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Trust and Influence in the Gulf of Mexico's Fishery Public Management Network

Anthony Lima [1,2], Dongkyu Kim [3], Andrew M. Song [4,5], Gordon M. Hickey [6] and Owen Temby [1,7,*]

[1] NOAA Center for Coastal and Marine Ecosystems, Tallahassee, FL 32307, USA; anthony.lima@tamucc.edu
[2] Harte Research Institute for Gulf of Mexico Studies, Texas A&M University—Corpus Christi, Corpus Christi, TX 78412, USA
[3] Department of Political Science, The University of Texas Rio Grande Valley, Edinburg, TX 78539, USA; dongkyu.kim@utrgv.edu
[4] Faculty of Arts and Social Sciences, University of Technology Sydney, Ultimo, NSW 2007, Australia; andrew.song@uts.edu.au
[5] ARC Centre of Excellence for Coral Reef Studies, James Cook University, Townsville, QLD 4811, Australia
[6] Department of Natural Resource Sciences, McGill University, Ste. Anne de Bellevue, QC H9X 3V9, Canada; gordon.hickey@mcgill.ca
[7] School of Earth, Environmental, and Marine Sciences, The University of Texas Rio Grande Valley, Brownsville, TX 78520, USA
* Correspondence: owen.temby@utrgv.edu; Tel.: 1+956-882-8821

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Abstract: Sustainable fishery management is a complex multi-sectoral challenge requiring substantial interagency coordination, collaboration, and knowledge sharing. While scholars of public management network theory and natural resource management have identified trust as one of the key ideational network properties that facilitates such interaction, relatively few studies have operationalized and measured the multiple dimensions of trust and their influence on collaboration. This article presents the results of an exploratory study examining the Gulf of Mexico fishery management network comprised of more than 30 stakeholder organizations. Using an empirically validated survey instrument, the distribution of four types of trust, three gradations of influence, and the degree of formality and informality in actor communications were assessed across the fishery public management network. The analysis reveals generally low levels of interorganizational procedural trust and a high degree of network fragmentation along the international border. Civil servants based at U.S. organizations reported nearly no interactions with Mexican agencies, and vice versa. Rational (calculative) trust was the most important in bringing about reported change in other organizations, while dispositional distrust and affinitive (relational) trust also had significant effects. The results suggest that, although transactional interorganizational relationships prevail in Gulf of Mexico fishery governance, well-developed professional relationships contribute meaningfully to the reported success of public fishery network management and warrants further policy attention in order to help ensure sustainability.

Keywords: Gulf of Mexico; fishery governance; trust; ecosystem-based management; policy network

1. Introduction

A growing literature in natural resource management (NRM) and public administration focuses on the importance of trust to collaborative governance. Trust is part of the "groupware" that Agranoff and McGuire [1] consider important for mutual learning and adaptation among members of a public management network. It improves information flow and participants' assessments of the quality of

management outcomes [2]. It lowers conflict among network members and enhances influence [3,4]. Diffusing trust is one of the defining activities of boundary-spanning network management [5]. Distinguishing among different types of trust, operationalizing them, and highlighting their importance, is thus a priority topic receiving considerable attention for the management of ecosystems (e.g., [6,7]).

1.1. Interorganizational Trust and Influence in Ecosystem-Based Management

Ecosystem-based management (EBM) is the contemporary approach to environmental management based on a confluence of advances across disciplines [8,9]. It ontologically presupposes social-ecological systems as being non-linear and multi-scalar and multi-temporal complex adaptive systems. The task of EBM—and of public management research on networks more broadly—is to organize a response to such complex challenges by constituting the response as a complex adaptive system. Thus, resource management must complexify to match complexity. It must seek to reorient its complex and diverse elements in accordance with new information so that it is adaptable to the adapting ecosystem. Trust is understood to facilitate adaptability by increasing the network's capacity for managing information, mutually learning, and coordinating. The analogue of ecosystems and management networks is so evident that, in a recent study on different trust types in NRM, Stern and Baird [10] referred to their object of investigation as an "ecology of trust" whereby trust facilitates organizational resilience.

The importance of trust as a key component of network governance and EBM is well established. In a recent text on EBM, Wondolleck and Yaffee [11] distinguish between the "bricks" (formal institutions) and "mortar" (ideational network traits) that combine to facilitate successful environmental management initiatives. Through a series of case studies, they portray trust as central to the mortar concept. In a recent review of the literature on network analysis and environmental management, Jurian Edelenbos and Ingmar van Meerkerk [9] (p. 25) indicated that trust "stimulates and consolidates coordination and interaction between different actors from different domains and organizations in … water governance networks" with research finding that trust leads to better perceived outcomes of environmental projects [2]. Similarly, Stern and Baird [10] show that trust enhances the efficacy of NRM institutions, while more recent research has sought to distinguish between and operationalize the impact of specific trust types on interorganizational collaboration and behavior change [3,7,12,13].

These studies in NRM and EBM follow more than a decade of public administration research that has sought to identify the conditions that facilitate network governance and contribute to what Robert Agranoff [14] (p. 59–60) calls "mutual learning and adaptation". In a review of the literature by leading scholars of public administration network theory, the authors indicate that one of the poorly understood concepts is the role of informal connections, and its relationship with formal relationships and trust [13]. They lament that "there has been very little advancement of our understanding of this pervasive mechanism of governance" and that few studies examine informality's role within networks [15] (p. 165).

Insufficient attention has also been paid to the measurable outcomes of useful network properties. Some sort of learning and behavioral change is often proposed, typically in the form of influence [16]. The most well-developed literature on organizational influence is in the international relations subfield, which has put great attention into the question of organizational effectiveness and influence in the context of international organizations [17,18]. Yet, influence is also a crucial feature of network governance since networks have to mutually adapt to evolving knowledge. Particularly useful is Sikina Jinnah's [19] framework for predicting and examining international organization secretariat influence. Because the different kinds of trust require different management approaches to develop, it is important if they have different types of influence on network participants—be it a change in available information, behavior, or normative beliefs (see Section 2.1 for details).

1.2. Gulf of Mexico Fishery Management

This article examines the presence of trust and its effects on interorganizational influence in a network of organizations implicated in the governance of fisheries in the Gulf of Mexico. The Gulf of Mexico was chosen because it represents one of North American's most valuable fishery resources, with the recreational and commercial fisheries in the U.S. portion alone amounting to 1.7 million jobs and $212 billion in sales [20]. It is also a complex management challenge because its transnational and interjurisdictional features require that stakeholders coordinate activities and collaborate to ensure shared sustainability outcomes. In the United States, marine fishery regulations are developed by the multi-stakeholder Gulf of Mexico Fishery Management Council (Gulf Council), under the authority of the U.S. Magnuson–Stevens Act. One federal agency (the National Marine Fishery Service—also known as NOAA Fisheries) is tasked with overseeing and approving these regulations, but a host of other federal agencies undertake projects and oversee industries that indirectly impinge on the health of fishery habitat. Within each state's seaward limit, their wildlife and fishery agencies exercise a high degree of regulatory authority. Their activities are partly organized by the Gulf States Marine Fisheries Commission, whose governance is based on a 1949 compact passed by the U.S. Congress. The Mexican government's share of the Gulf Coast is nearly as large as the United States', although its formal status in, and capacity for, coordinated regulatory design and enforcement is comparatively lacking.

A pertinent example of the complexity facing the Gulf of Mexico's fishery management network is hypoxia, or the 'dead zone', which has been occurring for decades. Hypoxia caused by eutrophication of runoff water from the Mississippi River Basin results in massive areas where marine species are harmed [21]. Trawling data has shown that the spatial distribution of demersal species suffers from loss of useable habitat, loss in ecological performance, and often direct mortality [22]. Many of these demersal species are harvested directly (such as shrimp), but their disturbance also negatively impacts species that rely on them as a food source. In the case of hypoxia, the Gulf fishery's habitat is degraded through the agriculture and water management practices of several states connected to the Mississippi River drainage basin. Neither NOAA Fisheries, nor any bureau within its parent agency, the Department of Commerce, have regulatory authority over agriculture and water management, and here the network must extend to the Environmental Protection Agency (EPA), U.S. Department of Agriculture (USDA), and other agencies. Thus, the Gulf fishery governance network reaches far into organizations that are not specifically focused on fishery governance. The complexity of the systems also requires communication among a diversity of stakeholders that affect the fishery's resiliency, diversity, and anthropogenic pressures.

In response to the challenge of governing such complex ecosystems, conservation agencies have turned toward a management approach that views fisheries through a wider lens [11]. This shift allows for a more holistic view in which the fish are only one component of a larger, more complex ecosystem. Furthermore, the Gulf of Mexico is viewed in the scholarly literature as a potentially successful and emerging case of EBM, thanks to programs pursued through the Gulf of Mexico Alliance, a cooperative initiative of the U.S. federal government and Gulf states to implement EBM principles in the region [11]. Yet, little or no evidence indicates how well stakeholders mutually learn and adjust in the governance of the region's fisheries (i.e., the 'mortar' concepts of EBM), nor does it indicate the respective influence of the various organizations in the process.

