Fishing for recognition: Understanding the use of NGO guidelines in fishery improvement projects

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Abstract

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This study examines the use of non-governmental organization (NGO) guidelines in a fishery improvement project (FIP) in the Gulf of Mexico reef fish fishery. FIPs recently emerged as a way to assist fisheries in reaching environmental sustainability. The Conservation Alliance for Seafood Solutions, a group of NGOs dedicated to seafood sustainability, created a set of guidelines for FIPs. These guidelines outline the process necessary for FIPs to receive market recognition as moving towards sustainability. Interviews with stakeholders and FIP documents were analyzed to understand how these guidelines are utilized in practice and how this helps fisheries progress toward sustainability. The guidelines focus on sustainability as defined by the Marine Stewardship Council (MSC) certification standard, though certification is not required. Though informants were interested in market benefits, none currently desired MSC certification. Informants were partially motivated by the potential to increase their power in the fishery management process. These motivations, in combination with a clear process to identify, address, and monitor improvement needs, aid progress toward sustainability. In addition, insufficient stakeholder identification and interaction has failed to ease tension among FIP stakeholders with a history of conflict over the fishery's management. However, this does not seem to hinder progress. Lastly, though many FIPs are led by NGOs, NGO participation is not required by the

guidelines. Key informants identified NGO participation as helpful for providing knowledge, connecting them to other organizations, monitoring progress, and adding legitimacy to their work. Based on these results, recommendations for improvement and future research needs are identified.

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Acronyms and Abbreviations

NGO	Nongovernmental organization
FIP	Fishery improvement project
SFP	Sustainable Fisheries Partnership
MSC	Marine Stewardship Council
GoM	Gulf of Mexico
Conservation Alliance	Conservation Alliance for Seafood Solutions
Shareholders' Alliance	Gulf of Mexico Reef Fish Shareholders' Alliance

Introduction

Fisheries decline and the market for sustainability

In 2012, the UN reported that the state of marine fisheries is in decline, estimating that 29.9% of marine fish stocks are overexploited (UN FAO, 2012). Though fisheries are not the sole cause of decline (Hilborn et al., 2003), overexploitation of stocks and other ecological impacts of fishing can have negative economic and social consequences (UN FAO, 2012). Such consequence include a reduction in food supply and livelihoods, given that fisheries and aquaculture supplied the world with approximately 130 million tons of food and provided livelihoods to approximately 55 million people in 2010 and 2011 (UN FAO, 2012). Such consequences can be mitigated, as proper management can sustain or rebuild fish stocks. While some researchers claim traditional fisheries management has failed to ensure the viability of many stocks under complex demands (Potts, 2006), others claim it is a failure *to* manage rather than a failure *of* management that leads to stock decline (Hilborn & Ovando, 2014). Reduction of overfishing and rebuilding have been successfully demonstrated in areas such as the United States and New Zealand, though both still have some overexploited stocks (UN FAO, 2012). Yet, many governments still fail to implement successful management (Parkes et al., 2010).

Nongovernmental organization (NGO) campaigns have created pressure on the seafood industry to improve sustainability where management by the state and by the industry itself have not been sufficient (Parkes et al., 2010). Market-based approaches emerged in the 1990s as a potential solution to unsustainable fishing practices (Ponte, 2012). Market-based approaches seek to influence consumers to include sustainability concerns when making purchasing decisions, acting as a clear and simple decision making aid for consumers (Potts & Haward, 2007). Market-based approaches include NGO-led boycotts, consumer guides, eco-labels, and pressure on retailers (Roheim & Sutinen, 2006). These approaches allow consumers to influence retailers and make informed purchases, with the hope that increased

purchase of sustainable products will motivate improvements in fishing practices (Parkes et al., 2010; Potts & Haward, 2007). Boycotts and guides that operate at the species or fishery level do not create incentive for improvement from individual producers (i.e. fishermen). However, eco-labels reward individual fishing groups at the sub-fishery level for employing sustainable practices (Roheim & Sutinen, 2006).

Fishery improvement projects as a solution

Fishery improvement projects (FIPs) recently emerged as a way for the private sector to assist fisheries in reaching sustainability certification. The term "fishery improvement project" has historically been used to describe collaborative efforts to improve practices and conditions in a specific fishery. For example, one of the first FIPs cited is one in Discovery Bay, Jamaica. The FIP was created to increase fishermen's knowledge, encourage sustainable fishing practices, and establish community-based fishery management with support from the Canadian International Development Agency and oversight of scientists at the University of the West Indies and Trent University in Canada (Van Barneveld, Sary, Woodley, Miller, & Picou-Gill, n.d.). Recently, a more specific definition of FIPs has evolved. The Conservation Alliance for Seafood Solutions, an alliance among 16 conservation organizations working together to improve seafood sustainability, formed an agreed-upon definition of a FIP as:

> A multi-stakeholder effort to improve a fishery. These projects are unique because they utilize the power of the private sector to incentivize positive changes toward sustainability in the fishery. Participants may vary depending on the nature of the fishery and improvement projects, and may include stakeholders such as producers, nongovernmental organizations, fishery managers, government, and members of the fishery's supply chain. (Conservation Alliance for Seafood Solutions, n.d.)

Retailers may see FIPs as a way to fulfill sustainability commitments and avoid switching supply sources. Thus, FIPs can increase market access for fisheries prior to certification by the Marine

Stewardship Council (MSC), an eco-label for sustainable fisheries (see the background section for a summary of this process) (Bush, Toonen, Oosterveer, & Mol, 2013). This has led to criticism that recognition for sustainability is premature when fisheries are only beginning to implement sustainable practices. While greater market access can provide funding to support improvements, it can also undermine certification schemes, as this may decrease motivation to reach full certification levels. Retailers also face reputational damage if fisheries are not achieving the progress toward sustainability they claim (Ponte, 2012).

In the effort to support fisheries working to improve sustainability, the Conservation Alliance recognized a need for criteria to determine whether a FIP is making adequate progress toward sustainability and should receive market recognition (Conservation Alliance for Seafood Solutions, n.d.). The Conservation Alliance created a set of guidelines outlining the characteristics necessary for a project to be considered a FIP and additional characteristics for that FIP to be considered credibly moving toward sustainability. The guidelines focus on sustainability as outlined by the Marine Stewardship Council's certification criteria. According to the Conservation Alliance:

> A fishery improvement project must have the following characteristics:
>
> 1. draw upon market forces, which might include suppliers, retailers, food service, fishing industry, etc., to motivate fishery improvements;
> 2. a workplan with measureable indicators and an associated budget;
> 3. explicit willingness from participants to make improvements (e.g., a signed memorandum of understanding, email correspondence stating a commitment, etc.);
> 4. willingness from participants to make the investments required to make improvements as outlined in the workplan and budget; and
> 5. a system for tracking progress.

