Oregon's Coastal Marine Recreational Fishing Community: the State of Communication with the Fisheries Management Community

by

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Introduction

Fisheries management is one of the most complex processes within our government. Fish stocks are difficult to assess and the user groups relying on the resource are extremely diverse. User groups are often part of larger fishing communities, which are “substantially engaged in the harvest or processing of fishery resources to meet social and economic needs” (Magnuson-Stevens Act, 1996: sec. 104-297). Given that fisheries management decisions directly affect the welfare of fishing communities the consequences of management decisions for the community should be considered. Since the passage of the National Environmental Protection Act (NEPA) in 1969, public involvement in the management process has been required to gain community input on how decisions will affect them (Twight, 1977; Lawrence and Daniels, 1996). Furthermore, in 1996 National Standard 8 asserted that when fishing is a vital component of a community’s identity, the community should not be ignored during the fisheries management process.

As fishery resources decline and demand by user groups increases, fishing communities have been faced with more and more regulations. Consequently, this has also led to an increased degree of interaction between management agencies and user groups. The current management structure presents several opportunities for agencies and constituents to interact with one another regarding the management of fish stocks. Interactions frequently occur through formal public involvement methods, however informal interactions can and do occur as well. Communication is at the core of these formal and informal interactions. Effective communication is vital to maintaining positive relationships between management agencies and user groups.
Effective Communication:

Communication, in its basic form, is the process of assigning meaning to verbal and nonverbal messages. We are continually exposed to one-way communication, however two-way communication, in which we can engage with another individual or group, can result in positive outcomes valued by both parties involved (Conway et al., 1999). Effective public involvement means having two-way communications, which requires both communicating a message and listening to feedback (Kohler and Hubert, 1999). When the process of two-way communication results in mutual understanding and a positive outcome for all parties involved, effective communication has been achieved (Conway et al., 1999; Coller, 1995).

It is important to realize that in order to achieve effective communication, both parties involved must have a willingness to understand each other (Conway et al., 1999). Effective communication also means accomplishing each stage in the communication process successfully. The sender and receiver, as well as the message, are all parts of the communication process, which cannot be disregarded in order to achieve effective communications (Cultip and Center, 1978). The method of communication should deliver the message to the receiver in a format that can be understood by the receiver. Additionally, in order to be understood the message should use language familiar to the receiver (Cultip and Center, 1978). Lastly, the message should provoke the receiver to provide feedback to the sender, fulfilling two-way communication. It is also important to consider the context in which communication occurs because the context of a situation can have a large impact on the success of the communication process.
Achieving effective communication between two communities is vital because effective communication is an important element in determining how well polices are executed (Dwyer, 1997). It has been noted within fisheries management that the degree of success of a fisheries management plan will depend on how well communication occurs between the communities (Dwyer, 1997). Importantly, accomplishing effective communication within fisheries management can result in positive outcomes and a greater understanding of the communities involved (Gilden and Conway, 2002).

*The Role of Communication in Public Involvement Programs:*

Communication in public involvement programs can occur in a formal setting, such as giving testimony, or in an informal setting, such as talking during meeting breaks. In both instances, “communication is the key to good public relations” (Fazio and Gilbert, 2000: 157). Successful natural resource management and public involvement programs require good internal and clear external communication with both stakeholders and the media (Brown, 1996). External communication serves several purposes including: education, public relations, fostering public involvement, assessing preferences, gaining support for agency actions, evaluating stakeholder reactions to agency decisions and marketing (Brown, 1996; Kohler and Hubert, 1999).

By clearly communicating with stakeholders, the respect of the community is more easily attained (Daniels and Walker, 2000). For example, effective Fish and Wildlife agencies have been characterized as those having an open, responsive relationship between management and the public (McMullin, 1996; Dean, 1996; Fazio and Gilbert, 2000). Establishing credibility with stakeholders is an important prerequisite for agencies to accomplish effective communication (Fazio and Gilbert, 2000). And
according to Fazio and Gilbert in order to gain the needed credibility an agency must exhibit authoritativeness and trustworthiness to its constituents (2000). All of the above studies had similar findings, which demonstrates that communication is at the core of effective public involvement campaigns.

The Communities of Interest:

The Pacific Northwest and Oregon in particular, have a rich fishing history. There are several fishing communities that rely on the resources found within Oregon waters. This research project explores communication in one particular fishing community, the coastal marine recreational fishing community (CMRFC) and the fisheries management community (FMC).

The FMC conducts the management of fishing resources under the framework outlined in the Magnuson Stevens Fishery Conservation and Management Act (MSA). For the purposes of this study the FMC is comprised of: members and staff of the Pacific Fisheries Management Council (PFMC), the Oregon Department of Fish and Wildlife (ODFW), the Oregon State Police, and the Pacific States Marine Fisheries Commission (PSMFC). These agencies are actively engaged in the management of marine recreational fisheries and are the most likely to have contact with the user group of interest. Those interviewed within the management agencies ranged from fish checkers to administrators.

The CMRFC is an important and growing user group within Oregon. For this study the CMRFC has been defined as coastal marine recreational fishers who concentrate their fishing effort in the marine waters off the Oregon coast. Both private recreational fishers and charter operators are included in this community. This
community encompasses recreational industry support individuals, which includes sport fishing organizations, tackle shop and marina representatives. Oregon Sea Grant Extension agents who support both communities were also interviewed. All the members of this community who were interviewed are from Oregon. Community members interviewed varied in their fishing location, targeted species, and frequency of participation.

*Opportunities for Communication between the FMC and the CMRFC: The Process of Fisheries Management*

Before 1977, fisheries management in the United States was accomplished through state agencies and international agreements in essentially a top-down manner, limiting communication between managers and those being managed. With the passage of the Magnuson Stevens Fishery Conservation and Management Act (MSA) in 1977, members of fishing communities as well as other interest group members were given the opportunity to provide managers with advice regarding fisheries management decisions, creating a more participatory process (see Appendix for Figure 1). The MSA created a council system with the goal of establishing a vested interest amongst those groups affected by fisheries management decisions, a vital criterion for establishing an effective participatory approach (Hanna, 1996).

Under the current regime, the highest authority resides with the Secretary of Commerce who delegates management to NOAA Fisheries (formerly National Marine Fisheries Service (NMFS)). Under NOAA Fisheries, there are eight regional councils that are comprised of the NOAA Fisheries Regional Administrator, directors of various state fishery agencies, tribal representatives, and members of the public who represent various interest groups (Hanna, et al., 2000). The Secretary of Commerce appoints
members to serve on the council for three-year terms. The eight member council has many duties including: designating regulations for the fisheries in their region, recommending optimum yield (OY) estimates, reviewing stock assessments, holding public hearings in which interested members of the public can learn of council activities and voice opinions, and preparing fisheries management plans (FMP’s) for NOAA Fisheries. The council meets for a week five times a year to accomplish their duties.

In order to accomplish these tasks, advisory committees have been formed that report to the council. The Scientific and Statistical Committee, for example, reviews biological, economic, and sociological research. Other committees advise the council on a myriad of issues including market conditions, industry operations, and how current or proposed regulations correspond to environmental conditions. Based on the recommendations provided by the advisory committees and comments provided during meetings the council produces a FMP. Decisions such as: the length of the recreational season, the catch and size limits for each species, and the number of overall permits for the industry are specified in the FMP. However, this stage only completes a FMP for review by NOAA Fisheries. Upon submission of a FMP, NOAA Fisheries determines if the plan is consistent with national standards and provisions of the law before approving, disapproving, or partially approving the plan. If approved the plan then weaves its way through public notice, review, and comment periods, which can take well over 100 working days (Miller, 1987).

In 1996 the MSA was revised to include recognition of the importance of fishing communities. The revision included National Standard 8 (mentioned above), which
required the consideration of how fisheries management plans affect fishing communities and called for the involvement of communities in the fisheries management process.

The Pacific Fisheries Management Council (PFMC) governs the management of fisheries resources from three to 200 miles off the coast of California, Oregon, and Washington. The PFMC is comprised of council members as well as an extensive staff, which aids in conducting council duties.

The Marine Program within the Oregon Department of Fish and Wildlife manages those marine resources found within three miles off the coastline. However, there are several marine species, which are regulated by the PFMC that cross over into state waters. In this case any state management decisions must follow the guidelines of the PFMC however the state can choose to enact more stringent regulations. Therefore, many marine recreational species are managed by the PFMC in coordination with the state.

*The Public in the Management Process:*

As designed, the fisheries management process offers several opportunities for the CMRFC to become involved. Lawrence and Daniels identify three benefits to public involvement in natural resource decision making: increased ability to achieve goals, increased public confidence in decisions when procedural fairness is applied, and a more satisfied public when decisions are based on public desires (1996). Furthermore, the EPA states that public involvement is important in order to increase the number of informed stakeholders, and to foster mutual trust, support, and openness (Henning, 1987).

Early and continued involvement in the management process, as well as, a sense of inclusiveness among constituents are all necessary components to achieving effective
public involvement programs (Lawrence and Daniels 1996; Blahna and Yonts-Shepard, 1989; Brown, 1996). Furthermore, managers should use multiple-formal and informal-communication methods to effectively communicate with stakeholders throughout the public involvement process (Blahna and Yonts-Shepard, 1989; Brown, 1996).

