger H. Bradbury; Richard Cooke; Jon Erlandson; James A. Estes; Terence P. Hughes; Susan Kidwell; Carina B. Lange; Hunter S. Lenihan.; John M. Pandolfi; Charles H. Peterson; Robert S. Steneck; Mia J. Tegner; Robert R. Warner	Historical overfishing and the recent collapse of coastal ecosystems	Ecological extinction caused by overfishing precedes all other pervasive human disturbance to coastal ecosystems, including pollution, degradation of water quality, and anthropogenic climate change. Historical abundances of large consumer species were fantastically large in comparison with recent observations. Paleocological, archaeological, and historical data show that time lags of decades to centuries occurred between the onset of overfishing and consequent changes in ecological communities, because unfished species of similar trophic level assumed the ecological roles of overfished species until they too were overfished or died of epidemic diseases related to overcrowding. Retrospective data not only help to clarify underlying causes and rates of ecological change, but they also demonstrate achievable goals for restoration and management of coastal ecosystems that could not even be contemplated based on the limited perspective of recent observations
24	2002	Conover, DO; Munch, SB	Sustaining fisheries yields over evolutionary time scales	Fishery management plans ignore the potential for evolutionary change in harvestable biomass. We subjected populations of an exploited fish (<i>Menidia menidia</i>) to large, small, or random size-selective harvest of adults over four generations. Harvested biomass evolved rapidly in directions counter to the size-dependent force of fishing mortality. Large-harvested populations initially produced the highest catch but quickly evolved a lower yield than controls. Small-harvested populations did the reverse. These shifts were caused by selection of genotypes with slower or faster rates of growth. Management tools that preserve natural genetic variation are necessary for long-term sustainable yield.

25	2002	Sala et al	A general model for designing networks of marine reserves	There is debate concerning the most effective conservation of marine biodiversity, especially regarding the appropriate location, size, and connectivity of marine reserves. We describe a means of establishing marine reserve networks by using optimization algorithms and multiple levels of information on biodiversity, ecological processes (spawning, recruitment, and larval connectivity), and socioeconomic factors in the Gulf of California. A network covering 40% of rocky reef habitat can fulfill many conservation goals while reducing social conflict. This quantitative approach provides a powerful tool for decision-makers tasked with siting marine reserves.
26	2002	Finney, BP; Gregory-Eaves, I; Douglas, MSV	Fisheries productivity in the northeastern Pacific Ocean over the past 2,200 years	Historical catch records suggest that climatic variability has had basin-wide effects on the northern Pacific and its fish populations, such as salmon, sardines and anchovies(1-7). However, these records are too short to define the nature and frequency of patterns. We reconstructed similar to 2,200-year records of sockeye salmon abundance from sediment cores obtained from salmon nursery lakes on Kodiak island, Alaska. Large shifts in abundance, which far exceed the decadal-scale variability recorded during the past 300 years(1-8), occurred over the past two millennia. A marked, multi-centennial decline in Alaskan sockeye salmon was apparent from similar to 100 BC to AD 800, but salmon were consistently more abundant from AD 1200 to 1900. Over the past two millennia, the abundances of Pacific sardine and Northern anchovy off the California coast, and of Alaskan salmon, show several synchronous patterns of variability. But sardines and anchovies vary out of phase with Alaskan salmon over low frequency, which differs from the pattern detected in historical records(5,6). The coherent patterns observed across large regions demonstrate the strong role of climatic forcing in regulating northeastern Pacific fish stocks.
27	2002	Pauly, D; Christensen, V; Guenette, S; Pitcher, TJ; Sumaila, UR; Walters, CJ; Watson, R; Zeller, D	Towards sustainability in world fisheries	Fisheries have rarely been 'sustainable'. Rather, fishing has induced serial depletions, long masked by improved technology, geographic expansion and exploitation of previously spurned species lower in the food web. With global catches declining since the late 1980s, continuation of present trends will lead to supply shortfall, for which aquaculture cannot be expected to compensate, and may well exacerbate. Reducing fishing capacity to appropriate levels will require strong reductions of subsidies. Zoning the oceans into unfished marine reserves and areas with limited levels of fishing effort would allow sustainable fisheries, based on resources embedded in functional, diverse ecosystems.
28	2003	Beaugrand, G; Brander, KM; Lindley, JA; Souissi, S; Reid, PC	Plankton effect on cod recruitment in the North Sea	The Atlantic cod (<i>Gadus morhua</i> L.) has been overexploited in the North Sea since the late 1960s and great concern has been expressed about the decline in cod biomass and recruitment(1). Here we show that, in addition to the effects of overfishing(1), fluctuations in plankton have resulted in long-term changes in cod recruitment in the North Sea (bottom-up control). Survival of larval cod is shown to depend on three key biological parameters of their prey: the mean size of prey, seasonal timing and abundance. We suggest a mechanism, involving the match/ mismatch hypothesis(2), by which variability in temperature affects larval cod survival and conclude that rising temperature since the mid- 1980s has modified the plankton ecosystem in a way that reduces the survival of young cod.