1.3. Research Aims

This article aims to understand several important characteristics of the Gulf of Mexico fishery management network, particularly the presence of, and interactions between, interorganizational trust, and influence across jurisdictional boundaries. More specifically, the following questions guided the research:

- What agencies make up the Gulf of Mexico fishery management network?
- How does communication occur between these organizations? With what method and frequency?

- What is the distribution of trust and influence throughout the resource management network?
- What are the effects of trust and formal and informal communications on interorganizational influence?

2. Materials and Methods

The research methods consisted of a survey instrument and semi-structured interviews with key informants. Survey respondents were asked a series of biographical questions, presented with a list of organizations and asked which ones they communicate with in their work, and were then asked follow-up questions about those organizations. The follow-up questions resulted in a dataset with a dyadic respondent-target structure for several of the measured concepts.

2.1. Measuring Trust and Influence

A three-point Likert scale (i.e. 'never'; 'occasionally'; and 'regularly') measures the frequency of formal communication (committee meetings, memos, and written business communication) and informal communication (chance conversations, spontaneous meetings, casual emails, and phone calls) within the relationships reported by survey participants.

Four dimensions of trust operationalized to suit the interorganizational context roughly follow Stern and Coleman's [12] useful typology: dispositional, rational, affinitive, and procedural. Existing survey question operationalizations of interorganizational affinitive trust and procedural trust have been developed and employed in Temby et al., [7] and Song et al., [13], as three questions per trust type. Song et al. [13] used four studies of NRM governance networks to empirically validate these questions as a two-dimensional psychometric scale focusing on affinitive trust and procedural trust (Cronbach's Alpha for affinitive trust, procedural trust and the full scale were 0.570, 0.633, and 0.656 respectively). Song et al., [3] expanded this to operationalize all four trust types for the interorganizational context, adding three questions each to measure dispositional trust and rational trust. The authors added rational trust to the existing psychometric scale and, using a case study of Great Lakes fishery governance, validated an interorganizational trust scale with three latent constructs (Cronbach's Alpha for affinitive trust, procedural trust, rational trust, and the full scale were 0.742, 0.634, 0.687, and 0.799 respectively; the results of structural equation modelling are also available). Based on these findings, Song et al. [3] (p. 11) "posit[ed] interorganizational trust as a second-order or macro-level construct of trust composed of three first-order factors – affinitive, procedural and rational trust, which are positively and significantly correlated". For the study of the Gulf of Mexico fishery governance network, Temby et al.'s [7] and Song et al.'s [3] operationalizations of trust are used, with one exception. Namely, one of the procedural trust questions, "in our experiences with this organization, we have never had the feeling of being misled", has been replaced with the following: "in working with this organization, it is expected that any unfair dealings will be avoided or rectified by existing regulatory, legal, or reputational measures". This was done to better clarify the distinction between the rational trust and procedural trust operationalizations, as recommended in Song et al. [3]. For these questions, participants were asked to what extent they agreed with each statement, answering using a 1–5 Likert-type scale. Table 1 lists the questions and the corresponding trust type.

Table 1. Four Dimensions of Trust, Definitions, and Operationalizations (derived from Song et al. [3,13]).

Trust Type	Definition	Survey Measurement for Interorganizational Context
Dispositional	The general tendency or predisposition of an individual to trust or distrust another entity in a particular context.	• People are almost always interested only in their own welfare. • You can't be too careful dealing with people. • Most people would try to take advantage of you if they got the chance.
Rational	Trust in an entity based primarily on a calculation of the perceived utility of the expected outcome of placing one's trust in another entity.	• This organization can be relied upon to perform its objectives. • In our relationship with this organization, both sides treat each other in a consistent and predictable manner. • Working with this organization can contribute to our organization's success.
Affinitive	Trust in an entity based primarily on the emotions and associated judgments resulting from either cognitive or subconscious assessments of the qualities of the potential trustee.	• Because we have been working with this organization for so long, all kinds of procedures have become self-evident. • In this relation, informal agreements have the same significance as formal contracts. • Because we have been working with this organization so long, we can understand each other well and quickly.
Procedural	Trust in procedures or other systems that decrease vulnerability of the potential trustor, enabling action in the absence of other forms of trust.	• In this relation, both sides are expected not to make demands that can seriously damage the interests of the other. • In our relationship with this organization, the strongest side is expected not to pursue its interest at all costs. • In working with this organization, it is expected that any unfair dealings will be avoided or rectified by existing regulatory, legal, or reputational measures.

A limitation of this approach to trust operationalization is that its utility is specific to the interorganizational public-sector professional setting, where interactions tend to begin through and follow bureaucratic lines of hierarchy and accountability. Hence, our construction of affinitive trust, for example, leaned towards learned familiarity based on longer-term repeated interactions rather than impressionistic rapport and value similarity likely more possible on an individual-to-individual basis, or in an individual-versus-government setting. Trust scales operationalizing inter-personal trust or intra-organizational trust (where survey question referents more likely to be people rather than organizations) would likely need to adapt or design question sets different than the existing trust questions (in Nootboom et al. [23] and Dietz and Den Hartog [24]) that Song et al. [3,13] and Temby et al. [7,25] used. Noting the cumbersome nature of trust operationalization and the absence of well-established trust scales, Song et al. [13] (p. 693) stated that "because the abstract construct of trust needs to be contextualized to suit the specific characteristics of trustors and trustees, and also because there exists multi-disciplinary interest in trust, reflected in the different theoretical assumptions leading to varying empirical approaches, trust measurement has tended to be too idiosyncratic to enable generalizations to other contexts".

Influence is an important component of what Robert Agranoff [14] (p. 59-60) refers to as "mutual learning and adaptation". It is a way of measuring network functionality in attaining coordinated activities. Three degrees of influence were measured in this survey, operationalizing Jinnah's [19] tripartite typology of interorganizational influence introduced in *Post-Treaty Politics*. To measure interorganizational influence, respondents were asked about informational flow and availability enhancements, changes in professional choices, and normative shifts in management paradigm. Influence was measured on a three-point Likert scale (i.e., 'never'; 'occasionally'; and 'regularly' for

informational and behavioral change; 'not at all'; 'a little bit'; and 'a great deal' for normative change) within the network (see Table 2).

Table 2. Operationalization of Three Types of Influence (Derived from Jinnah [19] (pp. 54–55)).

Type of Influence	Survey Question
Change in flow and availability of information	How often has your communications with people from this organization, or documentation from it, enhanced your knowledge of fishery science or management?
Behavioral change not required by rules	How often has communicating with people in the following organization led you to make professional choices or decisions that you would not have otherwise made?
Change in norms	To what extent have your communications with people at this organization led you to rethink your approach the management of fisheries and/or harvesting and conservation practices?

2.2. Data Collection

Lists of organizations were drafted by asking scientists and fishery managers in the Gulf of Mexico who they work with. This list was designed to be as inclusive as possible and included: two regional interstate organizations, the Gulf of Mexico Fishery Management Council and the Gulf States Marine Fishery Commission. Federal agencies included the National Marine Fishery Service, U.S. Fish & Wildlife Service, Environmental Protection Agency, and the U.S Department of Agriculture. All five U.S. states also had relevant agencies (with Mississippi having two: Mississippi Department of Wildlife, Fisheries & Parks and Mississippi Department of Marine Resources).

Four Mexican agencies were included, most notably SEMARNAT, CONAPESCA, and INAPESCA. Relatively little research has examined U.S.–Mexican relations when dealing solely with fisheries, and it is unknown what type of communication they have with American organizations. A few U.S.–Mexican bilateral or trilateral organizations addressing environmental issues were also included.

Non-governmental organizations (NGOs) included the Environmental Defense Fund, charitable organizations like The Nature Conservancy, and research-oriented organizations such as the Pew Charitable Trusts. Some organizations in this category target solely marine resources (e.g., Ocean Conservancy, Oceana). The overall goal of most of the identified NGOs is the preservation and sustainability of marine resources. Although some, such as the Recreational Fishing Alliance, operate as industrial trade groups.

The survey was distributed via email to members of 27 organizations using the Qualtrics survey software. E-mail addresses were obtained from publicly available sources, such as online contact lists, directories, and meeting records. In total, 3370 e-mail addresses were collected. Of these, 1749 were from the U.S. Federal government, 257 belonged to state employees, 968 belonged to members of Mexican organizations, 112 e-mail addresses belonged to bi- and tri-national organizations, and 284 addresses were for NGOs. A survey link generated through Qualtrics was also able to be shared among those who were not e-mailed directly. Multiple reminder e-mails were sent at different time intervals, and the survey was available in English and Spanish. 285 people provided responses to the survey, of which 88 fully completed all questions, while 161 respondents provided partial information, yielding data on 774 respondent-target organization dyads.