Frequently failed public involvement programs result in a lack of continued public involvement (Lawrence and Daniels, 1996). There are several factors that can contribute to the failure of public involvement programs such as managements' resistance to public ideas (Lawrence and Daniels, 1996). Additionally, the complex planning process, failure to correctly identify public issues, an agency's desire to avoid controversy, and internal power struggles within agencies have been identified as barriers to achieving effective public involvement programs (Blahna and Yonts-Shepard, 1989). Furthermore, the frequent focus on short-term management needs often results in sacrificing public involvement procedures, thereby leading to a low acceptance of management decisions (McMullin, 1996). If stakeholders perceive that public involvement is being conducted merely because it is required they will discontinue their involvement and develop a mistrust of the agency (Brown, 1996).

Conducting public involvement programs is complicated by the diverse values and number of user groups demonstrating the need to train resource managers. However, managers are trained to manage the resource not the users of the resource (Dean, 1996). The training of managers is typically focused in biological and ecological principles therefore they hold strong values that management decisions be based on these principles (McMullin, 1996). Consequently, there is often a lack of consideration of training
resource mangers on the benefits of public involvement and how to conduct public involvement programs (McMullin, 1996).

The success of public involvement programs depends not only on the general attitudes of the management agency but also on the attitudes of the public (or key stakeholders) (Henning, 1987). In addition to the FMC ensuring that opportunities for involvement exist, the CMRFC must be motivated to participate. As the PFMC states, “getting involved means commitment and hard work” (PFMC, 2003: 1). Recently the PFMC has produced educational material on how citizens can become involved in the process. Within the CMRFC an important step individuals can make is to understand how the council process operates and how decisions are made. This will facilitate participation in the process at the right time and in the required format. Successful direct participation in the council process can be accomplished through the following mechanisms: making informed comments, interacting with a council member through which your opinion can be heard, contacting managers at meetings or over the phone, attending council meetings, testifying at council meetings, writing letters to council members, serving on advisory panels, or by helping with research efforts. Each of these methods presents the opportunity for effective communication or miscommunication between the FMC and the CMRFC.

Some of these methods require a greater degree of knowledge and motivation. For example, testifying at a council meeting means interacting with the entire council in a formal setting and talking into a microphone with a given time constraint. This process is potentially intimidating to individuals who are not part of the FMC and requires more effort and time than members of the CMRFC can commit to (Dwyer, 1997).
Additionally, the CMRFC can participate in the management process at the state level. The Oregon Department of Fish and Wildlife Marine Program has several mechanisms in place, which allow for constituent participation. Similar to the federal level members of the CMRFC can directly contact ODFW employees and attend local public meetings held by the Marine Program. Frequently involvement at the state level is less formal, more accessible, and more inviting to members of the CMRFC. CMRFC members who choose not to become involved directly in either management process can join organizations, which represent and advocate for their interests, such as the Recreational Fishing Alliance (RFA).

**Literature Review**

As mentioned above, this study explored the current state of communication between and within the fisheries management community (FMC) and the coastal marine recreational fishing community (CMRFC) within Oregon. Objectives of the project included:

- characterizing formal and informal existing communication methods used by the FMC and the CMRFC
- identifying the current state of communication between the FMC and CMRFC,
- determining each communities perceived effectiveness of the current communication methods,
- identifying barriers to communication between the FMC and the CMRFC, and
- identifying ways to improve the current state of communication between the communities.

By facilitating effective communication between the FMC and the CMRFC, the development of fisheries management plans can be enhanced.

A recent study titled, “Investment in Trust: Communication in the Commercial Fishing and Fisheries Management Communities,” conducted by Gilden and Conway in 2002, explored communication between the commercial fishing community and the
fisheries management community. "Investment in Trust" highlighted communication methods used by those communities, the perceived effectiveness of those methods, the relationship between the communities, and suggested ways to improve communication. However, the commercial fishing community is only one of the key stakeholders in the fisheries management process. Another key stakeholder considered in the allocation of marine fish stocks is the CMRFC. This study will build on the results of "Investment in Trust" by learning about another FMC constituent.

The CMRFC, while less organized and smaller than the commercial industry, does have a substantial impact on fish stocks. In 2000, 285,000 individuals participated in Oregon’s marine recreational fishery, with Winchester Bay, Newport, and Garibaldi capturing the greatest number of participants (PFMC, 2003). Additionally, in 2002, the CMRFC caught 432 metric tons of groundfish, nearly a third of the total catch indicating the size of their impact on ocean fishery resources (PFMC, 2003).

The rapid growth and prominence of the recreational community has created conflict between the FMC and the CMRFC, as well as between the CMRFC and the commercial fishing community. Conflicts between these two communities have increased in many areas of the country, including Florida where conflicts between the recreational sector and the commercial sector are frequent and often very intense (Smith and Jepson, 1993). Given the increased demand by user groups and a dwindling resource Oregon could see similar problems in the future, making achieving effective communication between the FMC and the CMRFC a priority.

For this study I recognize the important role communication plays in both the formal and informal processes of fisheries management and therefore have included both
aspects. I will use a general communication model to review what methods of communication have been identified as used between fisheries management communities and recreational fishing communities and how communication between these communities has been characterized in the past.

The components of a general communication model include: the sender, the process of encoding and decoding messages, the message, the chosen communication method, the receiver, and the feedback loop, all of which need to be considered in detail by each community in order to achieve effective communication (Brown, 1996; Fazio and Gilbert, 2000).

The Role of the Sender and Receiver:

Managers cannot effectively communicate with constituents or accurately conduct management activities unless they know the preferences, attitudes, values, and behaviors of the users of the resource (Brown, 1996; Barber and Taylor, 1990; Henning, 1987; Dawson and Wilkins, 1980). Dean states that, "it is essential that fisheries management agencies keep anglers informed and thoroughly listen to their needs and wants" (1996: 172). Once the audience values and preferences are known effective and good communication programs can be designed (Brown, 1996). Mail surveys assessing the preferences, attitudes, values, and behaviors of fishers have been conducted on a limited basis and in few locations (Dawson and Wilkins, 1981). Surveys, which have been conducted, have revealed a diverse range of preferences as well as diverse motivations for fishing (Radomski, 2001 and Dawson and Wilkins, 1981). Furthermore, given that fisheries management is conducted over large spatial scales, meeting user group needs and wants is problematic due to the diversity of interests within large spatial scales.
(Sutinen and Johnston, 2003). This study attempts to determine the needs and values of the CMRFC within Oregon, which has not been studied or documented.

Achieving effective communication is a two-part process. First the sender provides a message. In return the receiver, in this case the CMRFC, needs to listen to the FMC, be willing to learn from the FMC, not assume the FMC has negative motivations, and explain their knowledge and opinions clearly to the FMC (Daniels and Walker, 2000; Dean, 1996). Mangers can provide information to the CMRFC, but it is up to the CMRFC to make the effort to read the material in order to complete the communication process. In order for the FMC and the CMRFC to foster a relationship there must be two-way communication (Walker and Daniels, 1997), a joint responsibility of the FMC and the CMRFC.

The Message:

The sender should structure the message in a manner that can be clearly interpreted and understood by the receiver (Kohler and Hubert, 1999). Given the complex nature of the fisheries management process the message will often need to be simplified and the use of excessive jargon should be avoided (Kohler and Hubert, 1999). Heavy use of jargon, which is hard for citizens to understand, can lead to the belief that managers have ulterior motives thereby fostering mistrust amongst constituents (Brown, 1996). The use of technical jargon has the potential to become a substantial communication barrier between the FMC and the CMRFC.

Previous surveys of recreational fishing communities have revealed that regulations are hard to locate and understand; therefore managers need to make extra efforts to simplify and clearly explain regulations (Brown, 1996). Furthermore, the
complexity of regulations frequently leads to angler confusion and subsequent frustration (Dawson and Wilkins, 1980). Work by Sutinen and Johnston has characterized "the system that produces fishery management regulations [as] cumbersome and inflexible, with a tendency to enact regulations that fishers view as overly complex and inappropriate for their fishery" (2003: 472).

The message communicated between the FMC and the CMRFC should include technical and procedural issues, concerns, values, goals, communication styles, management options, beneficial management strategies and educational components (Daniels and Walker, 2000). Furthermore, the message should be given at the appropriate time, take into consideration the values of the audience, and present a balanced perspective of the issue (Kohler and Hubert, 1999).

**The Method:**

The method is the mechanism used to present the message. Frequently used communication methods within the process of fisheries management are meetings, press releases, brochures, websites, newsletters, and radio announcements (Brown, 1996). Multiple methods, which are familiar and trusted, should be used to effectively reach constituents (Kohler and Hubert, 1999). This is especially important in order to adequately reach the CMRFC because they are so diverse and use varying methods to receive information. It is important to recognize that the chosen method should be one, which not only reaches the audience but also simultaneously informs them (Fazio and Gilbert, 2000).

**The Feedback Loop:**
The feedback loop within the general communication model demonstrates that contact with constituents does not mean successful communication has been achieved. Rather, in order to complete the communication loop, the receiver needs the opportunity to provide feedback to the sender. Obtaining feedback is important because agencies need to know their message was received and they also need to assess the reaction to the message (Kohler and Hubert, 1999). Therefore, when designing a communication program it is necessary that managers develop a mechanism to obtain feedback from constituents (Kohler and Hubert, 1999). The feedback loop is also central to the process of public involvement because once the FMC receives input they need to consider citizen input, show how the input was considered, and provide feedback on how and why decisions were made (Blahna and Yonts-Shepard, 1989; Henning, 1987).