29	2003	Pretty, J.	Social capital and the collective management of resources	The proposition that natural resources need protection from the destructive actions of people is widely accepted. Yet communities have shown in the past and increasingly today that they can collaborate for long-term resource management. The term social capital captures the idea that social bonds and norms are critical for sustainability. Where social capital is high in formalized groups, people have the confidence to invest in collective activities, knowing that others will do so too. Some 0.4 to 0.5 million groups have been established since the early 1990s for watershed, forest, irrigation, pest, wildlife, fishery, and microfinance management. These offer a route to sustainable management and governance of common resources.
30	2003	Pauly, D; Alder, J; Bennett, E; Christensen, V; Tyedmers, P; Watson, R	The future for fisheries	Formal analyses of long-term global marine fisheries prospects have yet to be performed, because fisheries research focuses on local, species-specific management issues. Extrapolation of present trends implies expansion of bottom fisheries into deeper waters, serious impact on biodiversity, and declining global catches, the last possibly aggravated by fuel cost increases. Examination of four scenarios, covering various societal development choices, suggests that the negative trends now besetting fisheries can be turned around, and their supporting ecosystems rebuilt, at least partly.
31	2003	Myers, RA; Worm, B	Rapid worldwide depletion of predatory fish communities	Serious concerns have been raised about the ecological effects of industrialized fishing(1-3), spurring a United Nations resolution on restoring fisheries and marine ecosystems to healthy levels(4). However, a prerequisite for restoration is a general understanding of the composition and abundance of unexploited fish communities, relative to contemporary ones. We constructed trajectories of community biomass and composition of large predatory fishes in four continental shelf and nine oceanic systems, using all available data from the beginning of exploitation. Industrialized fisheries typically reduced community biomass by 80% within 15 years of exploitation. Compensatory increases in fast-growing species were observed, but often reversed within a decade. Using a meta-analytic approach, we estimate that large predatory fish biomass today is only about 10% of pre-industrial levels. We conclude that declines of large predators in coastal regions(5) have extended throughout the global ocean, with potentially serious consequences for ecosystems(5-7). Our analysis suggests that management based on recent data alone may be misleading, and provides minimum estimates for unexploited communities, which could serve as the 'missing baseline'(8) needed for future restoration efforts.
32	2004	Bellwood, DR; Hughes, TP; Folke, C; Nystrom, MI	Confronting the coral reef crisis	Managing for improved resilience, incorporating the role of human activity in shaping ecosystems, provides a basis for coping with uncertainty, future changes and ecological surprises. Here we review the ecological roles of critical functional groups (for both corals and reef fishes) that are fundamental to understanding resilience and avoiding phase shifts from coral dominance to less desirable, degraded ecosystems. We identify striking biogeographic differences in the species richness and composition of functional groups, which highlight the vulnerability of Caribbean reef ecosystems. These findings have profound implications for restoration of degraded reefs, management of fisheries, and the focus on marine protected areas and biodiversity hotspots as priorities for conservation.