To be considered for public recognition for moving toward sustainability, an improvement project must have the characteristics listed above and also:

6. have a scoping document completed by a third party experienced with applying the Marine Stewardship Council Fishery Assessment Methodology (see step one [Table 1Table 1~~Table 1~~]);
7. have a workplan specifically designed to address deficiencies in the fishery to achieve a level of sustainability consistent with an unconditional pass of the MSC standard (see step two [Table 1~~Table 1~~]);
8. employ a system for tracking and reporting progress against workplan indicators [emphasis added] (see step three [Table 1~~Table 1~~]); and
9. include active participation by supply chain companies, at a minimum local processors and exporters. (Conservation Alliance for Seafood Solutions, n.d.)

In addition to meeting these criteria, a FIP wishing to be recognized as moving toward sustainability must also follow a set process. The process is divided into three steps, each with its own set of requirements (Table 1~~Table 1~~). The Alliance makes purchasing recommendations based on these steps.

Table 1: FIP process: FIP steps and sourcing recommendations per Conservation Alliance for Seafood Solutions

Step	Requirements	Purchasing Options
1. Scoping	• Stakeholder mapping and engagement • MSC pre-assessment (provisional evaluation against MSC standard) • Scoping document with potential strategies to increase sustainability	• **Default:** Do not shift sourcing to FIP If currently sourcing from FIP: • Continue sourcing to incentivize progress, or • Discontinue sourcing until improvements are made
2. Workplan Development	• Workplan with activities, responsible parties, timeframes, performance indicators, budget	• Shift sourcing to FIP, • Continue sourcing to incentivize progress, or • Discontinue sourcing until improvements are made
3. Implementation and Tracking Progress	• Workplan implementation • Progress tracked and reported publicly every three to six months	

When this process is followed, the Conservation Alliance recognizes and supports FIPs, helping to increase demand for fisheries making improvements. The Conservation Alliance recognizes the power of seafood buyers to influence sustainability through engaging their supply chain and other industry members in FIPs and through shifting purchases when necessary. It is up to a company's sustainable seafood policy whether it sources or discontinues sourcing from a FIP. Any time a company chooses to discontinue sourcing from a FIP, the Conservation Alliance recommends they clearly communicate what needs to be addressed for sourcing to resume.

There is little existing research on the utility of FIPs because they are a relatively new tool. This study seeks to fill some of the knowledge gap by examining in-depth one FIP initiated in the Gulf of Mexico (GoM) reef fish fishery in 2010. The FIP focuses on sustainability issues in the fisheries for red snapper, red grouper, and gag grouper. Using the GoM reef fish FIP as a representative case, this case study examines how the Conservation Alliance guidelines are used in practice and how their use affects progress toward sustainability.

Gulf of Mexico reef fish FIP

The GoM reef fish FIP began in 2010, coordinated by the Sustainable Fisheries Partnership (SFP), one of the members of the Conservation Alliance (Sustainable Fisheries Partnership, 2014). SFP is an NGO working toward seafood sustainability in industry and facilitates over forty FIPs around the world. The GoM reef fish FIP includes U.S.-managed northern red snapper (*Lutjanus campechanus*), red grouper (*Epinephelus morio*), and gag grouper (*Mycteroperca microlepis*) in the GoM (Figure 1~~Figure 1~~). Fisheries for these three species are managed along with numerous species of snapper, grouper, tilefish, jack, triggerfish, and wrasse under the GoM Fishery Management Council's Reef Fish Fishery Management Plan (Gulf of Mexico Fishery Management Council, 2012). Currently, the commercial fishery is allocated 51% of the quota, and the recreational receives 49% (Gulf of Mexico Fishery Management Council, 2013). The commercial fisheries for all three species use individual fishing quota (IFQ) systems (NOAA, 2012). All three species are caught primarily with vertical hook and line gear ("bandit rigs"), but grouper is also caught with bottom longlines (Sustainable Fisheries Partnership, 2014). The Gulf Council uses annual catch limits for all three species, which, when met or exceeded, lead to accountability measures, such as seasonal closures (Gulf of Mexico Fishery Management Council, 2010). The current stock statuses according to the most recent NOAA stock assessments are:

- Red snapper (2013): has been overfished, but not experiencing overfishing and currently rebuilding with a rebuilding plan implemented in 2005;
- Red grouper (2009): not overfished nor experiencing overfishing; and
- Gag grouper (2011): has been overfished, but no longer experiencing overfishing with a rebuilding plan implemented in 2012 (NOAA, n.d.).

The majority of snapper and grouper are sold in the domestic market, and additional product is imported (Gulf of Mexico Fishery Management Council, 2013).

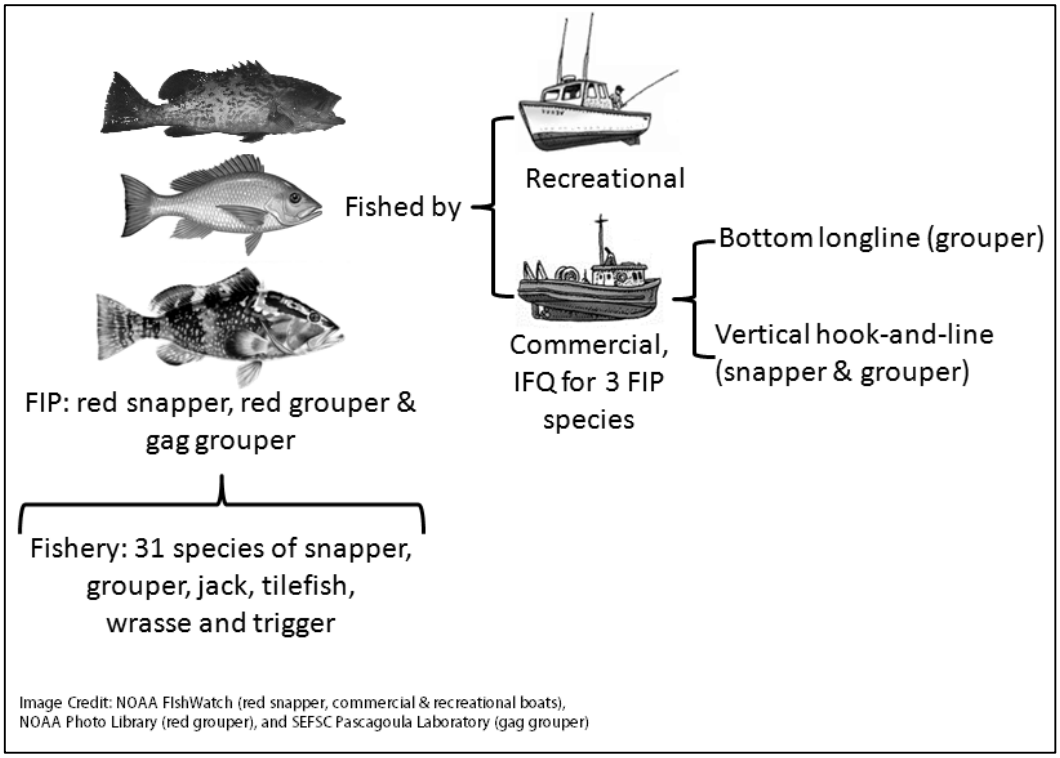

Figure 1: Schematic of the Gulf of Mexico reef fish fishery: The FIP species are part of a multispecies fishery, fished by commercial and recreational sectors.