The CMRFC has provided a limited amount of feedback regarding fisheries management. The CMRFC have expressed frustration that anecdotal information is not included in management decisions (RecFish, 2000). Furthermore, recreational and commercial groups feel they often provide information and data to the FMC resulting in no feedback or results (Gilden and Conway, 2002). Often this can lead to frustration, which can result in falsification of subsequent data provided to managers (Gilden and Conway, 2002). Additionally, catch limits determined by the management process are frequently inadequate according to CMRFC. For example, in the Pacific Northwest the CMRFC is not satisfied with the PFMC decisions regarding catches of cod, rockfish, and halibut (RecFish, 2000). By continually understanding these types of frustrations, the FMC should be able to meet CMRFC expectations and foster a more suitable relationship
with the CMRFC. It is important that the FMC addresses this feedback and that the
CMRFC continues to provide feedback to management agencies.

In addition to effectively communicating with user groups, some take the view
that the FMC should learn to market sportfishing. Brown argues that fisheries
management is a public service and therefore managers should engage in marketing the
recreational experience (1996). Furthermore, Ditton encourages agencies to market
recreational fishing because this can lead to fishers knowing what the state does, a greater
concern for fairness, a greater concern for customer satisfaction, and resolution of
conflicts (1996). Witter and Adams have even suggested that a lack of marketing by the
Fish and Wildlife Service can lead to constituents viewing the agency as unnecessary
(1994).

*Barriers Presented by the Fisheries Management Process:*

Management of natural resources is not an easy task, ecological, political, socio-
cultural, and economic factors all need attention (Brown, 1996). There are inherent
barriers within the natural resource management environment that serve to complicate
communication and the relationship between the FMC and the CMRFC. Managers of
marine fisheries are faced with, “the impossible task of trying to simultaneously optimize
management for recreational, commercial, and artisanal fisheries” (McMullin, 1996: 61).
Training natural resource managers in communication skills has been cited as a way to
improve the relationship between the managers and stakeholders (Brown, 1996).

There are several opportunities for barriers to arise in the communication process.
Fazio and Gilbert describe a communication barrier as something that “distorts the
message, [and] prevents understanding from being achieved” (2000: 158). Common
barriers include semantic and social barriers. Semantic barriers involve the wrong use of words, lack of clarity of the message, and failing to recognize the level of understanding of the audience (Fazio and Gilbert, 2000). Frequently, social barriers to communication are rooted in the attitudes of the receiver and the sender (Fazio and Gilbert, 2000). Both types of barriers have been identified during communication within the fisheries management process.

The most cited and important communication barriers appear to stem from the structure of the management process. To begin with, the management community has expressed a desire to communicate with user groups but cited a lack of time and funding to do so (Gilden and Conway, 2002). On the other hand, managers often doubt the validity of public input, are not trained to determine and understand public values, assume the angling community has little concern for the resource, and find themselves in a political management process full of jargon, all of which present barriers to effective communication between the FMC and the CMRFC (Magill, 1991; Barber, 1987; Kohler and Hubert, 1999; Fazio and Gilbert, 2000).

Furthermore, the formal process of fishery management leads to public intimidation resulting in only those members of the public who are highly motivated participating in the management process (Walker and Daniels, 1997). Those who do participate in the process have expressed that meetings are viewed as ineffective because management does not seem to truly care about obtaining public input, there is often not enough time for everyone to voice their opinions, the meetings are often held at inconvenient times and are often viewed as being held to announce pre-made decisions (Dean, 1996).
If effective communication can be achieved, several benefits may result including: a more informed citizenry, improved relationships, more accurate data, and greater opportunities for innovative and effective management (Gilden and Conway, 2002). By conducting in-depth interviews with both members of the community, this study will attempt to identify how the FMC and the CMRFC can improve their relationship by achieving effective communication.

**Research Methodology**

This project uses an ethnographic approach, which describes social and cultural groups by answering questions about specific aspects of the group’s life (Robson, 2002). As with most ethnographic studies, the results will be qualitative and involve a detailed description of communication between the FMC and the CMRFC. Ethnographic studies are typically done through participant observation, interviews, and/or extensive time in the field. The choice of this type of approach is two-fold. First, a qualitative approach allows, “researchers to share in the understandings and perceptions of others” (Berg, 2001: 7). This project will attempt to understand how communication is accomplished between the FMC and the CMRFC and the effectiveness of utilized communication methods from the informants’ perspective. Secondly, this study (as mentioned above) adopted a method similar to that of “Investment in Trust,” thereby leaving the possibility to compare any differences and/or similarities between the commercial fishing community and the CMRFC possible. Furthermore, I can identify how management agencies can effectively communicate with each community. I expect that there will be several similarities and differences between the two studies. As with the commercial fishing community studied in “Investment in Trust,” I expect that the CMRFC will
characterize the fisheries management process as complex and inflexible. On the other hand, the two studies may diverge on the most effective methods of communication managers should use to reach the specific community of interest. The CMRFC is more diverse in member location, values, and preferences than the commercial fishing community possibly contributing to the need for innovative communication methods.

Thirty-one semi-formal ethnographic interviews of representative members from both communities were conducted. Table 1 below summarizes the distribution of individuals interviewed from each community.

<table>
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<td><strong>Geographic distribution of interviewees</strong></td>
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<td>South Coast</td>
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<td>Central Coast</td>
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<td>Urban centers*</td>
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| **Community representatives interviewed** | |
| **Coastal Marine Recreational Fishing Community** | |
| Charter operators                     | 4 |
| Private fishers                       | 9 |
| Recreational Industry support**       | 8 |

| **Fisheries Management Community** | |
| ODFW                                 | 2 |
| PFMC                                 | 5 |
| Oregon State Police                  | 2 |
| PSMFC***                             | 1 |

| **Other** | |
| Oregon Sea Grant Extension           | 1 |

* Urban centers includes: the greater Portland area and the Willamette Valley.
** Industry support includes advocates, tackle shop, and marina representatives.
*** Pacific States Marine Fisheries Commission – tri-state entity that provides information to management agencies.

Initially a purposive sampling strategy was used to obtain a list of potential interviewees from knowledgeable and connected individuals within the communities of
interest. While results of purposive sampling techniques are not statistically
generalizable, I feel the results will offer beneficial suggestions for improvements in
communication within the communities under study. Once the initial list of interviewees
were interviewed snowball sampling began. Snowball sampling is a non-probability
sampling technique frequently used with hard to reach populations (Berg, 2001; Robson,
2002). Sampling ended when names of potential interviewees were repeated and
reoccurring themes were heard in the interviews (i.e. saturation).

The semi-formal interviews were conducted in person or over the telephone,
where distance was a factor. Interviews ranged from thirty minutes to two hours and
were tape-recorded and then transcribed verbatim for analysis. The use of semi-formal
interviewing techniques were chosen to allow for the use of predetermined questions (see
Appendix for interview protocol) as well as the freedom to probe interviewees on issues
that arose in their answers (Berg, 2001). Furthermore, the use of semi-formal interviews
allowed us to ask the questions in a manner suitable for each interviewee’s position
within the community and for the interviewee to raise issues that a structured
questionnaire may not have addressed (Silverman, 1993).

Question development and structure was based on the objectives of the project.
The initial interview questions were intended to elicit information about communication
methods being utilized within and between communities. Interviewees were then asked
what information the CMRFC should be provided with and if this was occurring. Based
on the assumption that there are communication gaps between the two communities it is
necessary to understand what needed information should be communicated. Subsequent
questions addressed the effectiveness of the identified communication methods and
suggestions the interviewee had to improve communication between the FMC and the CMRFC. Interview questions were asked using language that would be familiar to the interviewee and in a comfortable environment. It was important that the interviewees did not feel threatened and felt comfortable discussing potentially sensitive issues with the interviewer (Robson, 2002).

Data analysis was conducted through the use of theoretical coding (also called sociologically constructed codes), the process of coding data results in grouping ideas, concepts, or themes from all interviews together into common categories (Berg, 2001). Coding is a useful technique to analyze interview data because it “encourages hearing the meaning in the data” (Berg, 2001: 240). As opposed to in vivo coding, theoretical codes are developed before reading through the interview transcripts and offer, “analytic utility because they [the codes] are constructed clear and systematically” (Strauss, 1987). The initial codes (see Appendix for coding scheme) were developed based on the interview questions and primary objectives of the project, a deductive approach. Secondary and tertiary coding was conducted to further segregate the data into themes. Analysis of material within and across themes was done, to identify how themes were connected. The themes that emerged provide an in-depth understanding of the state of communication within and between the FMC and the CMRFC as well as barriers to improving communication. Inter-coder reliability was conducted on a sample of interviews before the complete analysis was done to ensure the reliability of the theoretical codes.
**Expected Results**

Based on the literature discussed above I expect to find the presence of minimal and poor communication between the FMC and the CMRFC. I would expect that on average most private fishers within Oregon do not interact with members of the FMC or participate in the management process. However, it is my assumption that fishers, who do communicate with the FMC, have a lack of trust towards management and feel that managers are inaccessible and unwilling to listen to their opinions. As identified by Fazio and Gilbert, without the trust of stakeholders, agencies may have difficulty effectively communicating with constituents (2000). Furthermore, the literature suggests fishers may view the management process as intimidating and resent the heavy regulatory burdens placed on them.