33	2004	Pikitch, EK; Santora, C; Babcock, EA; Bakun, A; Bonfil, R; Conover, DO; Dayton, P; Doukakis, P; Fluharty, D;	Ecosystem-based fishery management	Ecosystem-based fishery management (EBFM) is a new direction for fishery management, essentially reversing the order of management priorities so that management starts with the ecosystem rather than a target species. EBFM aims to sustain healthy marine ecosystems and the fisheries they support. Pikitch et al. describe the potential benefits of implementation of EBFM that, in their view, far outweigh the difficulties of making the transition from a management system based on maximizing individual species.
		Heneman, B; Houde, ED; Link, J; Livingston, PA; Mangel, M; McAllister, MK; Pope, J; Sainsbury, KJ		
34	2004	Hites, RA; Foran, JA; Carpenter, DO; Hamilton, MC; Knuth, BA; Schwager, SJ	Global assessment of organic contaminants in farmed salmon	The annual global production of farmed salmon has increased by a factor of 40 during the past two decades. Salmon from farms in northern Europe, North America, and Chile are now available widely year-round at relatively low prices. Salmon farms have been criticized for their ecological effects, but the potential human health risks of farmed salmon consumption have not been examined rigorously. Having analyzed over 2 metric tons of farmed and wild salmon from around the world for organochlorine contaminants, we show that concentrations of these contaminants are significantly higher in farmed salmon than in wild. European-raised salmon have significantly greater contaminant loads than those raised in North and South America, indicating the need for further investigation into the sources of contamination. Risk analysis indicates that consumption of farmed Atlantic salmon may pose health risks that detract from the beneficial effects of fish consumption.
35	2004	Mumby, PJ; Edwards, AJ; Arias-Gonzalez, JE; Lindeman, KC; Blackwell, PG; Gall, A; Gorczyńska, MI; Harborne, AR; Pescod, CL; Renken, H; Wabnitz, CCC; Llewellyn, G	Mangroves enhance the biomass of coral reef fish communities in the Caribbean	Mangrove forests are one of the world's most threatened tropical ecosystems with global loss exceeding 35% (ref. 1). Juvenile coral reef fish often inhabit mangroves(2-5), but the importance of these nurseries to reef fish population dynamics has not been quantified. Indeed, mangroves might be expected to have negligible influence on reef fish communities: juvenile fish can inhabit alternative habitats and fish populations may be regulated by other limiting factors such as larval supply or fishing(6). Here we show that mangroves are unexpectedly important, serving as an intermediate nursery habitat that may increase the survivorship of young fish. Mangroves in the Caribbean strongly influence the community structure of fish on neighbouring coral reefs. In addition, the biomass of several commercially important species is more than doubled when adult habitat is connected to mangroves. The largest herbivorous fish in the Atlantic, <i>Scarus guacamaia</i> , has a functional dependency on mangroves and has suffered local extinction after mangrove removal. Current rates of mangrove deforestation are likely to have severe deleterious consequences for the ecosystem function, fisheries productivity and resilience of reefs. Conservation efforts should protect connected corridors of mangroves, seagrass beds and coral reefs.