2.3. Analysis

The analysis encompassed descriptive and predictive procedures. Descriptive procedures were used to indicate relative interorganizational influence and the presence of interorganizational trust and communication type (formal and informal) among organizations within and across jurisdictions. Predictive analysis was used to determine the effects of formal and informal communication and the four kinds of trust on the three types of influence.

Influence was calculated using four metrics, namely, the percent of respondent organizations that reported communicating with each organization, and the average rating of each target organization by each respondent for all three influence types. The influence scores were standardized on a 0–1 scale and reported as a ratio of the total score for each organization divided by the number of organizations that reported communicating with that organization.

Formal and informal communication patterns were analyzed using a form of network analysis. The organizations with which respondents reported communicating were grouped into one of four jurisdictional categories: the U.S. federal government, U.S. state wildlife and natural resource agencies, regional organizations (specifically, the Gulf States Marine Fisheries Commission, the Gulf of Mexico Alliance, and the Gulf of Mexico Fishery Management Council), and NGOs. Mexican agencies were excluded from the analysis because only one survey respondent was from a Mexican agency, and because only six respondents reported communicating with agencies of the Mexican government. The scores that each respondent assigned each organization for formal communication frequency and informal communication frequency were standardized on a 0–1 scale and averaged across agencies within each of the four jurisdictional categories.

The trust scores for each organization that respondents reported communicating with were standardized on a −1 to 1 scale. Because the dispositional trust questions are worded negatively (measuring dispositional distrust) they were reverse scored to make dispositional trust comparable with the other trust types during analysis. The three dyadic trust measures (rational, affinitive, and procedural trust) were then averaged across the organizations that each respondent reported communicating with, grouped into the same four jurisdictional categories used for the communication patterns analysis. The result is a jurisdictional score of each trust type for each respondent.

Hierarchical regression was employed as an analytical strategy showing the effects of the relevant predictor variables (informal and formal communication, and the three dyadic trust types) after accounting for respondent characteristics. This analytical approach is preferred when predictor variables are correlated with each other and when the analysis aims to highlight the effects of a specific set of predictor variables [26,27]. It involves the construction of individual predictive models consisting of predictor sets of one or more variables and entering them into hierarchical regression models sequentially, with each individual predictor set explaining variation not explained by the previously entered models. The increment in variance in the dependent variable after each predictor set is entered into the model is represented by the R^2 change. The effect of individual predictors can also be assessed using the standardized coefficients for each individual predictor entered into the predictor set and overall model.

For the predictive analysis, three hierarchical regression models were constructed—one for each dependent variable (influence defined as a change in available information, behavioral change, and normative change). We controlled for variation among respondents' jurisdiction, the jurisdiction of the target agencies, and individual-level variation, with these predictor sets entered into the hierarchical regression model before the independent variables. Participant and target organizations were aggregated into six group types: (1) inter-jurisdictional United States; (2) U.S. federal; (3) U.S. states; (4) Mexican government; (5) international organizations; and (6) non-governmental organizations.

Individual-level variation was important to control for because the structure of the data, whereby each respondent selects among a list of organizations with which dyads are constructed, introduces a repeated measures property. Rather than creating >100 dummy variables (one for each respondent), we utilized criterion scaling, "an alternative approach for encoding predictors with a large number of categories when analyzing data with repeated measures designs" [3] (p. 14) (cf. [7,28,29]). By calculating each respondent's mean score on the dependent variable as predictor values for all target organizations she rated, a single predictor effectively identifies everyone (see Song et al., [3]).

Interaction variables were created between communication types and trust types because previous research indicates that affinitive trust and informal communication exhibit an additive interaction on interorganizational influence, while procedural trust and informal communication exhibit a negative

interaction [3]. A total of eight interaction terms were created. Predictor sets were defined and entered into each hierarchical model in a predetermined order using the following general logic: (1) control variables, (2) independent variables, and (3) interactions [3]. The specific order and rationale are described in Table 3.

Table 3. Logic for Hierarchical Regression Model Construction.

Predictor Sets in Order Entered	Logic for Ordering of Predictor Set	Informational Change	Behavioral Change	Normative Change
Participant Organization Type (5 dummy-coded variables)	Codes the most general way of classifying survey participants by type of organization they work for, irrespective of target organization they relate to.	1	1	1
Dispositional Distrust (DT)	Reflects "the general tendency or predisposition of an individual to trust or distrust another entity in a particular context" [12] (p. 122). Based on innate tendencies or personal histories.	2	2	2
Criterion-scaled Participants predictor	Codes individual participants to control for individual differences in rating relationships with individual agencies.	3	3	3
Target Organization Type (5 dummy-coded variables)	Codes the type of the specific organization that is a target for trust development and communications for an individual participant.	4	4	4
Frequency of Informal Communication (FI)	Assesses how frequently the individual participant informally communicates with a specific target organization. An antecedent of trust [30].	5	5	5
Frequency of Formal Communication (FF)	Given that informal communication frequency has been accounted for, assesses how frequently the individual participant formally communicates with a specific target organization.	6	6	6
Rational Trust component (RT)	Based on "trustors' evaluations about what they believe will be the likely outcomes of potential trustees' likely actions." Transactional, based on perceived utility, and "grounded in perceptions of competence, predictability, past performance, and perceived alignment of goals" [31] (p. 104).	7	7	7
Procedural Trust component (PT)	Assesses trust in the procedures underpinning a relationship with a specific target organization that decrease vulnerability of the trustor. Presumably a precursor to building an interorganizational relationship (see [32]). In our formulation, based on assessments of fairness in past experiences with the target organization.	8	8	8
Affinitive Trust component (AT)	Assesses the level of affinitive trust associated with a specific target organization, built up over a duration and "based primarily on the emotions and associated judgments resulting from either cognitive or subconscious assessments of the qualities of the potential trustee [12] (p. 122).	9	9	9
Trust Component Interactions I (FI*DT, FI*PT, FI*RT, and FI*AT)	2-way interactions between trust components and frequency of informal communication, entered after the relevant main effects have been accounted for.	10	10	10
Trust Component Interactions II (FF*DT, FF*PT, FF*RT, and RC*FF)	2-way interactions between trust components and frequency of formal communication, entered after the relevant main effects have been accounted for.	11	11	11
Informational Influence	Assesses the impact on individual participant's change in knowledge, after trust has been established and frequency of informal and formal communication has been accounted for [19].	DV	–	–
Behavioral Influence	Assesses the impact of formal communication on individual participant's own choices and decision making, after trust has been established and frequency of informal and formal communication has been accounted for [19].	–	DV	–
Normative Influence	Assesses the impact of all types of trust and both informal and formal communication on rules and norms underpinning behavior [19].	–	–	DV

3. Results

3.1. Respondent Profile

Table 4 shows the five organizations with the highest number of survey respondents. There were a high number of federal and state respondents, and fewer NGO respondents. The survey received only single response from the four surveyed Mexican natural resource agencies.

Table 4. Highest Respondent Rates by Organization.

Organization	Category	Percent of Respondents
U.S. Fish & Wildlife Service	Federal	18.4%
National Marine Fishery Service	Federal	11.7%
U.S. Geological Survey	Federal	10.4%
Mississippi Department of Marine Resources	State	7.4%
Coastal Conservation Association	NGO	7.4%

Time working within an organization relates to the amount of turnover within some positions in the management network. Higher turnover rates may result in less interorganizational connectivity since there is less time to cultivate meaningful professional partnerships with other organizations. Nearly half of the respondents (40.88%) had spent over 15 years working within their organization (Figure 1).
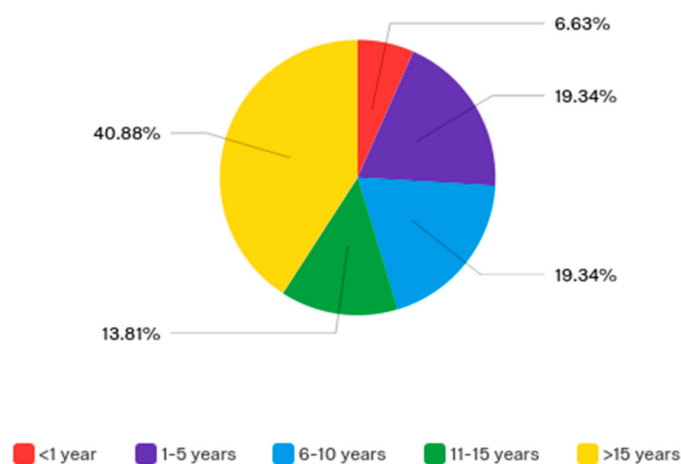

Figure 1. Time working within organization.