As for the FMC, it may be common to find that members are faced with a lack of time and budget, which inhibits their ability to conduct educational programs. In addition, as the literature indicates, I would expect that members of the FMC to be untrained in how to conduct public involvement programs or in communication skills.

This project was conducted in the summer and fall of 2004, during which the marine recreational groundfish fishery was closed unexpectedly. This early season closure had not occurred previously for groundfish species. An unexpected amount of good weather led to greater effort by the CMRFC resulting in reaching the quota earlier than expected. The CMRFC was given very short notice (one to two days) about the closure, resulting in canceling fishing trips that were already planned. Consequently, members of the CMRFC, specifically charter operators, lost a great deal of income. The quota was set by ODFW, and not surprisingly, this event fostered very negative feelings.
toward ODFW. Therefore, given the socio-political context these two communities were experiencing during the time of the project, I expect to hear strong comments regarding the poor state of communication between the FMC and the CMRFC. Furthermore, it may be unlikely to find the occurrence of effective communication between the FMC and the CMRFC. However, the reasons and factors that lead to a lack of involvement, trust, and communication may be diverse and unique to the characteristics of these communities.

**Results and Analysis**

The primary objectives of this project were to understand what methods of communication are used within and between the FMC and the CMRFC, understand the current state of communication between the two communities, and identify suggestions for improving communication. As mentioned above both the interview questions and the primary codes were developed based on these objectives. Several themes within each primary code were found through the coding process. In order to understand each theme it is important to know the primary context in which the theme was revealed. Therefore, I will discuss the results within the context of the primary code as well as those themes related to the primary code. Each section of results will be followed by an analysis. This format should avoid confusion by analyzing the results for each code in turn. Note that the results for the primary code communication in general between communities are dispersed throughout the sections.

"You know communication is all about a state of mind. You know you are going to be able to convey more information back and forth when the two user groups have an open state mind." (CMRFC, guide)

"...regular communication is the way to have good relationships." (CMRFC, organization representative)
Communication Methods Within the FMC

Results:
Interviewees from the FMC identified four primary methods of communication used within the community: 1) face-to-face communication, 2) phone, 3) e-mail, and 4) websites.

Face-to-face communication, which occurs most frequently at meetings, is a primary communication method used between FMC members. The types of meetings include ODFW meetings, PFMC formal and informal meetings, training sessions, and workshops. Informal face to face communication does not occur frequently between agencies, however it is a preferred and encouraged method of communication within the FMC. As expected informal face-to-face communication occurs frequently amongst FMC members in the same office.

E-mail was identified by every member of the FMC as a primary method of communication.

"I would say the primary method of communication at least with my agency is through email. It seems to be probably the standard, although there's a lot of phone calls if you need more substance or if people aren't very good [at the computer]." (FMC, ODFW staff)

Agency websites are used by the FMC to stay up to date on what other agencies are doing and decisions they have made.

Over time the primary methods of communication used within the FMC have changed. A few members of the FMC did acknowledge that in the past phone was a primary form of communication but the rise of the internet has made e-mail a more common method.

"Meetings, e-mail, telephone and in house communication. As technology has changed it used to be a lot of telephone calls which
took a lot of time. When faxes came in it decreased time and now I hardly use a fax machine and only call people in exceptional circumstances.” (FMC, PFMC staff)

However, phone is still a preferred method of communication when a quick response is desired.

**Analysis:**
There was little diversity in the methods used to communicate within the FMC. The methods used are those typical of office environments. As expressed by members of the FMC, communication has been changed through intensive use of electronic methods of communication. The reliance on e-mail as a communication method may serve to decrease the amount of face-to-face communication, especially between agencies.

Electronic communication is more vulnerable to misunderstandings between those communicating than face-to-face methods. However, electronic communication is faster than face-to-face communication (i.e. traveling to other agencies); therefore while not the most effective method of communication it is often preferred by management agencies.

**Communication Within the FMC**

**Results:**
During discussions of internal communication, the FMC identified several issues, which characterize communication within their community. These issues centered on the lack of time and money to spend on communication efforts, general problems associated with communicating within the community, and how internal communication can be improved.

**Time and Budget Constraints**
At the federal and state level of management, all interviewees cited budget constraints as a primary barrier to improving communication efforts. The ODFW marine
program, according to both communities, is faced with an unacceptable workload and a very tight budget. Interviewees would like to see more staff available to dedicate time to education and outreach efforts.

"...from our own internal end of it here, finances and people who would be more or less just dedicated to education, I think [would be] quite beneficial." (FMC, ODFW staff)

"You have to give the Marine Program more money. More personnel. You have to arrange it so that the amount of money that comes from recreational fishermen through the programs actually goes to the Marine Program." (CMRFC, private fisher)

Similar to ODFW, PFMC cited being overwhelmed with duties leading to little time to devote to internal and external communication. Staff members indicated that their time was consumed with complying with legal requirements and following the guidelines of the management structure.

"The council has to follow a process that Congress dictates to them under the Magnuson Stevens Act and it has to be reviewed by the NMFS. And they have to meet all legal standards and they get sued every three minutes if they don't and they still get sued even if they do. So in defense of the council it is hard work to do this. People are really overwhelmed a lot of times." (Other, Sea Grant Extension Agent)

"Again, it [communication] is relatively expensive and not easy to do just because the complexity of the management scheme and they have to [manage] groundfish, salmon, coastal pelagic, and highly migratory [species] and have to meet essential fish habitat and habitat of particular concern requirements. And you have to minimize impacts of fishing gear on the habitats and they have to draw EIS's up for all of this stuff. It is not an easy job." (Other, Sea Grant Extension agent)

FMC members did state that if they had more time and a greater budget, communications could be improved. Members of the FMC also expressed frustration with the short amount of time they have to notify the public of management changes, which is primarily
a consequence of the difficulty of predicting ocean conditions and the future status of fish stocks.

However, before improvements in communication can be made, communication will have to be prioritized within agencies. Currently, often due to a lack of time and budget, communication efforts are 'put on the back burner.' In order to improve outreach efforts there must be a willingness to prioritize and invest in communications throughout management agencies.

"It's going to take an investment by the council. Financial and ... well, financial investment I guess. The problem is that communication is often put off because people are so worried about other things. There's so many things that the council has to do. And communication seems this touchy-feely subject that doesn't, you know, it's like ah, we'll do that later." (FMC, PFMC staff)

For example, some members of the FMC stated that NOAA Fisheries was never geared up to do education and outreach. Therefore, in order to conduct effective outreach programs the shortcomings of the NOAA Fisheries' structure would have to be recognized and reorganized to include a communications component. Again, communication would need to be prioritized.

Opportunities for Improvement

An important problem identified by a member of the FMC is that there are occurrences of miscommunication between PFMC and ODFW. Improving coordination between the PFMC and ODFW could result in a more effective outreach campaign. According to the FMC, both internal and external communication needs to be improved within fisheries management agencies.

There are changes occurring within the PFMC with regards to communication. Recently, the PFMC has begun to develop a communications plan, comprised of three
parts: communication with the public, communication during council meetings, and communication within its advisory bodies. The goal of developing the plan is to examine communication in each context and offer improvements.

Those involved in developing the communication plan stated the importance of maintaining a positive attitude towards communication efforts,

"You know we’re saying it over and over and over again. The fact of the matter is that we repeat over and over and over again but it’s to different audiences and often it’s the first time that particular audience has heard it. It’s kinda like a performer that goes on stage every night and does the same play. They have an understanding that that audience is there for the first time. It’s new for them. We kinda have to think in that regard." (FMC, PFMC member)

Lastly, several members of the FMC stated that involving Oregon Sea Grant Extension agents in communication could help them to save time. The Extension service has,

“. . . tended to be focused on commercial fishing fleet and that does not have to be that way.” (FMC, Pacific States representative)

“I would really like to see Oregon State University Extension Service become involved. They’ve pretty much have stuck to commercial activities where if you look around the nation, a lot of the OSU Extension offices are heavily involved with recreational fisheries.” (FMC, ODFW staff)

Analysis:

Budget and staff constraints are a primary barrier to improving communications, within the FMC, which were also identified by Gilden and Conway (2002) in “Investment in Trust.” A lack of time amongst FMC members can be partly attributed to the structure of fisheries management (Blahna and Yonts-Shepard, 1989). Therefore, prioritizing communications within agencies is the most likely way that outreach will be given adequate attention.
Those members of the CMRFC familiar with the management process also acknowledged the constraints faced by the FMC. Specifically, the CMRFC acknowledged that ODFW was overworked and not given the proper funding to conduct educational programs. They also acknowledged the difficult task (managing fisheries) that the PFMC faced.

Brown (1996) recognized the importance of achieving good internal communication in order to foster effective external communication. Overall members of the FMC consistently identified barriers to internal communication. As discussed above, inter-agency miscommunications do occur and could be minimized by incorporating more face-to-face communication within and between agencies. The need to improve internal communication is recognized by the PFMC as evidenced by the development of a three-pronged communication plan. Lastly, a minority of the FMC recognized the importance of maintaining a positive attitude towards communication efforts (Henning, 1987).