36	2004	Olsen, EM; Heino, M; Lilly, GR; Morgan, MJ; Brattey, J; Ernande, B; Dieckmann, U	Maturation trends indicative of rapid evolution preceded the collapse of northern cod	Northern cod, comprising populations of Atlantic cod (<i>Gadus morhua</i>) off southern Labrador and eastern Newfoundland, supported major fisheries for hundreds of years (1). But in the late 1980s and early 1990s, northern cod underwent one of the worst collapses in the history of fisheries (2-4). The Canadian government closed the directed fishing for northern cod in July 1992, but even after a decade-long offshore moratorium, population sizes remain historically low (4). Here we show that, up until the moratorium, the life history of northern cod continually shifted towards maturation at earlier ages and smaller sizes. Because confounding effects of mortality changes and growth-mediated phenotypic plasticity are accounted for in our analyses, this finding strongly suggests fisheries-induced evolution of maturation patterns in the direction predicted by theory (5,6). We propose that fisheries managers could use the method described here as a tool to provide warning signals about changes in life history before more overt evidence of population decline becomes manifest.
37	2004	Atkinson, A; Siegel, V; Pakhomov, E; Rothery, P	Long-term decline in krill stock and increase in salps within the Southern Ocean	Antarctic krill (<i>Euphausia superba</i>) and salps (mainly <i>Salpa thompsoni</i>) are major grazers in the Southern Ocean (1-4), and krill support commercial fisheries (5). Their density distributions (1,3,4,6) have been described in the period 1926 - 51, while recent localized studies (7-10) suggest short-term changes. To examine spatial and temporal changes over larger scales, we have combined all available scientific net sampling data from 1926 to 2003. This database shows that the productive southwest Atlantic sector contains > 50% of Southern Ocean krill stocks, but here their density has declined since the 1970s. Spatially, within their habitat, summer krill density correlates positively with chlorophyll concentrations. Temporally, within the southwest Atlantic, summer krill densities correlate positively with sea-ice extent the previous winter. Summer food and the extent of winter sea ice are thus key factors in the high krill densities observed in the southwest Atlantic Ocean. Krill need the summer phytoplankton blooms of this sector, where winters of extensive sea ice mean plentiful winter food from ice algae, promoting larval recruitment (7-11) and replenishing the stock. Salps, by contrast, occupy the extensive lower-productivity regions of the Southern Ocean and tolerate warmer water than krill (2-4,12). As krill densities decreased last century, salps appear to have increased in the southern part of their range. These changes have had profound effects within the Southern Ocean food web (10,13).
38	2004	Richardson, AJ; Schoeman, DS	Climate impact on plankton ecosystems in the Northeast Atlantic	It is now widely accepted that global warming is occurring, yet its effects on the world's largest ecosystem, the marine pelagic realm, are largely unknown. We show that sea surface warming in the Northeast Atlantic is accompanied by increasing phytoplankton abundance in cooler regions and decreasing phytoplankton abundance in warmer regions. This impact propagates up the food web (bottom-up control) through copepod herbivores to zooplankton carnivores because of tight trophic coupling. Future warming is therefore likely to alter the spatial distribution of primary and secondary pelagic production, affecting ecosystem services and placing additional stress on already-depleted fish and mammal populations.