The majority of respondents were based within closer proximity to the Gulf of Mexico coastline, with most coming from organizations in Mississippi and Florida. Some organizations, such as the Gulf States Marine Fisheries Commission, do not have satellite offices, but only have a single address. The commission is located in Gulfport, MS. In conjunction with this, the Mississippi Department of Marine Resources also contributes to the density of respondents within the area. The only response received from a Mexican organization reported an area code within the United States.

A relatively even distribution of different types of fishery were selected by respondents when asked which fish species related to their work. Reef fish, including the economically important red snapper, was the highest selected fish type. Groupers and other reef fish also remain very high among respondents. In the 'Other (Indicate below)' options, the most frequently entered answers were oysters and endangered and threatened species (Figure 2).
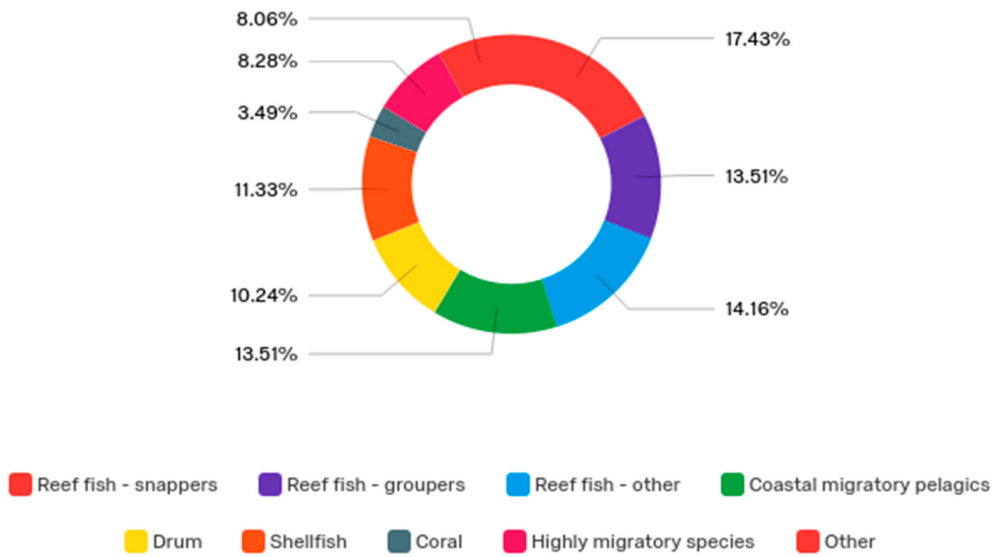
Figure 2. Species of management focus reported by respondents.

3.2. Presence and Distribution of Influence, Communication, and Trust

Figure 3 displays the influence scores for the 13 organizations for which 25% or more of the respondents from other organizations reported communicating with. The organizations are arrayed left to right, in order of descending informational influence scores. Overall, informational influence was reported as being the most prevalent between organizations, followed by normative influence and behavioral influence.
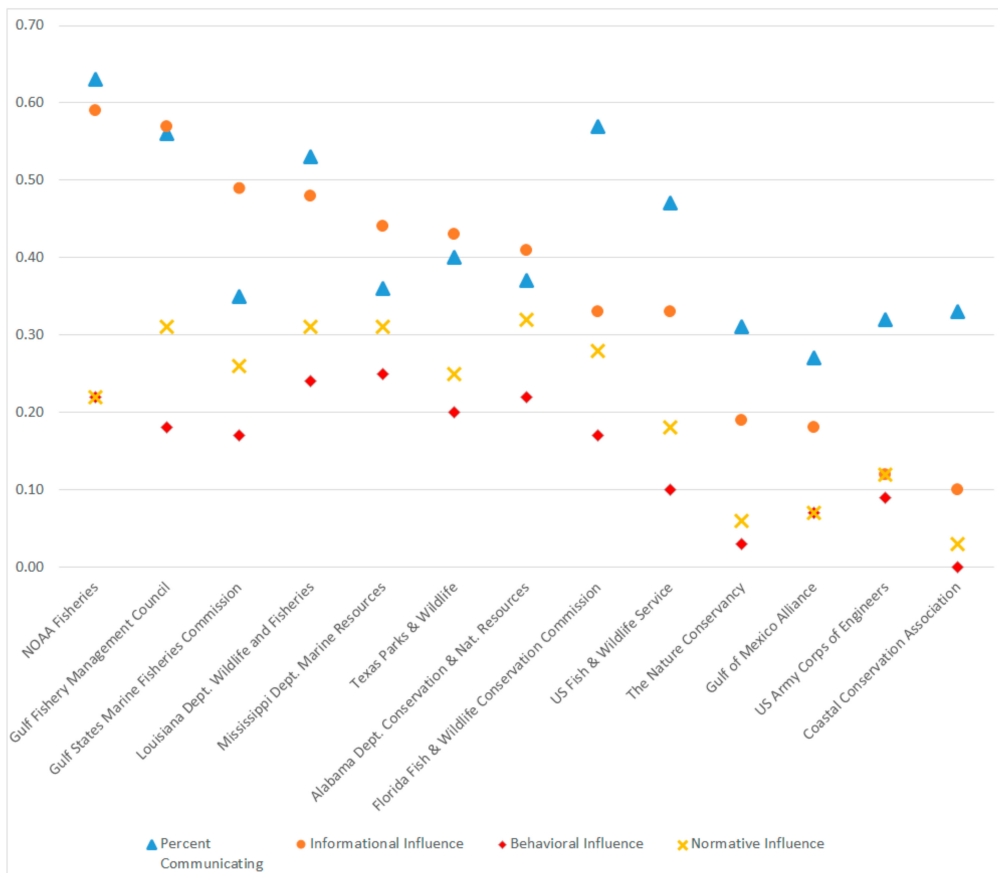

Figure 3. Influential organizations in the Gulf of Mexico fishery.

Respondents indicated that NOAA Fisheries, the U.S. Fish & Wildlife Service, and the Gulf Council were the federal and regional organizations with which they most commonly communicate (see "Percent Communicating" in Figure 4). NOAA Fisheries and the Gulf Council, arguably the two most important regulatory organizations for Gulf fisheries, were considered highly influential by our sample. Only 35% of respondents reported communicating with the interstate fishery commission, yet it was rated as influential by those that did, especially in terms of informational influence. This is consistent with the common practice of fishery commissions to specialize as facilitators of knowledge exchange. The state agencies also scored high in communication, especially Louisiana's and Florida's fishery agencies. While their communication scores were similar, Louisiana was considered the most influential by respondents from other organizations.

The Gulf of Mexico Alliance is an interjurisdictional collaborative organization created by the state governments with the mandate of implementing ecosystem-based management in the Gulf of Mexico. It has strategically avoided hot-button issues like fisheries in favor of less contentious opportunities to promote the shared stewardship of the Gulf's ecosystem [11]. Its modest reported influence in our dataset, when compared to other regional organizations that have an explicit fishery focus (like the Gulf Council and Gulf Commission), is a likely outcome of its scope.

Figure 4 presents the reported interjurisdictional communication patterns in the Gulf of Maine fishery management network, showing: a) the Formal Communication Intensity (FCI); and b) the Informal Communication Intensity (ICI) across jurisdictional categories. The width of the arrows is proportional to the reported level of interjurisdictional communicative intensity, while the percent of respondents from each jurisdictional category communicating with the category to which each arrow points is indicated by a percent communicating (PC) score, also indicated by the darkness of each arrow's shading. The arrows pointing to the respondent jurisdictional category indicates the reported within-jurisdiction interagency communication (for example, between different federal agencies).

The results highlight the centrality of the U.S. state agencies in the sampled communication network. As indicated by the PC scores, respondents from all jurisdictions other than state agencies reported communicating with state agencies more than with organizations from other jurisdictional categories. U.S. federal agencies were also prominent in the network. Respondents from interjurisdictional regional organizations reported higher levels of communication with other jurisdictions than respondents from the U.S. federal and state agencies reported communicating with them. Overall, the total FCI reported between each jurisdictional category was generally higher than the level of ICI reported, particularly for the interjurisdictional regional organizations (total FCI = 0.59; ICI = 0.51) and NGOs (FCI = 0.54; ICI = 0.47). Respondents from federal and state agencies reported communicating with the regional organizations and NGOs through formal channels more than through informal avenues. The scores also show that the respondents from state agencies communicate with each other formally more than informally.