**Communication Methods Within the CMRFC**

*Results:*

Communication methods mentioned by the CMRFC include: face-to-face, boat radios, media, written forms, and the I-fish chat board. The diversity of the CMRFC leads to varying preferences of preferred communication methods within the community.

*Face-to-face*

While on the docks or during fishing trips, members of the CMRFC often communicate face-to-face. The act of fishing presents the opportunity for community members to get to know one another, learn about regulations, and gain a perspective of
other members’ opinions. A majority of CMRFC members cited word of mouth as a common and effective form of communication.

CMRFC members frequently engage in face-to-face communication with marinas and tackle shops to receive information regarding regulation changes. Every tackle shop and marina representative interviewed mentioned the degree to which the CMRFC relies on them as a source of information.

"I have customers, most of my day to day guys, they're my friends. And I treat it that way. It's not a customer relationship. It's a friend relationship. I'm here to help you, what do you need, get you the best price, and get you and what you need to do. And so they come to us because I pay attention to what’s goin' on or try to. And we discuss things. So we try to be on the forefront of what really happening and be positive..." (CMRFC, Tackle shop representative)

"Always. Always. Yeah. That is they've learned over the years, at least most of them, that if there is a question that we're the ones to talk to." (CMRFC, Marina representative)

Furthermore, tackle shops and members of the CMRFC have recognized that they are partners in the fishery and can serve to help each other.

The CMRFC also communicates face-to-face within meeting settings. Meetings within the CMRFC typically include informal meetings amongst fellow fishers to discuss fishing conditions, prime fishing locations, and management issues. More formal meetings held by fishing organizations also occur within the CMRFC. For example, the Oregon Coast Sport Fishing Association (formerly the Charter Boat Association) meets once a year to discuss management issues and assess the CMRFC’s preferred management choices. Other organizations such as the Recreational Fishing Alliance (RFA) will host sport-fishing events where community members can interact with one
another. However, this form of communication was not frequently mentioned by the CMRFC.

**Boat Radio**

While on the water the CMRFC will use their boat radios to ask other fishers questions about the regulations. In the past fishers have been reluctant to come on the radio and ask questions about regulations; however, with the increase in the number and complexity of regulations individuals are less embarrassed to ask other fishers for clarification.

**Media**

Throughout the interviews it was widely agreed that the media is an important way to reach the CMRFC. Local meetings, held by the CMRFC, are sometimes covered by local newspapers, which can be an effective way to update the community on fisheries management developments. In some cases tackle shops and marinas will write columns in local newspapers updating the CMRFC of any management changes. Additionally, one member of the CMRFC cited writing articles in sport fishing magazines as a way to reach widespread fishing audiences like the CMRFC.

**Newsletters and Other Written Information**

One member of the CMRFC, who was familiar with and involved in the management process, has written newsletters to distribute to other members. The goal of the newsletters is to keep fellow community members up to date on regulation changes and provide notification of meetings. Tackle shops and marinas have also developed newsletters with important fishing information to distribute the CMRFC. Fishing organizations, such as RFA, also distribute written information to constituents.
Internet

As with the FMC, the internet has proved to be an important and frequently used method of communication within the CMRFC. Sixteen of the twenty-one members of the CMRFC interviewed cited e-mail as a primary way to stay in touch with fellow fishers and to discuss regulations and fishing conditions. Furthermore, twenty members cited websites designed for recreational fishing as an efficient way to distribute information to the community.

A segment of the CMRFC interviewed for this project relies on an internet chat board called I-fish to communicate with other members. Eight CMRFC members interviewed for the project cited the use of I-fish as their primary mode of internal communication. The chat board offers a convenient way for members to stay in touch, discuss fisheries management issues, learn of in-season changes, and management meeting locations and times. Members of the CMRFC have jobs and families' leading to busy schedules and I-fish allows them the opportunity to communicate and stay up to date at their own convenience. A segment of the chat board, specifically geared to marine fisheries called the Salty Dogs, has between 100 and 150 subscribers. However, there are numerous other members of the CMRFC who visit the site and monitor conversations demonstrating the importance of this method of communication.

"...it's also a great communication tool. And for communicating both ways really. You have a lot of officials that are members of it."
(CMRFC, private fisher)

I-fish also serves as a medium to coordinate informal meetings amongst members. Planned meetings vary from small get togethers to discuss fishing to large educational events. Past events hosted by I-fish members have been well attended.
One drawback to I-fish is that some members use it as a forum to complain about management decisions and not become involved in the management process (i.e. attend meetings). One member of the CMRFC stated that what the group lacks is a leader to provide momentum. Therefore, while the Salty Dog component is making progress in getting organized and motivated it is frequently slow.

Analysis:
Informal face-to-face communication occurs primarily during fishing trips and with tackle shop and marina representatives. Information moves quickly through the recreational community through word of mouth; however, other methods of communication, such as e-mail appear to be more important to a majority of the community. Therefore, it is not surprising that meetings, radio, media, and written information are not frequently utilized to communicate within the CMRFC. Media and written information tend to be utilized by those who are highly motivated and involved in the community.

The communication network within the majority of the CMRFC is not well established. The presence of an extensive network is seen within two segments: charter businesses and the I-fish network. Not all members of the CMRFC would agree that charter operators are different from private anglers but charter operators do have a financial incentive to organize. This has resulted in a more coordinated effort at communication than within the private sport fishing community.

However, increasingly, a network is developing within the larger sport fishing community as well. The I-fish chat board, specifically the marine component, has reached a sizable number due to the convenience it offers to CMRFC members. I-fish allows communication to occur when members find time and remaining anonymous
allows a comfortable environment to share opinions. As this group becomes more organized a potential unified voice may emerge which will undoubtedly voice their management preferences to the FMC.

**Communication Within the CMRFC**

Communication within the CMRFC has been evolving slowly as the number of participants has increased. Those interviewed had a lot to say about communication within their community. Communication within the CMRFC is highly influenced by the diversity of opinions towards the FMC. Several issues that characterize and affect communication within the community emerged in the course of the interviews including CMRFC’s:

- opinions of the data and science used in management decisions,
- opinions of fishing regulations,
- responsibility to know the regulations,
- values,
- involvement in the management process, and
- organization and representation.

"Data"

The CMRFC’s opinions are divided over the data used by the FMC to develop fisheries management plans (FMP). Some individuals trust the science and data but mistrust how the data is used to develop FMPs.

"It's about building trust. Bottom line, it's about building trust. It's unfortunately one angler at a time.” (CMRFC, private fisher)

Some members have the perception that good science is frequently used for political purposes. These members of the CMRFC share a respect for the scientific community but feel the management community makes decisions for political purposes.

"... they're scientists. It’s not that I don’t trust their methods, because these guys are PhD’s. They’re doing the best that anybody
could do. It's just how it's used that I always have a problem with. Who's using it, how are they using it, who's ignoring it? Why are they ignoring it? That's the big question. Or why are they using it? They become, the data becomes pawns politically.” (CMRFC, private fisher)

On the other hand, six members of the CMRFC expressed dissatisfaction with the data used to develop FMPs. In general these members felt that the data was incomplete either due to a lack of sampling or failing to incorporate anecdotal data. Two members of the CMRFC expressed strong views towards the data saying that it is ‘terrible.’ The data were termed ‘terrible’ because the parameters used to get data and the limited sampling along the coast are seen as inadequate. A few members of the CMRFC expressed a desire to share their catch data with the FMC in order to improve data collection.

Furthermore, a minority of members disagreed with the FMC that the stocks are even in trouble.

"I think that if they [CMRFC members] were faced with having to make a decision about whether or not to maintain the health of the stock they would agree that yes, they do want the stocks maintained, they do want them healthy. I don't believe that they would agree they're [stocks] in trouble at all. And that's where we have the disconnect because they don't [CMRFC members] have the education nor do they want to educate themselves.” (CMRFC, private fisher)

Many feel that both managers and scientists frequently fall back on the statement that they are using the best available science however, as seen above, members of the CMRFC would disagree that the science is always accurate. For example, many CMRFC members held negative opinions regarding the current stock assessments citing that scientists were "just guessing" (CMRFC, private fisher). Furthermore, there is the perception that the data is over generalized. For instance, a survey may be conducted in one segment of the coast and then the management decision following the survey applies
to the entire coast. Some CMRFC members stated that management would be greatly improved if the coast were managed in sections.

"You know that is the thing about this coast is it is so diversified. One of the things that came up in the management measures was a ban on rockfishing outside of 40 fathoms. Well in a lot of ports that had zero impact and some ports it was a 100% shutdown, they absolutely lost their fisheries." (CMRFC, charter representative)

CMRFC members have stated the desire that the FMC incorporate more practical knowledge into management decisions.

"The only thing that we wish is that they'd listen to us a little bit better sometimes because we're on the water and they're not. And that can be frustrating for us. We tell them what we actually see and their scientist is tellin' 'em something else and their scientists aren't on the water like we are." (CMRFC, charter representative)

 Regulations

In general CMRFC members get frustrated with the volume and complication of regulations and sometimes discontinue their involvement. Every member stated that the regulation packet is not an adequate source of information due to the fact that they are printed before all the decisions are made. Several members of the CMRFC felt the Oregon recreational fishing community was over-regulated.