39	2004	Grantham, BA; Chan, F; Nielsen, KJ; et al.	Upwelling-driven nearshore hypoxia signals ecosystem and oceanographic changes in the northeast Pacific	Seasonal development of dissolved-oxygen deficits (hypoxia) represents an acute system-level perturbation to ecological dynamics and fishery sustainability in coastal ecosystems around the globe(1-3). Whereas anthropogenic nutrient loading has increased the frequency and severity of hypoxia in estuaries and semi-enclosed seas(3,4), the occurrence of hypoxia in open-coast upwelling systems reflects ocean conditions that control the delivery of oxygen-poor and nutrient-rich deep water onto continental shelves(1). Upwelling systems support a large proportion of the world's fisheries(5), therefore understanding the links between changes in ocean climate, upwelling-driven hypoxia and ecological perturbations is critical. Here we report on the unprecedented development of severe inner-shelf (<70 m) hypoxia and resultant mass die-offs of fish and invertebrates within the California Current System. In 2002, cross-shelf transects revealed the development of abnormally low dissolved-oxygen levels as a response to anomalously strong flow of subarctic water into the California Current System. Our findings highlight the sensitivity of inner-shelf ecosystems to variation in ocean conditions, and the potential impacts of climate change on marine communities.
40	2005	Perry, AL; Low, PJ; Ellis, JR; Reynolds, JD	Climate change and distribution shifts in marine fishes	We show that the distributions of both exploited and nonexploited North Sea fishes have responded markedly to recent increases in sea temperature, with nearly two-thirds of species shifting in mean latitude or depth or both over 25 years. For species with northerly or southerly range margins in the North Sea, half have shown boundary shifts with warming, and all but one shifted northward. Species with shifting distributions have faster life cycles and smaller body sizes than nonshifting species. Further temperature rises are likely to have profound impacts on commercial fisheries through continued shifts in distribution and alterations in community interactions.
41	2005	Frank, KT; Petrie, B; Choi, JS; Leggett, WC	Trophic cascades in a formerly cod-dominated ecosystem	Removal of top predators from ecosystems can result in cascading effects through the trophic levels below, completely restructuring the food Web. Cascades have been observed in small-scale or simple food webs, but not in large, complex, open-ocean ecosystems. Using data spanning many decades from a once cod-dominated northwest Atlantic ecosystem, we demonstrate a trophic cascade in a large marine ecosystem. Several cod stocks in other geographic areas have also collapsed without recovery, suggesting the existence of trophic cascades in these systems.
42	2006	Mumby, PJ; Dahlgren, CP; Harborne, AR; Kappel, CV; Micheli, F; Brumbaugh, DR; Holmes, KE; Mendes, JM; Broad, K; Sanchirico, JN; Buch, K; Box, S; Stoffle, RW; Gill, AB	Fishing, trophic cascades, and the process of grazing on coral reefs	Since the mass mortality of the urchin <i>Diadema antillarum</i> in 1983, parrotfishes have become the dominant grazer on Caribbean reefs. The grazing capacity of these fishes could be impaired if marine reserves achieve their long-term goal of restoring large consumers, several of which prey on parrotfishes. Here we compare the negative impacts of enhanced predation with the positive impacts of reduced fishing mortality on parrotfishes inside reserves. Because large-bodied parrotfishes escape the risk of predation from a large piscivore (the Nassau grouper), the predation effect reduced grazing by only 4 to 8%. This impact was overwhelmed by the increase in density of large parrotfishes, resulting in a net doubling of grazing. Increased grazing caused a fourfold reduction in the cover of macroalgae, which, because they are the principal competitors of corals, highlights the potential importance of reserves for coral reef resilience.

43	2006	Worm, Boris; Barbier, Edward B.; Beaumont, Nicola; Duffy, J. Emmett; Folke, Carl; Halpern, Benjamin S.; Jackson, Jeremy B. C.; Lotze, Heike K.; Micheli, Fiorenza; Palumbi, Stephen R.; Sala, Enric; Selkoe, Kimberley A.; Stachowicz, John J.; Watson, Reg	Impacts of Biodiversity Loss on Ocean Ecosystem Services	Human-dominated marine ecosystems are experiencing accelerating loss of populations and species, with largely unknown consequences. We analyzed local experiments, long-term regional time series, and global fisheries data to test how biodiversity loss affects marine ecosystem services across temporal and spatial scales. Overall, rates of resource collapse increased and recovery potential, stability, and water quality decreased exponentially with declining diversity. Restoration of biodiversity, in contrast, increased productivity fourfold and decreased variability by 21%, on average. We conclude that marine biodiversity loss is increasingly impairing the ocean's capacity to provide food, maintain water quality, and recover from perturbations. Yet available data suggest that at this point, these trends are still reversible.
44	2007	Hoegh-Guldberg, O.; Mumby, P. J.; Hooten, A. J.; Steneck, R. S.; Greenfield, P.; Gomez, E.; Harvell, C. D.; Sale, P. F.; Edwards, A. J.; Caldeira, K.; Knowlton, N.; Eakin, C. M.; Iglesias-Prieto, R.; Muthiga, N.; Bradbury, R. H.; Dubi, A.; Hatziolos, M. E.	Coral reefs under rapid climate change and ocean acidification	Atmospheric carbon dioxide concentration is expected to exceed 500 parts per million and global temperatures to rise by at least 2 degrees C by 2050 to 2100, values that significantly exceed those of at least the past 420,000 years during which most extant marine organisms evolved. Under conditions expected in the 21st century, global warming and ocean acidification will compromise carbonate accretion, with corals becoming increasingly rare on reef systems. The result will be less diverse reef communities and carbonate reef structures that fail to be maintained. Climate change also exacerbates local stresses from declining water quality and overexploitation of key species, driving reefs increasingly toward the tipping point for functional collapse. This review presents future scenarios for coral reefs that predict increasingly serious consequences for reef-associated fisheries, tourism, coastal protection, and people. As the International Year of the Reef 2008 begins, scaled-up management intervention and decisive action on global emissions are required if the loss of coral-dominated ecosystems is to be avoided.
45	2007	Myers, Ransom A.; Baum, Julia K.; Shepherd, Travis D.; Powers, Sean P.; Peterson, Charles H.	Cascading effects of the loss of apex predatory sharks from a coastal ocean	Impacts of chronic overfishing are evident in population depletions worldwide, yet indirect ecosystem effects induced by predator removal from oceanic food webs remain unpredictable. As abundances of all 11 great sharks that consume other elasmobranchs (rays, skates, and small sharks) fell over the past 35 years, 12 of 14 of these prey species increased in coastal northwest Atlantic ecosystems. Effects of this community restructuring have cascaded downward from the cownose ray, whose enhanced predation on its bay scallop prey was sufficient to terminate a century-long scallop fishery. Analogous top-down effects may be a predictable consequence of eliminating entire functional groups of predators.
46	2007	Araki, Hitoshi; Cooper, Becky; Blouin, Michael S.	Genetic effects of captive breeding cause a rapid, cumulative fitness decline in the wild	Captive breeding is used to supplement populations of many species that are declining in the wild. The suitability of and long-term species survival from such programs remain largely untested, however. We measured lifetime reproductive success of the first two generations of steelhead trout that were reared in captivity and bred in the wild after they were released. By reconstructing a three-generation pedigree with microsatellite markers, we show that genetic effects of domestication reduce subsequent reproductive capabilities by similar to 40% per captive-reared generation when fish are moved to natural environments. These results suggest that even a few generations of domestication may have negative effects on natural reproduction in the wild and that the repeated use of captive-reared parents to supplement wild populations should be carefully reconsidered.