The four trust dimensions are presented in Figure 5 using the same four jurisdictional categories. Dispositional trust had the lowest presence in the network, averaging −0.076 across all respondents. Procedural trust, affinitive trust and rational trust scored 0.027, 0.030, and 0.395, respectively. When distinguishing by respondent jurisdiction, respondents from regional interjurisdictional organizations and the U.S. federal government reported having the highest levels of trust toward other organizations. The relatively high levels of rational trust, compared to procedural trust (substantially lower levels of procedural trust than Song et al. [3] report in the Great Lakes fishery network) is particularly notable (Figure 5a). It suggests a network with relatively low levels of trust in institutional safeguards and a high level of transactional interaction. Respondents from NGOs reported the lowest levels of procedural trust overall.
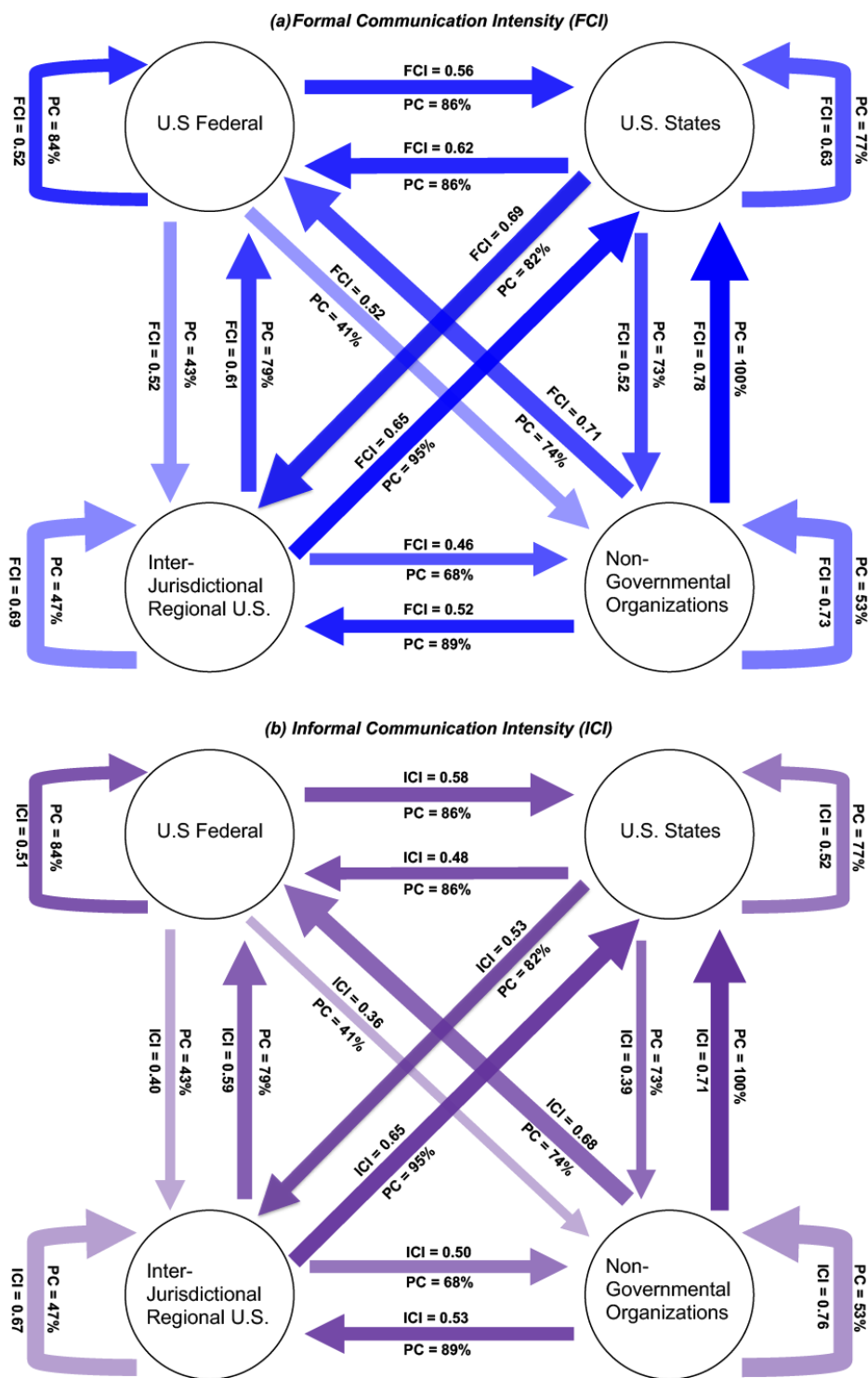
Figure 4. Formal and informal interjurisdictional communicative intensity in the Gulf of Mexico fishery governance network. PC: percent communication.

Interjurisdictional measurements of trust were also compared. Figure 5b contains heat maps for the three interorganizational trust dimensions, showing how respondents from organizations in each of the four jurisdictions rated the others from those jurisdictions. The rows show the scores reported by the respondents in their respective jurisdictional category. Columns reveal the scores assigned to organizations in that jurisdictional category. The data indicates that the state agencies were the most trusted organizations by the sample of respondents from the fishery network. Even respondents

from NGOs, which were the lowest trusting group, reported trusting state agencies as much as the respondents from other agencies did. The highest rational and affinitive trust scores were observed between the three organizations grouped into the 'interjurisdictional' category (0.49 and 0.31, respectively)—the interstate fishery commission, the Gulf Council, and the Gulf of Mexico Alliance. For this reason, the comparably low procedural trust score reported between the respondents from these organizations (0.07), and towards them by organizations in other jurisdictional categories (except U.S. federal employees) (0.00 from respondents in state government; −0.27 by respondents in NGOs), is notable. It suggests that participants from several organizations, across jurisdictions, accept that they must deal with these interjurisdictional organizations, yet view their interactions as occurring in a context that potentially lacks clear rules guaranteeing fairness.

Figure 5. Trust by respondent jurisdiction (**a**) and between jurisdictions (**b**).

3.3. Effect of Trust and Communication on Influence

The results of the three hierarchical regression models (one predicting each type of influence) are presented in Figure 6a–c. The left column lists the individual predictors comprising the predictor sets (listed in Table 3), with the predictor sets separated by dotted lines. For each hierarchical regression analysis, only the significant predictors (alpha = 0.05) are reported. Because all predictor sets have a cumulative effect on explaining variation, the R^2 change resulting from each is reported. The number

above the arrow for each predictor is the standardized beta coefficient. The R^2 reported for each dependent variable is the total variation explained by each model. A fuller presentation of the results of the three models is presented in the Appendix A below, in Tables A1–A3.

Figure 6a (and Table A1 in the Appendix A) presents the effect of predictor variables for influence defined as a change in flow or availability of information between network members. After controlling for participant jurisdiction, dispositional trust, the criterion-scaled participants, and target organization, three independent variables had a significant effect on this type of interorganizational influence. The frequency of both formal and informal communication between network members predicts influence through enhancing an organization's knowledge of fishery science or management. Neither affinitive trust nor procedural trust predicted this type of influence. Only rational trust, based on the perceived utility of another organization, was found to have an effect. Furthermore, rational trust and formal communication frequency exhibited a negative interaction. Higher formal communication frequency was associated with an attenuated effect of rational trust on informational influence.
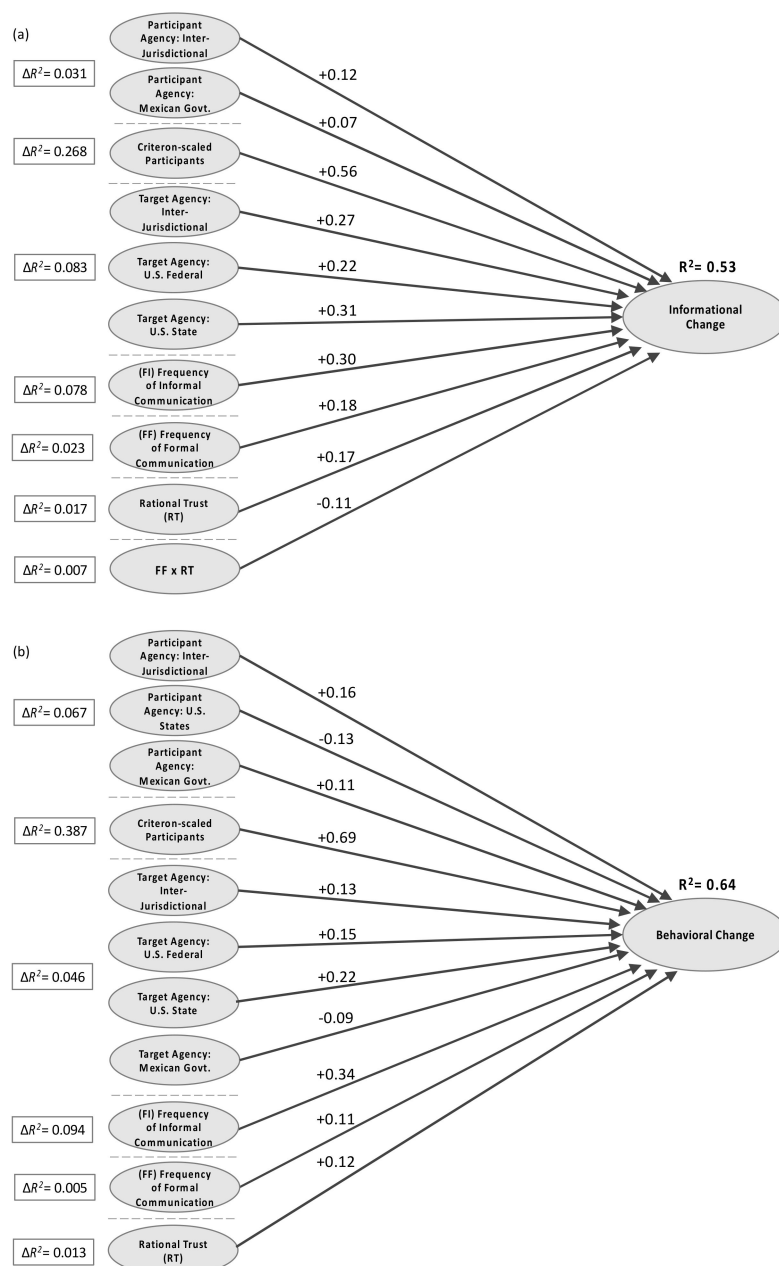