A FIP was initiated in the GoM reef fish fishery in 2010 to address concerns with northern red snapper, red grouper, and gag grouper fisheries (Sustainable Fisheries Partnership, 2014). Though the Conservation Alliance guidelines were not released until March, 2012, the ideas behind them previously existed within SFP. As a member of the Conservation Alliance, SFP contributed to the formation of the guidelines. As a result, the FIP was created and managed in keeping with the spirit of the guidelines from its initiation in 2010 (Figure 2~~Figure 2~~). The FIP was initiated by a fisheries trade association, known as the Gulf of Mexico Reef Fish Shareholders' Alliance, and others joined in 2013. Current FIP stakeholders include fisheries trade associations, producers, wholesalers, distributors, retailers, restaurants, a seafood label, and environmental NGOs (Sustainable Fisheries Partnership, 2014). The FIP has three main areas of focus:

1. increase management pressure to hold the recreational fishery accountable for exceeding quota;

2. find methods to increase frequency and accuracy of stock assessments of reef fish species (including non-FIP species); and
3. increase accuracy of bycatch and discard data.

To address these concerns the FIP has identified a number of needed actions:

1. the supply chain should encourage producers and wholesalers to participate in the FIP;
2. the supply chain should encourage producers to participate in projects to monitor discards (focus area 3); and
3. the supply chain should participate in management by advocating for:
    a. increased accountability in the recreational fisheries (area 1);
    b. more frequent stock assessments (area 2);
    c. implementation of a Regional Bycatch Plan (area 3);
    d. increased observer coverage (area 3); and
    e. ecosystem-based management (Sustainable Fisheries Partnership, 2014).

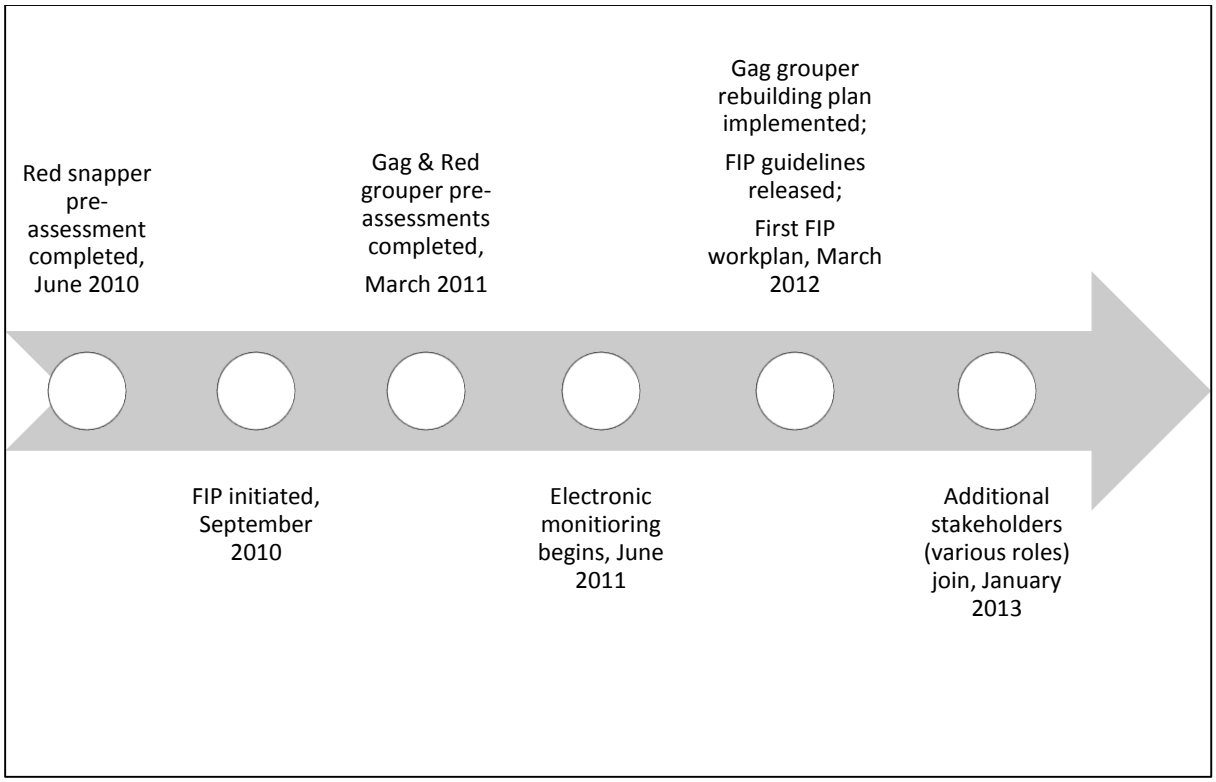

Figure 2: Milestones in the Gulf of Mexico reef fish FIP: The FIP was initiated with MSC pre-assessments of the FIP species and is ongoing as of June, 2014.

Government and fisheries scientists confirm that accountability in the recreational sector and bycatch are legitimate concerns in the reef fish fishery. Management recognizes that the recreational sector exceeds quota, at least in the red snapper fishery (Gulf of Mexico Fishery Management Council, 2013). Observer data estimates nearly 800 turtles are caught as bycatch per month in the longline fishery, although vessels collectively self-report fewer than 50 turtles per year (National Marine Fisheries Service, 2011). Vessels in the fishery are required to follow certain procedures and carry gear for sea turtle and sawfish release to reduce bycatch mortality. Fish bycatch is estimated to be around 6,000,000 and 11,000,000 pounds in the longline and hook and line fisheries, respectively. Bycatch is largely estimated from logbook data, as observer coverage was historically less than one percent, and is highly uncertain. Observer coverage has increased in recent years to 2.6% and 19.5% for vertical line and longline fisheries, respectively (Mccarthy, 2012), which increases accuracy of bycatch data.