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47	2008	Halpern, Benjamin S.; Walbridge, Shaun; Selkoe, Kimberly A.; Kappel, Carrie V.; Micheli, Fiorenza; D'Agrosa, Caterina; Bruno, John F.; Casey, Kenneth S.; Ebert, Colin; Fox, Helen E.; Fujita, Rod; Heinemann, Dennis; Lenihan, Hunter S.; Madin, Elizabeth M. P.; Perry, Matthew T.; Selig, Elizabeth R.; Spalding, Mark; Steneck, Robert; Watson, Reg	A Global Map of Human Impact on Marine Ecosystems	The management and conservation of the world's oceans require synthesis of spatial data on the distribution and intensity of human activities and the overlap of their impacts on marine ecosystems. We developed an ecosystem-specific, multiscale spatial model to synthesize 17 global data sets of anthropogenic drivers of ecological change for 20 marine ecosystems. Our analysis indicates that no area is unaffected by human influence and that a large fraction (41%) is strongly affected by multiple drivers. However, large areas of relatively little human impact remain, particularly near the poles. The analytical process and resulting maps provide flexible tools for regional and global efforts to allocate conservation resources; to implement ecosystem-based management; and to inform marine spatial planning, education, and basic research.
48	2009	Ostrum, E.	A General Framework for Analyzing Sustainability of Social-Ecological Systems	A major problem worldwide is the potential loss of fisheries, forests, and water resources. Understanding of the processes that lead to improvements in or deterioration of natural resources is limited, because scientific disciplines use different concepts and languages to describe and explain complex social-ecological systems (SESs). Without a common framework to organize findings, isolated knowledge does not cumulate. Until recently, accepted theory has assumed that resource users will never self-organize to maintain their resources and that governments must impose solutions. Research in multiple disciplines, however, has found that some government policies accelerate resource destruction, whereas some resource users have invested their time and energy to achieve sustainability. A general framework is used to identify 10 subsystem variables that affect the likelihood of self-organization in efforts to achieve a sustainable SES.
49	2009	Worm, Boris; Hilborn, Ray; Baum, Julia K.; Branch, Trevor A.; Collie, Jeremy S.; Costello, Christopher; Fogarty, Michael J.; Fulton, Elizabeth A.; Hutchings, Jeffrey A.; Jennings, Simon; Jensen, Olaf P.; Lotze, Heike K.; Mace, Pamela M.; McClanahan, Tim R.; Minto, Colin; Palumbi, Stephen R.; Parma, Ana M.; Ricard, Daniel; Rosenberg, Andrew A.; Watson, Reg; Zeller, Dirk	Rebuilding Global Fisheries	After a long history of overexploitation, increasing efforts to restore marine ecosystems and rebuild fisheries are under way. Here, we analyze current trends from a fisheries and conservation perspective. In 5 of 10 well-studied ecosystems, the average exploitation rate has recently declined and is now at or below the rate predicted to achieve maximum sustainable yield for seven systems. Yet 63% of assessed fish stocks worldwide still require rebuilding, and even lower exploitation rates are needed to reverse the collapse of vulnerable species. Combined fisheries and conservation objectives can be achieved by merging diverse management actions, including catch restrictions, gear modification, and closed areas, depending on local context. Impacts of international fleets and the lack of alternatives to fishing complicate prospects for rebuilding fisheries in many poorer regions, highlighting the need for a global perspective on rebuilding marine resources.