Figure 6. *Cont.*
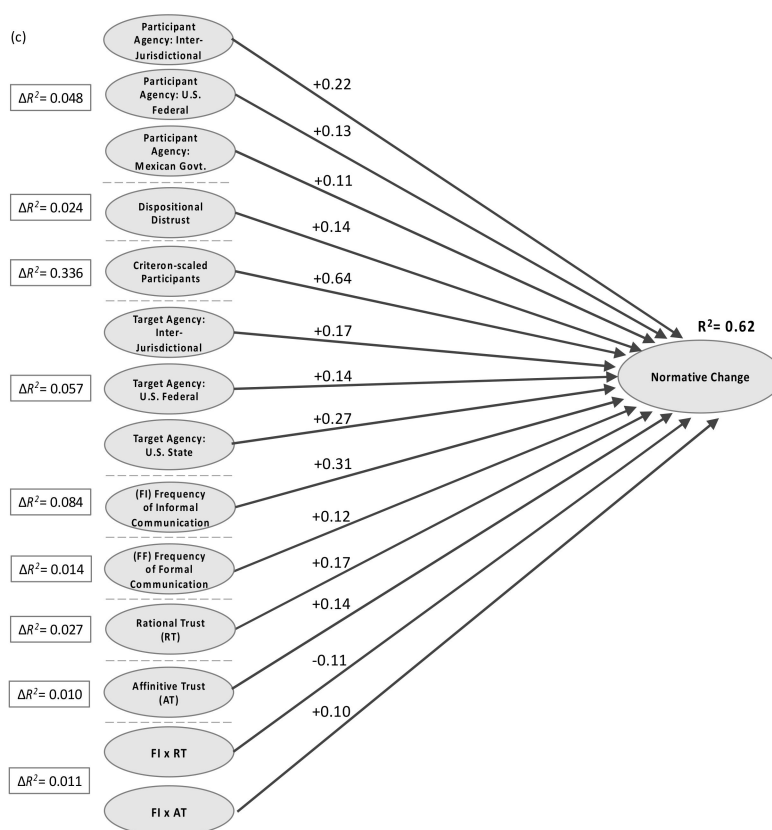
Figure 6. Summary of significant hierarchical regression relationships for predicting impact on (**a**) informational change; (**b**) behavioral change; and (**c**) normative change. The hierarchical predictor sets are separated by short dotted lines and the change in R^2 associated with the addition of that predictor set to each regression model is shown in solid-line boxes. Note: N=105 respondents; n=774 Target Agency ratings; contribution of predictor set shown as ΔR^2; path coefficients are standardized regression coefficients; only significant ($p < 0.05$) relationships are shown.

Figure 6b (and Table A2 in the Appendix A) presents the significant results of the hierarchical regression predicting the impact of trust and formal and informal communication to bring about influence defined as behavioral change. After controlling for participant organization type, dispositional trust, and target jurisdiction, three independent variables had a significant effect on moderate interorganizational influence. As for informational influence, both formal and informal communication frequency predicted behavioral influence, with informal exhibiting a larger effect than formal communication. However, here, the effect of informal communication is stronger than for informational influence, and the effect of formal communication is weaker. Rational trust impacts behavioral influence, but its effect is weaker than it is for informational influence.

Figure 6c (and Table A3 in the Appendix A) presents the hierarchical regression results for predicting the impacts of trust and communication on interorganizational influence defined as a change in norms. After accounting for the participants' organization types, dispositional trust, and the organization types, four independent variables are significant predictors. As with the other influence types, formal and informal communication have an effect, with the impact of informal communication stronger. Rational trust and affinitive trust show a similar degree of impact on normative influence. Also notable is the effect of dispositional distrust, which was roughly equal to rational and affinitive trust. In addition, two interaction effects are significant. Informal communication frequency interacts with rational trust negatively and affinitive trust positively. In other words, increases in informal communication frequency were associated with an attenuated effect for rational trust and an enhanced effect for affinitive trust on normative influence.

4. Discussion

This article has utilized a survey of participants in the public management network for the Gulf of Mexico fishery to examine interorganizational influence, and the presence and effects of its antecedents. Our purpose was to understand some of the social factors affecting interorganizational exchange, cooperation, and collaboration within a complex, multi-actor transboundary natural resource management context. The antecedents measured and examined for their impact on interorganizational influence represent the "mortar" that Wondolleck and Yaffee [11] consider indispensable for marine ecosystem-based management, and for which considerable recent attention in the NRM literature has been devoted: multidimensional trust and informal and formal interorganizational communication. In doing so, the case study analysis also yielded insight to the diverse composition of the Gulf of Mexico fishery management network, which has not previously been examined in this way. The overall view of the management network obtained by examining the presence and distribution of influence, communication, and trust, is a network in which influence is concentrated mostly within two federal agencies, the two interjurisdictional regional agencies, and the state agencies charged with fishery management. NGOs were less often communicated with by respondents from other organizations and respondents from NGO were generally less trusting of other organizations. Influence through the provision of information was more common than influence through the changing of norms or behavior, formal communication was more prevalent than informal communication, and rational trust was more common than the other types.

The findings paint a picture of a network that is fragmented and transactional. Although network members seek to manage a transboundary network, our sample of respondents reported operating through a federal-state and inter-state network that did not extend beyond the U.S.–Mexican border. Influence within our sample is concentrated in a small number of agencies, including the main federal and regional regulators (especially NOAA Fisheries and the Gulf Council) and state agencies. Most surprising is the relatively minor role in the network attributed to the Gulf of Mexico Alliance. While this may be the result of limitations associated with our partial and purposive sample of survey respondents, we were expecting it to play a more significant role in the network based on the work of Wondolleck and Yaffee [11] who associate it with the successful implementation of EBM in the Gulf of Mexico. Within our sample of network actors, it appears that the potential coordinating role of the Gulf of Mexico Alliance remains ceded to the interstate fishery commission which, despite having a small staff of two-dozen and a miniscule budget compared to the others, was found to exercise considerable influence due to its official status and expertise.

The predictive findings indicate that informal communication is more consequential in interorganizational influence than formal communication (as indicated by higher standardized regression coefficients and R^2 change, although both are statistically significant across all models), and that rational trust is the most impactful, while procedural trust has no observed effect. The findings also indicate that the effects of interorganizational trust and communication differ based on the type of influence they facilitate.

Interorganizational influence defined as a change in information flow and availability was impacted by rational trust only. Although informal communication displayed a stronger effect than formal communication, the size of the differential was smaller than in other forms of interorganizational influence. This outcome is intuitive, since information and knowledge in a management setting is inherently rational. However, it has more significant implications. Trust is often described as important for lubricating the network 'transmission lines' for facilitating knowledge flow [14,33–36]. This is one of the most important roles of networks, and rationales for their existence, in natural resource management. The fact that only one dimension of trust—based not on belief in the fairness of bureaucratic procedures, nor on the relational comfort of a long-standing professional relationship—exhibited an effect has implications for how we understand network influence within transboundary natural resource management settings. In certain interorganizational contexts, rational trust may be a medium of

technocratic power. This is the type of influence described by Barnett and Finnemore [37], whereby organizations seen as authorities with specialized knowledge exercise a narrow form of influence.

The findings were similar for behavioral influence. Rational trust was the only trust shown to impact interorganizational influence. This finding is similar to Song et al.'s [3] study of the Great Lakes fisheries governance network, which reported no effect of either dispositional trust or procedural trust on behavioral influence, and the larger role for informal communication relative to formal communication observed in this model.