"I am sure we are one of the most heavily regulated industries in the state and that feeling of big brother or government watching over you come[s] out." (CMRFC, guide)

Nearly every member of the CMRFC mentioned the difficulty they had keeping track of the frequent in-season changes to regulations. As mentioned in the previous section the CMRFC relies on tackle shops and marinas to stay up to date on regulation changes. Therefore, marinas and tackle shops monitor management changes and try to understand the reason behind the change.
"...we've been on top of the situation because it is our business. We have to know what the regulations are, what precipitated that regulation, in the first place, to try to bring a better understanding between the sports men and ODFW." (CMRFC, marina representative)

The availability of regulations was also considered a problem; the FMC and the CMRFC acknowledged that regulations are not as accessible in the valley as they are on the coast. Furthermore, those participants coming from the valley frequently don't get the information they need to participate in the fishery and are mostly likely unaware they are not receiving the information.

Despite the CMRFC negative views regarding regulations some do acknowledge that the regulations are complicated due to the diversified fishing resource. Furthermore, a minority of those interviewed felt the regulations were in place for a reason.

**Responsibility**

Sixteen of the twenty-one members of the CMRFC interviewed explicitly recognized the responsibility associated with participation in the fishery. This responsibility includes taking responsibility for knowing the regulations, understanding the management process and becoming involved in the process.

"...people need to be responsible for themselves for learning how a phone works, and ODFW can't be responsive to that. They can't be responsible for people understanding how to use the internet." (CMRFC, private angler)

"I always think it's my responsibility. I mean if I want to communicate with somebody it's not theirs, it's my responsibility to do that. ... The state doesn't owe us anything." (CMRFC, private fisher)

However, there are segments of the CMRFC that do not take the time to read the regulations even though it is to their advantage to be aware and become involved.
"And you know the information's out there but if they're not gonna look, they're not gonna find it. That's the big one, it's just the... they go into it blindly. They can't afford to do that." (FMC, ODFW staff)

Additionally, as the fishery has become increasingly regulated, two members of the CMRFC stated that it is the responsibility of members to advocate for themselves both in the management process and at the legislature. However, members often do not carry out this responsibility because they do not want to invest the amount of time it requires.

"The average angler is not interested in going to a government meeting." (CMRFC, private fisher)

"... they've got other things on their time and fishing is something they do in their spare time. They don't take time off from work to go to a... meeting." (CMRFC, private fisher)

"So keepin' up is not the ODFW's responsibility, it's the people actually, it's their responsibility. But people don't take the time to do it. They don't, it's absolutely insane. I have to make myself." (CMRFC, private fisher)

Values

General values and attitudes towards recreational fishing emerged in interviews with members of the CMRFC. For several CMRFC members the amount of catch was not the most important aspect of fishing for them. Fishing is an important family experience,

"They don't care if they catch one fish or 20 fish as long as they're together and they know they're goin' fishin'." (CMRFC, marina representative)

"Fishin's supposed to be fun. And somehow or another we need to get back to that where your just taking you kids out in an old row boat." (CMRFC, marina representative)
Some members of the CMRFC stated that it would be nice for the FMC to encourage family fishing experiences.

The Management Process and Involvement

The members of the CMRFC interviewed for this project varied from no active involvement in the management process to substantial involvement leading to a diversity of opinions towards the management process.

Two CMRFC members characterized themselves and the CMRFC at large as a group of extremely independent individuals. This contributes to perspectives such as: the government is just 'in the way,' the government takes a big brother approach to recreational fishing, and the FMC does not know how to manage the resource or the users. One individual even felt that management would not be happy until they saw the end of fishing. Furthermore, some members have a strong distrust in the politics of the situation and the decisions that emerge from the process. Therefore, it is no surprise that these same individuals feel they are continually lied to by the FMC. Managers are viewed as being under political pressure and therefore cannot directly answer questions posed by the CMRFC. Subsequently, members feel that it is very difficult to get information from the FMC until a decision has all but been made. One CMRFC member offered their perspective on how the FMC makes decisions,

"Agencies are notorious for going forward with their rearview mirror. They use backwards looking to go forward and its important to stop and think about how things could or might or should be different. Instead of what did we do five years ago, ten years, last year. That status quo is so powerful..." (CMRFC, organization representative)

Other members of the CMRFC expressed encouragement that becoming involved in the management process can lead to change. However, becoming involved requires
overcoming the perception that they, as an individual, are fighting city hall. As those involved in the process have seen an increase in regulations, they are beginning to realize that they have to be flexible in their requests. In other words, they have to learn the game of give and take,

"And if they could just focus on and say okay I'm gonna have to give up this so that we can have this, even though I want it all. You know, that's what they're gonna have to do. They just don't and I think it's because they're so new in the process." (FMC, ODFW staff)

There are members who have seen the benefits of involvement and are currently working to reverse this trend of non-involvement. These CMRFC members contend that if individuals are willing to go fishing then they should be willing to go to a meeting to ensure their fishing future. Increasingly participating members are attempting to convince others that they can make a difference in the management process by paying attention to what is happening and focusing their preferences at the right time and right place within the management process. There may be some success in their efforts as CMRFC members have observed a trend towards involvement.

"They see it as an important aspect of their heritage, actually. So they're finding that they need to become involved if they want this to come around for their future generations." (FMC, ODFW staff)

Four members also expressed that management is doing the best they can within their constraints. Additionally, the CMRFC recognized there are often unforeseen events that the FMC cannot plan for. These individuals stated that the FMC works well with the CMRFC and in the past it has proven beneficial to work with management agencies. Lastly, members of the CMRFC have found that when they provide input to the FMC, the FMC is often grateful for the input.
One reason for a lack of involvement amongst the CMRFC is the lack of knowledge of how the management process works. Some members of the CMRFC have opinions and do want to share them but do not know how to become involved or offer help. Furthermore, many anglers do not have a strong desire to become involved, they just want to fish. They have jobs and families and do not have time to get involved in management despite the benefits it may offer. Given their lack of time to participate and the inconvenience of attending public meetings many anglers voice their opinions and complain on forums such as I-fish, mentioned above.

Organization and Representation

The degree of representation within the CMRFC appears to vary between private fishers and charter businesses. Charter businesses tend to have more associations to represent them and are motivated economically to organize. Private recreational fishers, considered much more casual than members of charter businesses, are likely to have concurring opinions within the community which could serve as a motivation to organize. However, private fishers lack a common financial incentive to organize. While there are sport fishing organizations that represent the private fisher, members of the CMRFC feel that it is hard for organizations to know how to reach their constituency. Furthermore, one member was skeptical if organizations adequately represent their members,

"And I think a lot of people diffuse their commitment by joining a group like the Steelheaders or various other groups and expect those groups to carry the [weight] for them. And I'm not sure that they do. I mean they do show up sometimes at meeting[s], they are involved in some, but if you look at the number of people that have invested their $25 a year or whatever into the organization, I'm not sure they're getting their [representation]." (CMRFC, private fisher)

Analysis:
As with other studies (Gilden and Conway, 2002; RecFish, 2000) this research revealed CMRFC's displeasure with the data used by the FMC. Frequently, conversations concerning the inadequacies in the data arose in the interviews. Gilden and Conway (2000) found that the commercial fishing community was frustrated because they provided data to the FMC with little to no feedback similarly; the CMRFC is frustrated because the FMC does not accept their offers to provide data.

The frustrations expressed by the CMRFC towards the number of regulations and the level of complication was also revealed in the surveys conducted by RecFish in 2000, Brown in 1996 and Dawson and Wilkins in 1980. The degree of negative feelings towards the regulations varied although, all members of the CMRFC expressed some degree of displeasure toward the regulations.

The finding that the experience of fishing is more important than the catch was similar to the findings in previously conducted surveys of recreational communities in other areas of the country (Radomski, 2001; Dawson and Wilkins, 1981). Furthermore, the results of this study show the importance of fishing as a family affair. One member of the CMRFC was very passionate about the value of families spending time together during fishing. This serves as an emotional basis for the CMRFC's perception that the FMC does not appreciate this dimension of recreational fishing and continues to diminish opportunities for families to experience recreational fishing. These feelings can provoke resentment towards the FMC therefore it is important this perception is addressed in FMC outreach materials.

There is a wide diversity of attitudes towards the management process. Those who were not active in the management process generally had negative views of the
process while the attitudes of those involved varied. Some involved individuals found positive aspects of the process to comment on and offered suggestions for improvement. While other involved members expressed frustration towards the process and its rigidity. A view common to both involved and noninvolved members was a feeling of powerless, which often led to a lack of involvement. This finding coincides with findings by Brown (1996) and McMullin (1996) that constituents need to perceive they are wanted in the process and can provoke change.

Clearly there are segments of the CMRFC, which do not respect the FMC or their decisions. This lack of respect could be partly attributed to the FMC’s lack of communicating management decisions and the decisions’ rationale to the CMRFC (Daniels and Walker, 2000). Furthermore, as suggested by Fazio and Gilbert (2000), the CMRFC’s mistrust of an agency could be attributed to a perceived lack of credibility. The degree to which the recreational community is now regulated is a relatively new due to the declining fish stocks. Therefore, the idea of regulations, being involved in the management process, and the willingness to be flexible are all new to the CMRFC. It will take time for the CMRFC to learn how to work with the system. Over time the CMRFC recognize they will be the most effective if they participate in the management process as an organized community, with a unified voice, and proposed solutions.