Background

The Marine Stewardship Council

According to the Conservation Alliance, the goal of all FIPs, including the GoM reef fish FIP, should be reaching a level of unconditional MSC certification. The MSC certifies wild-caught seafood as sustainable, which allows the use of the MSC eco-label. MSC assessment can be initiated by an individual, organization, or group of organizations with sufficient control over the fishery to make required changes (Marine Stewardship Council, n.d.-a). The certification of a fishery is limited by a geographic range, fish stock, gear, and the organization responsible for the certificate. A client can choose which vessels are included and excluded in the certification. The cost of certification ranges from $15,000 to over $120,000. Assessment is conducted by an independent third-party organization chosen by the client. The fishery first undergoes a pre-assessment to determine whether it is ready for a full assessment. In both the pre- and full assessments a fishery is measured against 23 MSC criteria, which support the three MSC principles:

1. maintenance of the target fish stock;
2. maintenance of the ecosystem; and
3. effectiveness of the fishery management system (Marine Stewardship Council, n.d.-a).

Based on its performance, a fishery will fail, pass unconditionally, or pass with conditions. Fisheries receiving a conditional pass are authorized to use the MSC label, provided they meet specific milestones within an allotted timeframe. After certification, a fishery undergoes annual audits and re-certification every five years.

In wild-capture fisheries, the MSC is the most widely recognized eco-label (Agnew et al., 2013; Froese & Proelss, 2012). Currently, the MSC covers 10% of the global catch (Agnew et al., 2013). However, the MSC is not without criticism. Among this criticism is Froese and Proelss' (2012) claim that

certification has not successfully maintained or increased stock biomass in certified fisheries. Nevertheless, they find a higher proportion of sustainable stocks in certified fisheries than uncertified fisheries. Ultimately, Froese and Proelss (2012), and others, conclude that the MSC label does indicate more sustainable products (Agnew et al., 2013; Froese & Proelss, 2012; Gutiérrez et al., 2012).

The MSC has successfully created a market for sustainable fish, creating demand by securing sustainability commitments from retailers, distributors, restaurants, and the food service industry (Ponte, 2012). Fisheries increasingly seek certification to avoid losing market access as retailers increase demand for certified products (Bush, 2009; Goyert, Sagarin, & Annala, 2010). Other benefits of MSC certification have included price premiums, differentiation from competitors, and political gain (e.g. avoiding regulation, collective bargaining) (Foley, 2012; Goyert et al., 2010; Ponte, 2008b; Roheim, Asche, & Santos, 2011). Fisheries furthest from certification levels provide the greatest potential for gains in sustainability, but also face the greatest challenges in reaching certification (Ponte, 2012). Some of the barriers to certification include certification fees, added bureaucracy, time and cost to reach and maintain certification level (Goyert et al., 2010), data limitations (Pérez-Ramírez, Phillips, Lluch-Belda, & Lluch-Cota, 2012), and lack of knowledge (Ponte, 2008b). This study examines the barriers to reaching certification levels in the GoM reef fish fishery and how the Conservation Alliance guidelines have affected them.

Research Design and Methods

This research was conducted as a single, holistic case study that could provide generalizable insight to a broad number of other FIPs (Yin, 2009, p.48). The GoM reef fish FIP is considered representative because it is coordinated by SFP, one of the two main NGOs working in the FIP field and a member of the Conservation Alliance. Though the FIP was initiated prior to the release of the Conservation Alliance guidelines, the basic framework was implicitly present within SFP. The FIP has followed the basic process outlined in the guidelines. This FIP has the added benefit of accessibility in

terms of data availability and the absence of a language barrier. Participants are actively making and tracking progress in the FIP and open to discussing their experience. As the FIP is the unit of analysis, a holistic design was chosen to analyze and understand the fishery improvement project as a whole. Specifically this study examines:

1. How are the Conservation Alliance guidelines applied in the Gulf of Mexico reef fish FIP?
2. How have these guidelines affected the fishery's progress toward sustainability?

The study examines the FIP from its start in September 2010 to March 2014 and focuses on stakeholders in the FIP, including producers, NGO employees, and large-scale seafood buyers. Data was collected through analysis of publicly available documents and semi-structured, key informant interviews. Interviewing procedures and treatment of human subjects were approved on 18-DEC-2013 by the Human Subjects Division at the University of Washington under exempt status prior to the start of data collection. A purposive sample of key informants was selected with assistance from SFP, focusing on those most involved in the project. Snowball sampling was used to identify additional interviewees, asking each informant for the names of other key informants essential to this study. This process continued until no new names were suggested. This ensured that all key informants, those essential to understanding the case, were identified. All willing key informants were interviewed, giving a total of nine from the twelve names yielded from the snowball sample. Two of the three declined due to logistical issues rather than disinterest and were from unrepresented NGO and fisheries organizations. The third's organization was represented by other informants. Interviews were conducted remotely via phone or Microsoft Skype™ and lasted approximately one hour. Identifying information has been removed, ensuring confidentiality. Due to the small number of informants, this includes information about their roles within the seafood industry. This limits discussing subsequent analysis of the association between particular views and stakeholder groups, because quotes cannot be attributed to certain groups. In some cases, paraphrasing was necessary to protect informants' identities or because

some interviews were not recorded and extensive notes were taken instead. When reporting paraphrases, these segments are indicated through the use of brackets.

A grounded theory approach to text analysis was used to identify concepts as they emerged in the data analysis process. Concepts were grouped together in categories in MaxQDA 11, a qualitative data analysis software program, through a process known as coding. As more concepts emerged, categories were formed to signify relationships between codes. This process was repeated throughout analysis until data could be analyzed against the Conservation Alliance guidelines as an analytical framework. The use of grounded theory allowed concepts and theories to emerge from the data inductively, minimizing bias from the researcher (Bernard & Ryan, 2010). An outline of these results was shared with key informants to ensure accuracy, also improving construct validity.

Data collection and analysis focused on the characteristics of FIPs outlined in the Conservation Alliance guidelines, stakeholders' motives, barriers to sustainability, and the FIP's effects on them. The definitions of FIPs and sustainability (MSC standards) are both clearly outlined in the Conservation Alliance guidelines, providing construct validity. The use of multiple sources (i.e. interviews and documents) helped to corroborate evidence, further increasing construct validity. To help avoid bias, the researcher's preconceived notions about the study were formalized as propositions, and the analytical process involved collecting evidence that might falsify these propositions. Acknowledging these propositions also helped ensure avoidance of leading questions during data collection. Additional ideas that arose during the analysis process were also formalized as propositions. These propositions are:

1. FIPs are motivated by the potential market gains of MSC certification;
2. market gains from FIP products come from market access rather than consumer demand and price premiums;
3. a lack of a clear stakeholder mapping process can lead to confusion and tension;
4. lack of clear commitments can lead to confusion and tension among stakeholders in the FIP;

5. FIPs help address socio-economic barriers to certification, specifically funding, lack of expertise, and stakeholder conflicts; and
6. NGOs assist FIPs in overcoming these socio-economic barriers

Results and Discussion

The Conservation Alliance guidelines outline necessary characteristics of FIPs and associated expectations for how these characteristics are met. To answer the first research question (How are the Conservation Alliance guidelines applied in the GoM reef fish FIP?), the Conservation Alliance's expectations were compared to how each characteristic was carried out in practice (Table 2~~Table 2~~). To answer the second research question (How have these guidelines affected the fishery's progress toward sustainability?), informants' responses to questions about the FIP's challenges, successes, and effects on barriers to sustainability were analyzed by associated FIP characteristic (Table 2~~Table 2~~).