- 50 2010 Godfray, H. Charles J.;
Beddington, John R.; Crute, Ian R.;
Haddad, Lawrence;
Lawrence, David;
Muir, James F.; Food Security:
The Challenge
of Feeding 9
Billion People Continuing population and consumption growth will mean
that the global demand for food will increase for at least
another 40 years. Growing competition for land, water, and
energy, in addition to the overexploitation of fisheries, will
affect our ability to produce food, as will the urgent
requirement to reduce the impact of the food system on the
environment. The effects of climate change are a further
threat. But the world can produce more food and can ensure
that it is used more efficiently and equitably. A multifaceted
and linked global strategy is needed to ensure sustainable and
equitable food security, different components of which are
explored here.

Appendix B: Conference Sessions Attended

International Boston Seafood Show

2010

- *Seafood Business Summit: Consumer Insights on Sustainable Seafood* (14 March)
- *Keynote Address: Local and Sustainable Seafood: Why It Makes Sense* (14 March)
- *Annual Shrimp Forum* (14 March)
- *Fisheries Improvements: Lessons Learned from US Importers* (14 March)
- *Seafood Marketplace Seminar* (15 March)
- *How the Economy is Changing Consumer Seafood Purchases* (15 March)
- *Food Marketing Institute Sustainable Seafood Working Group Roundtable Discussion* (15 March)
- *Future of Farmed Salmon: Supply Issues* (15 March)
- *Where's the Fish? Business Solutions to Sustainable Sourcing* (16 March)

2011

- *What Farmed Fish Eat: Making Aquaculture More Sustainable with Aquafoods* (20 March)
- *Truth in Tare* (20 March)
- *Consumer Trends in Fresh Seafood Purchases* (20 March)
- *Averting an Impending Seafood Shortage: Building on the Insights of GOAL (Global Outlook for Aquaculture Leadership) 2010* (21 March)
- *Supermarkets 2011: Looking Ahead at Seafood Retail Performance & Consumer Trends* (21 March)
- *Selling Diners on Sustainability* (21 March)
- *Is that Fish Legal? Mitigating Against IUU Supplies* (22 March)

2012

- *A Retailers' Guide to Sustainable Seafood* (11 March)
- *Keynote Address: Economic Crises & Natural Catastrophes as New Normal? Potential Impact on the Seafood Industry* (11 March)
- *Making Sense of Seafood Sustainability through Positive Engagement* (11 March)
- *US Achieves Monumental Goal for Sustaining Wild-Caught Seafood* (12 March)
- *Mini-GOAL (Global Outlook for Aquaculture Leadership): Double in a Decade—Responsibly* (12 March)
- *Achieving Cargo Security, Food Safety and Sustainability in the Seafood Supply Chain: A Collaborative Approach between Industry and Government* (12 March)