From these interviews a discrepancy in traits between charter businesses and private sport fishers emerged. While both groups are working towards the same goal, ensuring a recreational fishery, they often have different desired regulations and seasons. Those private fishers interviewed tend to agree with the charter industry in front of the FMC because they realize that the ultimate goal is to fish. While this difference does
appear to be prevalent within the CMRFC, a minority of private sport fishers and most charter representatives feel that there is no difference between private fishers and charter businesses. An individual's opinion of the distinction probably depends on their desire for the future of sport fishing. The distinction between charter businesses and private fishers appears to be a minor aspect of the research; however, it could have implications for the success of communication within the CMRFC. This distinction may be important because if each group has their own set of values and preferences these must be understood by management agencies to design effective outreach programs (Brown, 1996; Barber and Taylor, 1990; Henning, 1987; Dawson and Wilkins, 1980).

Information the CMRFC Would Like to Know From the FMC

Results:
One of the objectives of the project was to understand what information the CMRFC would like to receive from the FMC and how they would like to receive the information. The information wanted by the CMRFC falls into four main categories: regulatory information, information regarding the management process, safety information, and access to data.

Regulatory Information

Knowing current regulations is central to participating in marine recreational fishing. Members of the CMRFC recognized this, every interviewee stated the need to know what the regulations are including identification, season and size limit information for each species. However, CMRFC members would like to know more than just the regulations, they would also like to know how the regulations are made and the logic behind them. This is especially relevant for in-season adjustments, which are somewhat of a mystery to the CMRFC.
“... education's so important. If you knew the reason behind why that rule was written the way it was written in the first place, then it would be like okay, okay, okay I understand now.” (CMRFC, marina representative)

“A lot of recreational fishermen do not have a very positive attitude towards the managers because there's been a long history of making regulations without explaining why.” (CMRFC, organization representative)

Furthermore, since management occurs through collaboration between ODFW and the PFMC, members of the CMRFC would like to know which regulations are directly controlled by ODFW and those controlled by the PFMC.

Management Process

Thirteen members of the CMRFC members stated a desire to know how the fisheries management process operates. Subsequently several members stated they would like to know how to access the process and be effective. This includes knowing whom within management agencies they can contact when they have questions. Members of the CMRFC stated that it is the job of ODFW to explain the management process and currently this is not adequately done.

Data Information

The information most frequently desired by the CMRFC centered on the science used to develop FMPs. Nearly all members of the CMRFC stated that they would like to know how data collection occurs and how the data is analyzed.

“So if you wanted to make good use of some time as far as some kind of community outreach, it would be to explain in really basic terms how some of this research is being conducted, so that maybe there would be a better acceptance of what some of these outcomes are.” (CMRFC, private fisher)
Several members (ten) of the CMRFC felt having more real time data available would be very valuable. For instance, a majority of anglers would like to see weekly monitoring and posting of the catch rates for each species in order to monitor progress towards the quota. This would allow the CMRFC to conduct in-season checks allowing them to shift their effort accordingly so as not to exceed the quota. Additionally, members would like to see more accurate stock assessments, which may require more surveys and observers.

The CMRFC would like to see predictions about the health and future of ocean fisheries from the FMC. The status of fishery stocks, the future of fishing including any long-term threats to the fishery, and seasons established early in the management process were the most frequent needs cited by the CMRFC.

"Probably the biggest question that most of us have is [the] future... are we going to be able to keep fishing? Is this industry going to survive or are we going to be regulated out of business." (CMRFC, charter representative)

"Probably the most help that we could get from fisheries managers is information on the status of our fisheries. Not only for a particular year but trends where are these fisheries going, what can we do to change these fisheries to make our business more successful or stable." (CMRFC, guide)

"They have been burned so many times on trying to predict the future. They get, this agency in particular our state fish agency, they have always had a bad reputation. I think it is an unfair bad reputation. ... and I think a lot of it [is] because the status of the resource; you know we've had considerable depletion of this resource and there is more and more pressure from the angling community to participate in the fishery. These populations are getting harder to consumptively use and a lot of that pressure falls on the management or what most people would say the mismanagement of the resource by state agencies." (CMRFC, guide)
Lastly, a few anglers cited the desire to know that management was doing their job to maximize the recreational time on the water.

Safety Information

A few CMRFC members stated the need for safety information from both the coast guard and management agencies.

Information Delivery

I also examined how the CMRFC would like to receive the information. Receiving information in a timely manner was the most important characteristic to the CMRFC. Timely data, specifically, is important to several members of the CMRFC. This request stems from the feeling that there is too much of a lag time between when a stock assessment is conducted and when the results are used in the development of FMPs.

"there is a huge lag time between data. I mean we might do a stock assessment this year and it won't come into play for three years down the road. And that is hard for an industry to wait that long for something to happen." (CMRFC, charter representative)

The desire to receive information that is user-friendly and makes sense to them was stated by twelve members of the CMRFC. This means presenting information in a concise format so anglers do not have to spend large amounts of time sorting through the information. For example, if someone,

"can't boil something down to a page or two they don't have the time for it. And so I think that training to listen and translate and try to think about the person you are talking to and what their specific needs are so you can answer their questions based on where they are coming from." (CMRFC, organization representative)

Additionally, the CMRFC would also like to see management information available statewide.
Members of the CMRFC suggested that it would be beneficial to receive a
mailing to notify them of any significant changes to management plans or regulations.
However, this assumes that the changes are known with enough time to notify the
community via mail. Nearly every individual interviewed within the CMRFC wanted
advanced notification of in-season changes. There was a strong desire within the
CMRFC to not be surprised with season closures or other in-season regulation changes.

Several members of the CMRFC stated that if the FMC knew the desires and
values of the community, information could be provided in the appropriate manner. In
order to achieve this two CMRFC members suggested the FMC conduct a widespread
survey of anglers.

"Because if you want to know what people think don’t ask them to
drive 3 hours to a meeting, send a little questionnaire out. What I
really want them to do is a randomized poll a randomized access to
you know the telephone numbers they have of marine fishermen.
Well, they cannot get organized to do that, they are not growing
sport fishing. Because they have too many other things to do. They
are actually overloaded so who am I to say hey you guys I shouldn’t
but on the other hand we are paying our money..." (CMRFC
fisher)

Analysis:
The CMRFC revealed several types of information they would like to see from
the FMC and the manner they would like to receive the information in. Greater
communication of the information requested by the CMRFC can result in effective
communication programs (Dean, 1996). There was a great diversity in the information
desired by the CMRFC; however, the frequent identification of scientific data and the
future status of fish stocks shows the importance of receiving this information. The
importance of management knowing the preferences, attitudes, and values of constituents
was identified numerous times in the literature by Brown (1996), Barber and Taylor (1990), Henning (1987), and Dawson and Wilkins (1980).

**Information the FMC Thinks the CMRFC Needs to Know**

*Results:*

In designing their education and outreach programs the FMC communicates what they think is necessary for the CMRFC to know. Based on the interview responses the FMC stated the CMRFC mostly needed information immediately relevant to participation in the fishery. Nearly every member of the FMC stated the need to know up to date regulations including season information and how to correctly identify fish. According to a majority of those interviewed within the FMC, it is the responsibility of the CMRFC to know what the regulations are; however, they acknowledged their responsibility to provide the tools to the CMRFC to know what the regulations are.

"... people coming from elsewhere that haven't been informed about updated regulations we encourage them to call in and see what has changed. But people don't necessarily do that. People have to be in tune to what is going on." (FMC, Oregon State Police representative)

Only a few members of the FMC expressed the need for the CMRFC to know the reason behind the regulations.

"They need to know the regulations. And more importantly the reason behind the regulation. I would say that's first and foremost. ... It's important that people not only comply with the law but [know] what breaks the law and the management philosophy behind that. That way you create advocacy for the resource and that's important." (FMC, PFMC member)

Seven members of the FMC also stated it was important for the CMRFC to know how the management process operates including which fisheries are state run and which
are federally run. Furthermore, the CMRFC should know how to influence the management process through effective forms of involvement.

"There are a lot of details that need to be communicated and understood in order for someone to effectively interact and know where to best interact with the system and show up at the right time, the right place and with the right kind of comments. For those who want to be involved in the system, information about how the system is organized, what the steps of the different aspects of the process are, and what is important in those aspects is probably the most important thing to help them interact." (FMC, PFMC staff)

Very few members of the FMC stated that the CMRFC needed to know how stock assessments are conducted and how the data is used in the management process.

Lastly, a minority of FMC members mentioned providing the CMRFC with safety information. Safety information was frequently perceived as coming from the coast guard.

**Analysis:**

The results show the limited amount of information the FMC thinks the CMRFC needs. It is clear there are discrepancies between the information the CMRFC would like to receive and the information the FMC thinks the CMRFC needs.

The FMC and the CMRFC agreed that it was important for fishers to have up to date information regarding regulations especially any in-season changes. Only a few members of the FMC agreed with the CMRFC that it was important to know the reason behind a regulation. Other research suggests that knowing why a regulation is in place results in a greater perceived legitimacy in the regulation (Pollnac and Littlefield, 1983).

While the FMC and the CMRFC are in agreement that fishers need to know how the management process works, the FMC described the process as very complicated and hard to understand. Therefore, the FMC finds it difficult to know how to communicate
the process in a manner that could be easily understood by the CMRFC. Recently, attempts have been made by the PFMC to communicate this information.