Table 2: Summary of findings: Some characteristics of the Gulf of Mexico reef fish FIP met (white), nearly met (light grey) or did not meet (dark grey) the Conservation Alliance's expectations for FIPs. The effects of each guideline on progress toward sustainability are also summarized.

Characteristic	Conservation Alliance Expectation	Finding	Effect on Progress
MSC pre-assessment (Step 1)	Completed/audited by MSC-accredited third-party; Identifies fishery's weaknesses	Meets expectation	Identifies improvement needs
Workplan (Guidelines 2,7; Step 2)	Includes activities, responsible parties, timeframes, performance indicators, and budget; Brings fishery to level of MSC certification	Lacks budget, meets all other expectations	Identifies course of action to make improvements; lack of budget does not hinder progress
Monitoring and reporting (Guidelines 5,8; Step 3)	Tracks FIP against workplan indicators; Progress reported every three to six months	Meets expectation	Maintains active participation
Scoping document (Guideline 6; Step 1)	Summarizes pre-assessment and identifies potential strategies to increase sustainability; prepared by MSC-experienced third-party	Whitepaper outlines only the preferred strategies to increase sustainability, rather than a variety of potential strategies to assist in workplan development; prepared by SFP not a third-party	No substantial impact; Scoping document prepared by a third-party may be useful in industry-led FIPs
Motivation (Guidelines 1, 7)	Draws upon market forces; Reaches a level that is certifiable under MSC	Draws upon market forces but also the desire for power in the management process; No interest in MSC certification	Various motives, not just market forces, keep participants invested
Stakeholder engagement (Guidelines 1, 9; Step 1)	Stakeholder mapping to identify essential players; Includes processors and exporters at a minimum	No stakeholder mapping; interested parties had to request to join; Includes wholesalers in place of processors	Lack of stakeholder mapping and interaction has not prevented, but may have slowed progress
Participant willingness (Guidelines 3, 4)	Explicit willingness to make improvements (memorandum of understanding, email, etc.); willingness to make investments	Explicit, written statement of willingness not required; Some stakeholders show commitment through participation, others have contracts	Lack of commitment slowed progress briefly
NGO coordination and participation	Not required	NGOs coordinate and assist with FIP activities	NGOs provide knowledge and resources, and add legitimacy

Pre-assessment

Many characteristics of the FIP met or nearly met the Conservation Alliance's expectations. As expected, the FIP was initiated with MSC pre-assessments of the FIP species, conducted by a third-party auditor. The pre-assessment successfully identified weaknesses that the FIP would need to address. While most key informants were not directly involved in the pre-assessment, they recognized the MSC as a robust standard and the pre-assessment as helpful in identifying improvement needs. The pre-assessment helps the FIP progress toward sustainability, as identifying issues is an essential first step in fixing them.

Workplan

A workplan was created to address the weaknesses identified in the pre-assessment. The workplan nearly meets the Conservation Alliance's expectations. It includes activities, responsible parties, timeframes, and performance indicators, but lacks a budget. In creating the workplan, SFP and the initial stakeholders selected the best-suited activities for the participants to address the fishery's weaknesses. The workplan outlines a path to improve the fishery, which is another crucial step toward sustainability. The lack of a budget has not seemed to hinder progress, as stakeholders are willing to apply for grants and provide funds as necessary.

Monitoring and reporting

SFP regularly monitors the FIP against the workplan and publicly reports progress quarterly on the FIP website, as expected by the Conservation Alliance. Monitoring helps identify when milestones are not met and when challenges arise, so any issues can be addressed. When participants are not doing what is expected, SFP and other companies in the supply chain can keep them on task. Regular monitoring helps ensure participants are conducting the activities that progress the fishery toward sustainability.

Scoping

The Conservation Alliance requires FIPs to have a scoping document that summarizes the pre-assessment and potential strategies the fishery could employ to address weaknesses. The GoM reef fish FIP has a whitepaper that loosely fits this description. It outlines the fishery's weaknesses and the preferred avenues to address them. While not explicit, the Conservation Alliance guidelines imply that the purpose of the scoping document is to inform workplan development. In the GoM reef fish FIP, the whitepaper was not created to guide workplan development, but to provide industry with background information about the FIP. Lastly, the Conservation Alliance requires that the scoping document be prepared by a third-party experienced with the MSC assessment methodology. The reef fish FIP's whitepaper does not meet this requirement, as it was prepared by SFP. While knowledgeable about MSC, SFP was not a third-party nor experienced with the full MSC assessment process nor an MSC certified assessor. As a result, the FIP does not fully meet the Conservation Alliance's explicit expectation for who should conduct scoping or implicit expectation for how a scoping document should be used. This did not seem to impede progress toward sustainability, as a workplan was successfully created without the guidance of a scoping document. The whitepaper has apparently not directly contributed to progress, as it--in addition to the FIP website--has functioned more to inform industry of the background of the fishery and FIP. While a scoping document was not used or needed to guide workplan development in this FIP, it may have potential use in industry-led FIPs that do not have NGOs to aid in workplan development. NGOs that work on issues of sustainability have gathered knowledge and experience in applying different strategies to improve sustainability. A scoping document from a third-party can guide industry-led FIPs, which may lack this knowledge, in choosing effective strategies for improvement.

Motivation

The motivation of the FIP stakeholders partially meets the Conservation Alliance's expectations in that stakeholders were expectedly motivated by market forces but were unexpectedly also motivated by power. The Conservation Alliance guidelines consider FIPs a market-based approach to sustainability. Market-based approaches rely on the market to incentivize sustainability through benefits such as market access or price premiums. In other words, the Conservation Alliance expects FIP stakeholders to increase their sustainability due to their desire for greater market access or price premiums. As expected, the reef fish FIP stakeholders are interested in market benefits. Some have experienced price premiums and greater market access, either from the FIP or from their own reputation for sustainability. Previous literature has confirmed that sustainability can lead to price premiums and market access, as previously mentioned in discussion of the MSC (Bush, 2009; Goyert et al., 2010; Roheim et al., 2011). The FIP also improves reputation, fulfills corporate sustainability policies, and helps sustain livelihoods, which have previously been identified as motivators of fisheries' sustainability (Parkes et al., 2010). In the GoM FIP, market pressure has successfully increased participation, as some companies have recruited their supply chain into the FIP.