For normative influence (arguably the deepest form), dispositional, affinitive, and rational trust were all significant predictors. Unlike with the other forms of influence, changes in a respondent's general approach to fishery management were facilitated by the existence of longstanding working relationships and associated emotional closeness with the influencing organization. While rational trust also had an impact on normative influence, the difference between its effect and the other two significant trust types was minimal. The effect of dispositional distrust was anticipated by Smith and colleagues [38] (p.16) who found a negative relationship between dispositional trust and participation in resource management planning with government agencies. These authors called for studies examining the "potential importance distrust plays in fueling public involvement in resource planning and management". The present study represents a tentative step in showing the importance of dispositional distrust as a motivating force for influence within interorganizational natural resource management networks.

Given the prevalent network properties that depict a transactional management network (low presence of affinitive and procedural trust, relatively high levels of rational trust, higher presence of formal communication than informal communication), it may seem impressive that so many respondents reported being influenced by their interactions with other organizations. Here, Stern and Baird's [10] concept of trust ecology merits consideration. They argue that, in the absence of certain types of trust, other types may 'buffer' by substituting. When procedural trust is lacking (as appears the case in the Gulf of Mexico fishery network), "Rational and/or affinitive trust between people or for an organization can allow groups to move forward and directly address system changes together through social and/or organizational learning" [10] (p.3). Affinitive trust's role in facilitating normative influence in the absence of procedural trust is particularly important given the low levels of affinitive trust measured among survey participants towards the organizations they reported interacting with.

Further evidence of such 'buffering' can be found in the three significant interaction variables. In the models for informational influence and normative influence, communication frequency negatively interacted with rational trust. Communication frequency is a well-established dimension of social capital [15]. The results suggest that, when communication frequency is low, rational trust's larger effect on interorganizational influence can buffer against poorly developed relationships, enabling mutual learning and adaptation in spite of relatively low levels of interaction. Song et al. [3] found procedural trust to have a similar buffering effect on conflict reduction (not examined in this study).

Affinitive trust's positive interaction with informal communication frequency is consistent with Temby's [7] and Song et al.'s [3] findings about this trust type's effect on interorganizational influence. In addition to exhibiting an independent effect on normative influence, its presence is associated with a stronger effect of informal communication frequency.

These findings suggest at least two potentially fruitful avenues for further research. First, given the importance of trust on interorganizational influence, research is needed on the managerial strategies and control mechanisms used to facilitate interorganizational trust in the NRM context and to mitigate the perception of risk stemming from working together (cf. [2]). A growing literature exists on risk perception and control in inter-firm strategic alliances [39–43]. The control mechanisms used in NRM (e.g., interagency strategic vision statements, incentives for informal interaction) are often different than those employed in the private sector, and their effects on trust development are under-researched. It should be possible for future research to identify which types of control mechanism in use serve to develop, and presuppose, different trust types.

Second, and related, further research could examine the activities of network boundary-spanning leadership on multi-type influence [30]. Coleman and Stern [5] call boundary-spanning leaders trust ambassadors. However, is their influence more in the realm of weak and technocratic (informational change) influence, or does it extend to changes in basic ways of thinking about problems? This is an important question when considering the problem of inclusion of diverse interests in EBM, which must contend with who to involve (and build trust with and influence) and who to exclude due to the risk that some actors have values that are too discordant with the network's objectives and will not be able to be won over. In a multiple-case comparison of U.S. EBM initiatives, Judith Layzer [44] described the failures of EBM initiatives to build trust with participants who do not have shared values underpinning their activities. If boundary-spanning leadership is more effective at influence through information, rather than shared identity and purpose building and altering, for example, the advisable stakeholder engagement strategies to be employed should potentially be considered accordingly.

Appendix A Full Hierarchical Regression Results

For each hierarchical regression analysis, the model summary table and predictor-specific coefficients are reported. The summary of the model building process shows that all predictor sets entered contributed significantly to the model indicating that the inclusion of these variables is statistically meaningful compared to a model that does not include them. For each individual predictor, both unstandardized and standardized regression coefficients as well as the part correlation are listed; the square of the part correlation is also reported (identified as the squared semi-partial correlation, sr2), which reflects the proportion of variance that the predictor uniquely explains in the dependent variable over and above all previously entered predictors.

Table A1. Hierarchical Regression Analysis: Informational Change.

Hierarchical regression model summary [a]

Model	Predictor set entered	Model R^2	R^2 Change	df predictors	df residual	F-test	P
				R² change statistics			
1	Participant's Agency	0.0314	0.0314	4	732	5.93	0.0001
2	Dispositional Distrust (DT)	0.0489	0.0175	5	591	6.07	0.0000
3	Criterion-scaled Participants	0.3164	0.2675	6	590	45.51	0.0000
4	Target Agency	0.3990	0.0826	10	586	38.90	0.0000
5	Frequency of Informal Communication	0.4769	0.0779	11	575	47.66	0.0000
6	Frequency of formal Communication	0.4995	0.0226	12	562	46.75	0.0000
7	Rational Trust Component (RT)	0.5162	0.0167	13	529	43.41	0.0000
8	Procedural Trust Component (PT)	0.5148	−0.0014	14	495	37.52	0.0000
9	Affinity Trust Component (AT)	0.5154	0.0006	15	494	35.02	0.0000
10	Trust Interactions (FI×DT, FI×PT, FI×RT, and FI×AT)	0.5191	0.0037	19	490	27.84	0.0000
11	Trust Interactions (FF×DT, FF×PT, FF×RT, and FF×AT)	0.5265	0.0074	23	486	23.50	0.0000

Model coefficients

Model	Individual predictor	Unstandardized coefficients β	Std. error	Standardized coefficients β	Correlations Part	sr²	F-test P
1	Participant's Agency: Interjurisdictional U.S.	**0.1951**	0.0752	**0.1198**	0.0944	**0.0089**	**0.0097**
	Participant's Agency: U.S. Federal	−0.0507	0.0652	−0.0388	−0.0283	0.0008	0.4371
	Participant's Agency: U.S. States	−0.0895	0.0664	−0.0667	−0.0490	0.0024	0.1780
	Participant's Agency: Mexican Government	**0.7185**	0.3557	**0.0741**	0.0735	**0.0054**	**0.0438**
	Participant's Agency: International Organizations	-	-	-	-	-	-
2	Dispositional Distrust (DT)	−0.0340	0.0368	−0.0388	−0.0371	0.0014	0.3549
3	Criterion-scaled Participants	**0.9913**	0.0652	**0.5603**	0.5172	**0.2675**	**0.0000**
4	Target Agency: Interjurisdictional U.S.	**0.5128**	0.0708	**0.2655**	0.2320	**0.0538**	**0.0000**
	Target Agency: U.S. Federal	**0.2928**	0.0537	**0.2168**	0.1747	**0.0305**	**0.0000**
	Target Agency: U.S. States	**0.4023**	0.0522	**0.3058**	0.2469	**0.0610**	**0.0000**
	Target Agency: Mexican Government	0.0970	0.1748	0.0213	0.0178	0.0003	0.5793
	Target Agency: International Organizations	-	-	-	-	-	-
5	Frequency of Informal Communication	**0.2677**	0.0297	**0.2973**	0.2719	**0.0740**	**0.0000**
6	Frequency of formal Communication	**0.1749**	0.0341	**0.1793**	0.1530	**0.0234**	**0.0000**
7	Rational Trust Component (RT)	**0.1457**	0.0289	**0.1666**	0.1527	**0.0233**	**0.0000**
8	Procedural Trust Component (PT)	−0.0110	0.0332	−0.0143	−0.0104	0.0001	0.7398
9	Affinity Trust Component (AT)	0.0273	0.0369	0.0330	0.0231	0.0005	0.4605
10	FI×DT	−0.0577	0.0515	−0.0394	−0.0351	0.0012	0.2625
	FI×PT	0.0444	0.0459	0.0437	0.0303	0.0009	0.3333
	FI×RT	−0.0651	0.0517	−0.0579	−0.0394	0.0016	0.2086
	FI×AT	−0.0117	0.0491	−0.0106	−0.0075	0.0001	0.8118
11	FF×DT	0.0437	0.0522	0.0299	0.0261	0.0007	0.4028
	FF×PT	0.0469	0.0575	0.0359	0.0254	0.0006	0.4153
	FF×RT	**−0.1649**	0.0648	**−0.1112**	−0.0794	**0.0063**	**0.0113**
	FF×AT	0.0199	0.0627	0.0145	0.0099	0.0001	0.7513

[a] Dependent variable: Weak Influence. Note. Bold font gives us statistically significant predictors and values.

Table A2. Hierarchical Regression Analysis: Behavioral Influence.