*Seafood Choices Alliance Seafood Summit*2010 (Paris: “Challenging Assumptions in a Changing World”)

- Keynote Address: Daniel Pauly (fishery scientist) (31 January)
- Building Better Salmon: Improving the Life-cycle of Seafood Supply Chains from Fish to Fork (31 January)
- Will Salmon Feeds Become Independent from Fishmeal? (31 January)
- Asian Salmon: The Next Generation of Certified Wild Capture Salmon Fisheries? (31 January)
- Public Perceptions about Mariculture at the Tipping Point: From Being a Problem, to Being Part of the Solution (31 January)
- What Role for Standards Systems in the Future of Fisheries? (1 February)
- The Role of Governments and Governmental Organizations in Seafood Sector Sustainability (1 February)
- Communicating Sustainability: Coping with Consumer Confusion (1 February)
- The FSIG Report: A Global Review of Fish Sustainability Information Schemes (1 February)
- Sustainability (Point—Counterpoint): What Makes a Product “Sustainable”? (1 February)
- Aquaculture Standards: Winner Take All? (2 February)

2011 (Vancouver: “Responsibility Without Borders?”)

- Keynote Address: Yvon Chouinard (co-founder Patagonia) (31 January)
- How Far Can and Should the Sustainable Seafood Movement Go in Improving Fisheries Worldwide? (31 January)
- Food, Fodder or Forage—Managing Small Pelagic Fish for Human Consumption, Animal Feeds and Ecosystem Health (31 January)
- Sustainability and Global Seafood
- How the Seafood Industry Can Combat Ocean Acidification (31 January)
- The Science of Sustainability: The Environmental Costs of Fish from the Ocean or Food from the Land (1 February)
- Sustainable Impacts, Sustainable Business—Reality and Vision
- Between the Deadline and the Deep Blue Sea—Journalists Talk about Reporting on the Sustainable Seafood Movement (1 February)
- Creating a Healthy and Sustainable Seafood Supply System (2 February)
- Control Documents and Other Supply Chain Tools for Combating IUU Fishing and Verifying Incremental Fishery Improvements (2 February)

*Seafood Choices Alliance Seafood Summit (continued)*2012 (Hong Kong: “Evolving Solutions for New Horizons”)

- Keynote Address: Stephan Hall (Director General, WorldFish Centre) (6 September)
- The Beef or the Fish? How Putting Aquaculture in the Context of Global Protein Production Can Inform/Impact our Seafood Choices (6 September)
- Where the Sustainable Seafood Journey Has Brought Us to? Retailers’ Experience on Supporting a Sustainable Seafood Market (6 September)
- Sustainable Seafood: What Fisheries and Aquaculture Can Learn from Each Other (6 September) (7 September)
- Leading from the Middle: How Distributors, Processors and Middle-of-Chain Players are Driving Sustainability (7 September)
- Building Bridges, Evidence and Confidence within Industry (7 September)
- Evolving Solutions for New Horizons? Closing Plenary (7 September)

Appendix C: List of Acronyms

ACC	Aquaculture Certification Council
AIP	Aquaculture Improvement Project
ASC	Aquaculture Stewardship Council
BAP	Best Aquaculture Practices
COMPASS	Communications Partnership for Science and the Sea
CSR	Corporate Social Responsibility
EDF	Environmental Defense Fund
EEZ	Exclusive Economic Zone
ENGO	Environmental Non-Governmental Organization
FAO	United Nations Food and Agriculture Organization
FIP	Fishery Improvement Project
FSC	Forest Stewardship Council
GAA	Global Aquaculture Alliance
GATT	General Agreement on Tariffs and Trade
ISEAL	International Social and Environmental Accreditation and Labelling Alliance
ISO	International Standards Organization
MBA	Monterey Bay Aquarium
MSC	Marine Stewardship Council
NEA	New England Aquarium
NGO	Non-Governmental Organization
SFP	Sustainable Fisheries Partnership
UK	United Kingdom
US	United States
WTO	World Trade Organization
WWF	World Wildlife Fund