The guidelines also set a target level of sustainability that is certifiable under MSC as the end goal of FIPs, though certification is not required. While this may be solely because the MSC provides a robust standard to measure sustainability, there is likely some expectation that stakeholders will be interested in MSC certification. FIPs following the Conservation Alliance guidelines are a market-based tool progressing toward the most widely recognized certification scheme (i.e. MSC), with no mention of other sustainability standards as a potential goal. As expected, the GoM reef fish FIP formed out of the desire for MSC certification. This desire went so far as to dictate which species were included in the FIP. Tilefish was also assessed, but a lack of stock assessment precluded it from MSC certification, so it was

not included in the FIP (Sustainable Fisheries Partnership, 2014). The pre-assessment identified the species that could most easily get certified. Consequently, they were chosen as the focus of the FIP.

The fact that a desire for MSC certification dictated which species were included in the FIP raises concern. A selection bias toward fisheries that can most easily reach certification does not necessarily provide the greatest gain in sustainability. Fisheries that are the furthest from certification standards have the greatest potential for gain in reaching those standards (Agnew, Grieve, Parkes, & Barker, 2006). This raises the question if greater environmental benefit could be achieved from focusing on progress rather than focusing only on fisheries with the shortest and easiest paths to reaching a level of MSC certification.

While the key informants recognize the robustness of the MSC standard, they no longer desire MSC certification. Currently, informants feel that MSC certification is too costly:

> I think that they're a national standard. So, it's a high and lofty goal. I don't know that we'll ever be able to achieve the level of funding [...] (Informant 9, 3/3/14)

Informants also feel that the costs of MSC certification outweigh its benefits:

> [The goal is not MSC certification for us. There is no need for another layer in the supply chain. MSC costs more money to certify products than it will add in value. All landings are already traceable through the trip ticket program with state and federal management. MSC cannot lend anything more.] (Informant 4, 1/28/14)

This finding is consistent with previous studies that have found the high cost of MSC certification to be prohibitive (Goyert et al., 2010; Pérez-Ramírez, Phillips, et al., 2012), and the market benefits to be lacking (Ponte, 2008b). All key informants either felt MSC certification was not necessary, or that the decision whether or not to pursue MSC was not theirs to make:

> We have no MSC expectation on [the] fishery now or in the future. And that's not our reason to get involved with FIPs, to sort of spread the MSC. (Informant 1, 1/16/14)

However, some informants did acknowledge MSC certification would be considered in the future if their buyers started requesting MSC products in the future. The difference of opinion is likely related to the sourcing policies of supply chains' respective retailers. While some supply chains include retailers that have no interest in MSC, others include retailers that utilize sustainability labels and may require MSC certified products in the future.

This FIP was initiated out of a desire for MSC certification. However, the current lack of interest in MSC certification raises concerns that a narrow focus on MSC may fail to engage supply chains that do not have a desire for or commitments to MSC. While there are many retailers who have commitments to MSC (e.g. Target, Sainsbury) (Marine Stewardship Council, n.d.-b), there are many who do not. Supply chains that are not seeking to meet MSC commitments may not be highly motivated to take on large projects working only toward MSC.

It is noteworthy that while MSC certification is not currently desired, informants are not opposed to sustainability certifications and guides altogether. One participant did express an interest in non-MSC certifications. Additionally, some companies in the FIP do rely on other sustainability guidelines to evaluate their products. Furthermore, some FIP participants have created their own label for "responsibly caught" seafood (Gulf Wild, 2014).

Power in the management process was an unexpected motivator in the FIP. The main activity in the FIP is a pilot test of electronic monitoring in the fishery. Electronic monitoring is a potential solution to the lack of data on bycatch in the fishery. Proactively seeking methods to improve data gives stakeholder the potential to have a say in how the fishery is managed, while the increased data can improve the commercial fishery's reputation with managers. Stakeholders throughout the FIP are hopeful that management may adopt electronic monitoring for the fishery if the pilot test proves successful:

> [The fishery] advocates for electronic monitoring because [they] know that eventually the federal government is going to want…either…100% observer coverage, or…some kind of electronic monitoring. And [the fishery] would like to have a voice in building the model to develop the system by which [it's] going to be managed or overseen. (Informant 9, 3/3/14)

Informants further believe that increased monitoring will improve stock assessments, which has the potential to increase quota:

> [Most fishermen want to give more data because it means that management is more accurate. They don't believe the stock is what the assessments say it is, so if they can provide better data they want to. It may increase quota, and if it decreases quota, at least it is accurate.] (Informant 7, 2/4/14)

More accurate data is also seen as a way to improve standing with management in quota disputes with the recreational fishery:

> [I don't think there were other challenges in the fishery prior to the FIP, other than the disagreement between commercial and recreational fishermen. This is an ongoing spat here on who should be allowed to catch how much. The recreational catch is unaccounted for and there need to be changes made. You need to let everyone catch fish and get a credible count of what is being caught. Cameras will add accuracy. The recreational sector is trying to take more and more fish away from the commercial fishermen.] (Informant 4, 1/28/14)

Supporting the finding that a reputation for sustainability may increase the commercial sector's power in comparison to the recreational sector, previous studies have found MSC certification is sometimes sought not solely for market benefits, but also to increase power in local politics (Foley, 2012; Pérez-Ramírez, Ponce-Díaz, & Lluch-Cota, 2012; Ponte, 2008b). There have been specific examples

where MSC certification has been used to prevent redistribution of quota and to gain power over other sectors within the same fishery. For example, in the South African hake fishery, MSC certification was sought by the trawl sector with the hope that a reputation of conservative management would prevent redistribution of quota away from white-owned companies. There was further expectation that certification would marginalize the longline sector, with whom the trawlers had a long-standing dispute (Ponte, 2008a).

While the FIP has not been exclusively motivated by market-benefits or MSC certification, as expected, the role of power as a motivator has not seemed to negatively affect progress toward sustainability. The crucial aspect is that stakeholders are motivated to improve the sustainability in the FIP, which keeps them moving forward.

Stakeholder engagement

The stakeholder engagement process did not meet the expectations outlined in the Conservation Alliance guidelines. According to the Conservation Alliance, FIPs are stakeholder-driven efforts to improve sustainability, and stakeholder mapping should be used to identify the essential parties. The Conservation Alliance requires FIP participants, at minimum, include processors and exporters. Beyond this, they do not dictate how stakeholder mapping and engagement are conducted. Product from the GoM reef fish fishery is largely sold without processing as wholesale to domestic markets. As a result, exporters are not included in the FIP, and wholesalers are included in place of processors. No stakeholder mapping took place, but instead interested parties may request to join the FIP. Since the formation in 2010, one group of stakeholders requested to and joined in 2013 (Sustainable Fisheries Partnership, 2014).