Hierarchical regression model summary [a]

Model	Predictor set entered	Model R^2	R^2 Change	R^2 change statistics			
				df predictors	df residual	F-test	P
1	Participant's Agency	0.0665	0.0665	4	735	13.08	0.0000
2	Dispositional Distrust (DT)	0.0903	0.0238	5	529	11.76	0.0000
3	Criterion-scaled Participants	0.4774	0.3871	6	591	89.97	0.0000
4	Target Agency	0.5235	0.0461	10	587	64.50	0.0000
5	Frequency of Informal Communication	0.6175	0.0940	11	578	84.84	0.0000
6	Frequency of formal Communication	0.6221	0.0046	12	565	77.52	0.0000
7	Rational Trust Component (RT)	0.6355	0.0134	13	531	71.21	0.0000
8	Procedural Trust Component (PT)	0.6383	0.0028	14	499	62.90	0.0000
9	Affinity Trust Component (AT)	0.6400	0.0017	15	498	59.01	0.0000
10	Trust Interactions (FI×DT, FI×PT, FI×RT, and FI×AT)	0.6424	0.0024	19	494	46.71	0.0000
11	Trust Interactions (FF×DT, FF×PT, FF×RT, and FF×AT)	0.6432	0.0008	23	490	38.41	0.0000

Model coefficients

Model	Individual predictor	Unstandardized coefficients		Standardized coefficients	Correlations		F-test
		β	Std. error	β	Part	sr^2	P
1	Participant's Agency: Interjurisdictional U.S.	**0.2774**	0.0811	**0.1549**	0.1219	**0.0149**	**0.0007**
	Participant's Agency: U.S. Federal	−0.0022	0.0701	−0.0016	−0.0011	0.0000	0.9746
	Participant's Agency: U.S. States	**−0.1946**	0.0711	**−0.1337**	−0.0975	**0.0095**	**0.0064**
	Participant's Agency: Mexican Government	**1.1504**	0.3809	**0.1086**	0.1076	**0.0116**	**0.0026**
	Participant's Agency: International Organizations	-	-	-	-	**-**	**-**
2	Dispositional Distrust (DT)	0.0410	0.0388	0.0432	0.0414	0.0017	0.2911
3	Criterion-scaled Participants	**1.0002**	0.0478	**0.6904**	0.6221	**0.3870**	**0.0000**
4	Target Agency: Interjurisdictional U.S.	**0.2626**	0.0679	**0.1258**	0.1102	**0.0121**	**0.0001**
	Target Agency: U.S. Federal	**0.2147**	0.0515	**0.1468**	0.1188	**0.0141**	**0.0000**
	Target Agency: U.S. States	**0.3150**	0.0499	**0.2215**	0.1798	**0.0323**	**0.0000**
	Target Agency: Mexican Government	**−0.4800**	0.1791	**−0.0928**	−0.0764	**0.0058**	**0.0076**
	Target Agency: International Organizations	-	-	-	-	-	-
5	Frequency of Informal Communication	**0.3270**	0.0272	**0.3362**	0.3093	**0.0957**	**0.0000**
6	Frequency of formal Communication	**0.1100**	0.0309	**0.1054**	0.0921	**0.0085**	**0.0004**
7	Rational Trust Component (RT)	**0.1107**	0.0271	**0.1169**	0.1071	**0.0115**	**0.0001**
8	Procedural Trust Component (PT)	0.0048	0.0314	0.0058	0.0041	0.0000	0.8781
9	Affinity Trust Component (AT)	0.0531	0.0349	0.0592	0.0410	0.0017	0.1282
10	FI×DT	−0.0379	0.0482	−0.0238	−0.0212	0.0004	0.4318
	FI×PT	0.0229	0.0421	0.0207	0.0146	0.0002	0.5865
	FI×RT	−0.0195	0.0477	−0.0160	−0.0110	0.0001	0.6822
	FI×AT	0.0417	0.0456	0.0348	0.0246	0.0006	0.3604
11	FF×DT	0.0208	0.0492	0.0131	0.0114	0.0001	0.6725
	FF×PT	0.0236	0.0542	0.0167	0.0118	0.0001	0.6631
	FF×RT	−0.0590	0.0609	−0.0367	−0.0261	0.0007	0.3337
	FF×AT	0.0197	0.0590	0.0132	0.0090	0.0001	0.7389

[a] Dependent variable: Weak Influence. Note. Bold font gives us statistically significant predictors and values.

Table A3. Hierarchical Regression Analysis: Normative Influence.

Hierarchical regression model summary [a]

Model	Predictor set entered	Model R^2	R^2 Change	df predictors	df residual	F-test	P
				R^2 change statistics			
1	Participant's Agency	0.0479	0.0479	4	738	9.28	0.0000
2	Dispositional Distrust (DT)	0.0722	0.0243	5	597	9.30	0.0000
3	Criterion-scaled Participants	0.4084	0.3362	6	596	68.57	0.0000
4	Target Agency	0.4653	0.0569	10	592	51.51	0.0000
5	Frequency of Informal Communication	0.5490	0.0837	11	580	64.17	0.0000
6	Frequency of formal Communication	0.5625	0.0135	12	567	60.74	0.0000
7	Rational Trust Component (RT)	0.5890	0.0265	13	533	58.76	0.0000
8	Procedural Trust Component (PT)	0.5978	0.0088	14	499	52.97	0.0000
9	Affinity Trust Component (AT)	0.6078	0.0100	15	498	51.44	0.0000
10	Trust Interactions (FI×DT, FI×PT, FI×RT, and FI×AT)	0.6191	0.0113	19	494	42.26	0.0000
11	Trust Interactions (FF×DT, FF×PT, FF×RT, and FF×AT)	0.6233	0.0042	23	490	35.25	0.0000

Model coefficients

Model	Individual predictor	Unstandardized coefficients β	Std. error	Standardized coefficients β	Correlations Part	sr^2	F-test P
1	Participant's Agency: Interjurisdictional U.S.	**0.3921**	0.0832	**0.2153**	0.1693	**0.0287**	**0.0000**
	Participant's Agency: U.S. Federal	**0.1927**	0.0722	**0.1317**	0.0958	**0.0092**	**0.0078**
	Participant's Agency: U.S. States	0.0484	0.0734	0.0324	0.0237	0.0006	0.5092
	Participant's Agency: Mexican Government	**1.2370**	0.3943	**0.1137**	0.1127	**0.0127**	**0.0018**
	Participant's Agency: International Organizations	-	-	-	-	-	-
2	Dispositional Distrust (DT)	**0.1344**	0.0403	**0.1372**	0.1315	**0.0173**	**0.0009**
3	Criterion-scaled Participants	**1.0022**	0.0545	**0.6355**	0.5798	**0.3362**	**0.0000**
4	Target Agency: Interjurisdictional U.S.	**0.3562**	0.0741	**0.1650**	0.1446	**0.0209**	**0.0000**
	Target Agency: U.S. Federal	**0.2076**	0.0559	**0.1377**	0.1115	**0.0124**	**0.0002**
	Target Agency: U.S. States	**0.3909**	0.0542	**0.2670**	0.2166	**0.0469**	**0.0000**
	Target Agency: Mexican Government	−0.2288	0.1831	−0.0448	−0.0376	0.0014	0.2118
	Target Agency: International Organizations	-	-	-	-	-	-
5	Frequency of Informal Communication	**0.3122**	0.0303	**0.3122**	0.2873	**0.0826**	**0.0000**
6	Frequency of formal Communication	**0.1296**	0.0349	**0.1193**	0.1033	**0.0107**	**0.0002**
7	Rational Trust Component (RT)	**0.1720**	0.0300	**0.1748**	0.1589	**0.0253**	**0.0000**
8	Procedural Trust Component (PT)	0.0196	0.0347	0.0225	0.0161	0.0003	0.5720
9	Affinity Trust Component (AT)	**0.1327**	0.0372	**0.1415**	0.1000	**0.0100**	**0.0004**
10	FI×DT	−0.0449	0.0515	−0.0269	−0.0242	0.0006	0.3841
	FI×PT	0.0636	0.0456	0.0551	0.0387	0.0015	0.1638
	FI×RT	**−0.1448**	0.0515	**−0.1135**	−0.0781	**0.0061**	**0.0051**
	FI×AT	**0.1270**	0.0492	**0.1013**	0.0717	**0.0051**	**0.0101**
11	FF×DT	0.0872	0.0527	0.0525	0.0459	0.0021	0.0986
	FF×PT	0.0179	0.0580	0.0121	0.0085	0.0001	0.7584
	FF×RT	−0.0752	0.0659	−0.0448	−0.0317	0.0010	0.2541
	FF×AT	0.0876	0.0634	0.0564	0.0383	0.0015	0.1680

[a] Dependent variable: Weak Influence. Note. Bold font gives us statistically significant predictors and values.

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