A lack of clarity in how stakeholders should be identified can lead to confusion, tension, and feelings of being overlooked. While some key informants felt all the relevant stakeholders are now

involved, others disagreed. Moreover, one participant felt there was not enough work within the FIP workplan for all stakeholders to participate:

> [Not all stakeholders in the fishery are at the table now, but there is not enough for everyone to do and not enough money to expand the current work to more producers.] (Informant 2, 1/17/14)

This raises questions over who should be included in stakeholder-driven processes. Well-facilitated stakeholder engagement can allow a variety of concerns to be heard, facilitate learning, and encourage participants to find common ground (Richards, Blackstock, & Carter, 2004). Stakeholder engagement could be a venue to raise support for the project and to allow people to voice concerns, even if they are not directly participating in FIP activities.

While the lack of stakeholder mapping and the resulting failure to engage all interested parties caused tension in the FIP, it has not necessarily prevented progress toward sustainability. The GoM reef fish FIP is complicated by conflict over management changes prior to the FIP's formation, which split the commercial fishermen into two groups. However, these two groups have been able to successfully make progress by functioning separately within the FIP:

> [To avoid conflict among participants SFP communicates with the two groups independently and they are not very involved with each other. Decisions can usually be made through back and forth communication with both sides. There is concern with how that will play out when SFP turns the FIP over to the industry. It's not known how that will be addressed or resolved.] (Informant 2, 1/17/14)

Stakeholders have been consistently conducting activities to improve the fishery's sustainability since its inception. The first round of pilot testing of electronic monitoring was successfully completed by the original stakeholders in 2012, indicating that participation was sufficient to keep the FIP progressing. Additional stakeholders that joined in 2013 have provided more funding to the FIP and

allowed a greater sample size in testing electronic monitoring, which may increase progress toward sustainability.

Though it is unlikely that conflicts can be entirely resolved, there should be clearer requirements for stakeholder interaction within FIPs to ensure stakeholders are on the same page. Tension among stakeholders and a lack of conflict resolution has made the administration of the FIP difficult, as groups are dealt with separately. However, activities in the GoM reef fish FIP do not require cooperation when a facilitator such as an NGO is involved, and participants are supported in the ability to work separately toward a common goal.

Participant willingness

The tension is further exacerbated by a lack of clear commitments and transparency among stakeholders. Some informants said they had contracts with SFP, while others said commitment was expressed only through participating in and funding activities. This does not meet the Conservation Alliance's expectation that participants make explicit commitments to conducting FIP activities.

Lack of clear commitments has created confusion in the FIP. In some cases stakeholders are unclear on who else is involved or who is expected to do what. For example, when participants conduct improvements beyond what is required in FIP, SFP will include them in reports on the FIP's progress. This led some to believe others were not engaged enough, though they were meeting SFP's expectations. Some informants noted that it was necessary to get all stakeholders to meet at the formation of the FIP to create a common understanding. This has not happened in this FIP, as stakeholder conflict makes it difficult to get everyone together.

Commitment within the FIP should also be clearer. Completely transparent commitments are not likely possible, as competing companies may want to keep contracts confidential. However, it would be beneficial to have a clear minimum requirement for participation within the FIP, to ensure a common understanding among stakeholders. As it is, a lack of explicit commitments did slow progress briefly. For

instance, some fishermen who agreed to electronic monitoring on their boats were able to back out, requiring the identification of new participants and relocation of camera equipment.

NGO participation

Finally, while NGO participation in FIPs is not required by the Conservation Alliance, it is a key component of the GoM reef fish FIP. While key informants did not explicitly name NGO participation as essential, they noted SFP's contributions that were key to the FIP's functioning, such as tracking and reporting progress, assisting in planning activities, and introducing them to other NGOs or research institutions. For example, Mote Marine Lab, an NGO, analyzes the footage from electronic monitoring. Though informants from both stakeholder groups recognize the Shareholders' Alliance as key in driving the FIP, it is likely that stakeholders would not have had the time, expertise, or relations to do all of this on their own. However, one participant did express the opinion that NGOs can also complicate the process and slow progress. This may be due to the time it takes to build trust between NGOs and industry, which participants noted was necessary in the FIP process. It may also be due to the added bureaucracy and time often inherent in working with outside organizations. This suggests FIPs should rely on NGOs only when the benefits outweigh these costs, as seems to be the case in the GoM reef fish FIP.

The participation of NGOs like SFP and Mote Marine Lab also added legitimacy to the FIP's progress. For example, government is open to using data coming from the FIP because it is reviewed by Mote Marine Lab:

> [The biggest thing the FIP has brought forward that industry couldn't address was getting the government involved in utilizing the data. The FIP provided what both the government and industry were asking for, pulling the two groups together. NMFS wants better data, but can only manage on the best available science.] (Informant 7, 2/4/14)

The benefits NGOs provide suggests NGOs, or at least third-parties, play a key role in FIPs' progress toward sustainability. In previous studies of forest and palm oil industry sustainability certifications, NGOs have played a key role in overcoming barriers by providing training, education, advisement (Ulybina & Fennell, 2013) applying pressure, lending expertise, and lobbying for government support (Paoli, Yaap, Wells, & Sileuw, 2010). Industry-led FIPs, which lack NGO assistance, may face significant additional challenges in planning activities (though proper scoping would help this), keeping on track, and gaining recognition for their work. Overcoming these challenges may require more resources, such as a database of information on previous FIPs or partnerships with successful industry-led FIPs, and potentially additional guidelines from the Conservation Alliance on how these FIPs should be conducted.

Conclusions

FIPs show potential as a method to improve sustainability in the seafood industry. The Conservation Alliance guidelines make strides in ensuring FIPs are run efficiently and make credible progress toward sustainability. This study examined:

1. How are the Conservation Alliance guidelines applied in the Gulf of Mexico reef fish FIP?
2. How have these guidelines affected the fishery's progress toward sustainability?

The FIP was initiated with MSC pre-assessments. These pre-assessments were conducted as expected by the Conservation Alliance, which helped progress toward sustainability by identifying weaknesses for the FIP to address. The FIP's workplan nearly meets the Conservation Alliance guidelines, but lacks a budget. Even without a budget the workplan has helped progress toward sustainability by outlining a process to improve the fishery. Monitoring and reporting is conducted as expected by the Conservation Alliance, with SFP reporting progress quarterly. Monitoring and reporting is essential to the FIP's progress, as it ensures participants are on task. The FIP's scoping document was not prepared in accordance with the Conservation Alliance guidelines. It was not prepared by an MSC-experienced third-

party, was not used in workplan development, and only outlines the preferred strategies for improvement (vs a variety of potential strategies). The lack of a scoping document in workplan development did not negatively affect progress. While scoping was not used or needed to guide workplan development in this FIP, it may have potential use in FIPs that lack NGO guidance in workplan development. In accordance with the guidelines, the FIP is motivated by market benefits, including price premiums and market access. However, no participants were currently interested in MSC certification, which may be an implicit expectation of the Conservation Alliance. Most surprising, participants were also motivated by the potential to increase their power in the management process. These varied motivations keep the FIP moving toward sustainability. The FIP fails to meet the Conservation Alliance's expectations that FIPs use a stakeholder mapping process. The lack of stakeholder mapping has not stopped progress, as FIP stakeholders have continuously been conducting improvement activities since the FIP was initiated. The FIP has not met the expectation that stakeholders have explicit commitments to the FIP, as some have contracts, but others do not. The lack of explicit commitments has slowed progress at times. Finally, NGO coordination is not required by the Conservation Alliance, but has helped the FIP progress toward sustainability. NGOs have provided knowledge and legitimacy to the FIP. Based on these findings, revised propositions, further research needs and recommendations to improve the guidelines follow.

Proposition 1 (disproven). FIPs are motivated by the potential market gains of MSC certification.

Evidence: FIP participants are not currently interested in MSC certification and are also motivated by the non-market benefit of power in the management process.

Revised proposition: FIPs are not motivated by a desire for MSC certification, but by market benefits from other sustainability certifications or a reputation for sustainability and by power.

Proposition 2 (disproven). Market gains from FIP products come from market access rather than consumer demand and price premiums.

Evidence: FIP participants acknowledge market access and price premiums from the FIP.

Revised proposition: FIPs are motivated by market access and price premiums.

Proposition 3 (upheld). A lack of a clear stakeholder mapping process can lead to confusion and tension.

Evidence: A lack of stakeholder mapping has led to feelings of being overlooked and has led to conflicting views over whether all relevant stakeholders are engaged and feelings of being overlooked.

Proposition 4 (upheld). Lack of clear commitments can lead to confusion and tension among stakeholders in the FIP.

Evidence: Stakeholders are unclear on what is expected of other participants and expressed the need for a common understanding among participants.

Proposition 5 (disproven). FIPs help address socio-economic barriers to certification, specifically funding, lack of expertise, and stakeholder conflicts.

Evidence: While the FIP has gained funding and outside expertise to help the fishery progress toward sustainability, it has not overcome stakeholder conflicts. Additionally, stakeholders identified a variety of reasons for participating in a FIP, which were not limited to overcoming these three barriers.

Revised proposition: FIPs help address socio-economic barriers to certification, which may include lack of funding, lack of expertise, lack of support within the supply chain, low engagement within the fishery, and a lack of legitimacy.

Proposition 6 (disproven). NGOs assist FIPs in overcoming these socio-economic barriers.

Evidence: NGOs played a key role in this FIP, including providing expertise and coordinating conflicting stakeholder groups. However, they have not resolved stakeholder conflicts. Furthermore, participants did not cite NGO participation as essential to securing funding. Participants did note that NGO participation helped in gaining recognition for their work, in addition to providing expertise.

Revised proposition: NGOs can lend expertise, legitimacy, and recognition to FIPs.

The majority of this study's results may be applicable to FIPs that are coordinated by NGOs and taking place in developed countries with good fisheries management. However, this fishery has a deep history of conflict both within the commercial sector and between the commercial and recreational sectors. As such, the results regarding stakeholder engagement, stakeholder interaction, and motives of power are likely only applicable to fisheries with similar conflicts, which are common. Other FIPs with similar tension among stakeholders may have a harder time making progress, unless, as in the GoM reef fish FIP, improvement activities do not require hands-on cooperation between participants.

As FIPs are a new tool, further research is needed. The role of NGOs in FIPs should be examined in more depth. A comparative case study of NGO and industry-led FIPs would provide insight into the role of NGOs. This study would help identify whether NGOs provide significant benefits in FIPs, as expected. The results could be used to steer further guidelines for industry-led FIPs, if necessary.

Additional research is also needed on the motivation of FIPs. This study could be designed as a survey focused solely on motivation, used to sample a broader variety of FIPs. The results from this study could help determine whether the Conservation Alliance guidelines' narrow focus on MSC is appropriate for all fishery improvement projects. If not, as hypothesized, the results would provide data on what other standards should be considered.

Finally, while FIPs show promise as a tool to improve sustainability, they cannot be the only tool. The fact that this FIP was initiated with the intention of, but no longer desires, MSC certification

suggests a focus on MSC certification may fail to attract supply chains that are not interested in MSC. Furthermore, it may only attract fisheries that are already close to the MSC standard, though fisheries farthest from the standards will yield the greatest gains. Additionally, market benefits are not the only drivers of sustainability. A combination of approaches will be necessary to overcome the various barriers to sustainability that present in a diverse array of fisheries.

Recommendations

Based on this study of the GoM reef fish FIP, recommendations to strengthen the Conservation Alliance guidelines are:

- evaluate whether a scoping document is necessary in FIPs that have experienced NGOs assisting in workplan development;
- consider the potential for other sustainability standards to be used in FIPs, as not all fisheries desire MSC certification. For example, a review of 17 sustainability schemes found numerous schemes, such as Friends of the Sea or Monterey Bay Aquarium's Seafood Watch, meet the FAO's guidelines for eco-labeling, though they apply them in different ways (Parkes et al., 2010);
- clarify the stakeholder identification process, outlining how essential stakeholders should be identified to avoid overlooking stakeholders that want to be engaged. For example, Equimar's stakeholder engagement process defines stakeholder categories and questions to identify relevant stakeholders in each and outlines when and how each group should be engaged (Stagonas, Myers, & Bahaj, 2011);
- require written contracts from participants and clearly outline how stakeholders will be engaged in specific FIPs. Make the minimum amount of engagement required to be considered a stakeholder or a participant transparent;

- require periodic meetings with all stakeholders to ensure participants are on the same page and to resolve issues; and
- determine whether there are further needs for industry-led FIPs to make progress and to be considered legitimate – for example, periodic audits to supplement self-monitoring.

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Appendix I: Interview Guide

- What is your background with the reef fish fishery and how did you get involved in this FIP?
- Can you describe the stakeholder identification process?
- Do you feel the stakeholder identification process adequately identified all stakeholders? Why?
- What is required of you to be a part of the FIP?
- How do stakeholders show commitment to the FIP and do you feel it is adequate?
- What were the challenges to the fishery reaching MSC certification on its own and how did the FIP affect them?
- Do you feel MSC certification is an appropriate goal? Why?
- What is motivating the changes in the fishery?
- Were you involved in pre-assessment and scoping? Can you describe the processes?
- Can you describe the action plan development processes?
- How is the research and logic behind changes shared with participants?
- How and when do stakeholders interact?
- How are decisions made and conflicts addressed?
- How is the government and management engaged?
- How is participation monitored? How is overall FIP progress monitored?
- How, when and what information is reported back to participants?
- How is progress shared with the public?
- What have been some challenges and benefits of your participation?
- What do you identify as the key struggles and accomplishments of the FIP?
- How is the FIP financially supported?