The discrepancies between information wanted by the CMRFC and the information the FMC thinks the CMRFC needs can be clearly seen regarding scientific information. Nearly every member of the CMRFC requested the information while only a few members of the FMC felt the information was need by the CMRFC. Those members of the FMC who thought the CMRFC should know how data is collected and how stock assessments are conducted were at a loss of how to communicate this information to the CMRFC. Furthermore, the FMC often does not provide future predictions on the state of ocean fisheries because stocks are difficult to assess and if they are wrong there could be ramifications. However, CMRFC stated that they would understand if the prediction turned out incorrect. Greater communication needs to occur between the two communities in order understand what information can feasibly be provided in a user-friendly format.

Methods Used by the CMRFC to Communicate to the FMC

One of the objectives of this project was to understand what methods the FMC and the CMRFC use to communicate with one another. The methods used by the CMRFC to reach the FMC are not necessarily the same methods used by the FMC to reach the CMRFC. First, I will present the methods used by the CMRFC to reach the FMC.

Results:
Over the course of this project the CMRFC mentioned six general methods utilized to communicate to the FMC. These included: face-to-face communication, e-
mail, websites, the I-fish chat board, written forms of communication, and phone. Each of these methods will be discussed along with its identified benefits and barriers.

**Face-to-face methods**

Frequently members of the CMRFC engage in informal face-to-face communication with ODFW fish checkers on the docks. During these interactions CMRFC members frequently express their frustrations to the checkers rather than expressing them at meetings. To some members of the CMRFC fish checkers are ‘the ODFW’ and therefore their opinions and knowledge represent ODFW. When fish checkers are unable to answer questions, which is common, they are viewed as unknowledgeable.

“For example the people that are our dock samplers, which are just usually just people in school or recently out of school, not really that knowledgeable in the management process but they're the people that most the anglers see and interact with. They're quick to express their frustrations to them. But relatively few are willing to go beyond that. I'll get some letters or phone calls but very few seem to be motivated to show up to public meetings and actually get involved to learn what's the process and how do I best get my input. For those that do, I think it's very educational. People who become involved over a matter of time really get to understand what's going on and why it's going on and often it changes their views.” (FMC, ODFW staff)

Therefore, some CMRFC members expressed that better equipping fish checkers with general management information could improve the image of ODFW.

**Formal face-to-face communication** occurs at fisheries management meetings held by ODFW and the PFMC. ODFW will typically hold a series of public meetings to obtain public comment when management issues arise. Many members of the CMRFC feel that when they do communicate to ODFW at these meetings ODFW does listen and they are pleased to hear from them.
"I feel like, via email and in these recent spat of meetings that I have a pretty good line into the ODFW to actually talk to some people there who want to listen to what people who fish have to say."
(CMRFC, private fisher)

"...it actually, it does work. If you are in the right place in the right time and you have constructive ideas. Because, the thing that most people forget, and I even forget sometimes, they're just people too. And they're not the smartest people in the world they're just the ones that got chose to be the ones to make the decisions."
(CMRFC, marina representative)

As members of the CMRFC begin to take involvement in the management process more seriously, the attendance at these meetings has started to increase demonstrating to ODFW the size and degree of interest within the community.

"...we started talking to them [ODFW] about our feelings on the subject, getting a little bit more organized with our thoughts, instead of being negative -- we don't like this. Presenting positive solutions. And so they could help us, so we could help them help us. And what I found was that they were very, very open to hearing from us. They hadn't heard from us traditionally but they were actually very pleased that we took the time to come forward and speak to them and talk to them in a positive and constructive manner." (CMRFC, private fisher)

However, there are members of the CMRFC who feel that ODFW meetings are held only because managers are required to and their suggestions are not heard.

Members of the CMRFC stated that they have communicated a desire to help in data collection however; nothing materializes from their offers.

Another factor, which can lead to some members of the CMRFC not being heard, is that attendance by charter operators is often greater than attendance by private fishers.

The predominance of charter operators at these meetings can stifle the comments of private fishers.

"Charter boat operators do [attend meetings] because it's based on their livelihood and so they take much more interest in it than the
recreational private boat owner does. But we do have some people who realize it’s to their advantage to show up at these meetings. But they’re quite few compared to operators that are in it for a livelihood.” (CMRFC, charter representative)

Furthermore, the same individuals attend the meetings, which does not allow a diversity of opinions to be communicated to the FMC. All members of the CMRFC identified at least one of the following reasons for a lack of attendance at meetings either: 1) a lack of awareness of when and where the meetings are held and/or 2) the travel distance required to attend. A few CMRFC members said they did not attend meetings because they can’t comment on what they don’t understand.

The PFMC also holds meetings where members of the CMRFC can communicate to the FMC. Formal council meetings are held five times a year and are typically not well attended by the CMRFC. There are several reasons members of the CMRFC do not frequently attend the formal meetings. First, the language used and procedure followed during the meetings is very formal and not considered the best communication tool.

“... it takes a long time to learn to understand what they are saying. They speak in acronyms that if you were to go there you sit there and you just have a blank look on your face because you have no idea what they are talking about or what they are saying. So even these meetings that are open to the public they are not most of the public would not be able to participate because they wouldn’t have a clue what was being said. So that is a definite communication breakdown as far between the recreational fisheries and management.” (CMRFC, charter representative)

Several meetings need to be attended before the jargon and procedure can be understood.

Secondly, the formal procedure often intimidates some members of the CMRFC.

Confusion over how to participate in the process has resulted in members of the CMRFC providing input at the wrong time in the wrong way. Third, the large formal meetings are held in large cities in Oregon, California, and Washington, which are typically
inconvenient locations for CMRFC members to travel to. The FMC does acknowledge
the inconvenience this presents but claims that larger cities are typically the best for
finding the accommodations needed to hold large-scale meetings. Lastly, the CMRFC
views the PFMC as primarily managing commercial fisheries.

However, the members of the CMRFC that have provided testimony at PFMC
meetings have found themselves effective when they offer a potential solution for the
problem they present. Based on the past experiences of some CMRFC member’s the
community is learning that attending meetings and yelling and complaining is not an
effective way to get their point across to management. One member of the FMC nicely
described the most effective ways for the CMRFC to communicate to the PFMC.

“They can show up and give public testimony that’s better, you see a
face and you have a story to go with it. And when they give public
testimony if they say I want more fish or I don’t like that and lets say
they give testimony and they give a very compelling case that there
is a problem that needs to be addressed but they don’t offer a
solution at the same time. A solution that a council member could
take right in that moment and do something with then there is a
good chance that it will get dropped. It is more likely that nothing
will happen. If when they give testimony they can give a solution
and the solution or the action that they want out of that meeting and
specifically what it is. And it doesn’t have to be a final answer. Say
for instance I want you to establish a committee to look at that or I
want that issue to be referred to the SSC, etc. The specific small
next step that the council member could actually do as well as
maybe in some cases the end policy on it. Then the council member,
because sometimes I have seen people go up and make a compelling
statement but then the council members are left on the fly with how
to respond and they got other issues they are trying to deal with on
the same agenda item and it is easy to drop.” (FMC, PFMC staff)

The formal PFMC meetings include closed-door sessions, which can occur before
the opportunity for public comment. One member of the CMRFC stated that this gave
the impression that the council had already made decisions and therefore fostered
mistrust within the CMRFC. This lack of trust in and understanding of the PFMC leads some in the CMRFC to the view that ‘they [PFMC] are not good in anything they do.’ It is important to note that this strong position was found in a minority of individuals within the CMRFC.

The advisory bodies of the PFMC also hold public forums in local areas, generally along the coast, to obtain public comment. The CMRFC is much more likely to attend these meetings because the smaller meetings offer a less intimidating way for the CMRFC to communicate to the FMC. Some members of the CMRFC felt that these meetings should also be held in non-coastal towns. Furthermore, members of the CMRFC can serve on these sub-panels as representatives of the sport fishing community. However, as with the formal meetings, representatives have stated that it takes a long time and a lot of commitment to understand the process and the jargon used in any level of the management process.

Several suggestions for improving FMC meetings were offered by the CMRFC. When meetings concern a topic that is hotly debated, one CMRFC member recommended that the FMC use a moderator. This could help ensure that multiple voices are heard rather than one view dominating the meeting.

As an alternative to meetings, one CMRFC member suggested that the FMC send out questionnaires to fishers rather than asking them to drive long distances to attend meetings. CMRFC members also suggested that holding meetings in neutral locations and incorporating educational fishing information into the meeting could improve attendance. One example would be holding meetings at sport shows.
Some members of the CMRFC stated they would like to see meetings held by ODFW describing the overall management rational. Furthermore, other members of the CMRFC would like to see more regular meetings to update anglers on how the season is progressing. These regular meetings could also serve to obtain feedback on how management decisions have affected the community.

In order to improve communication it was suggested, by one CMRFC member, that a certain amount of outreach be written into the job description of employees within the FMC. Furthermore, a majority of the CMRFC expressed that management needs greater consistency in their management decisions and to explain the background and motivation for their decisions. However, managers are not typically trained in how to effectively communicate with the public.

"If you are going to serve your customer you need to understand your customer and help them know what they need to know and I think that not all agencies embrace that philosophy and sadly those who do end up having their budget cut in the state capital or federal. So it is a very tough place to be and you need the right leadership to do it." (CMRFC, organization representative)

E-mail

The CMRFC uses e-mail to reach both the ODFW and the PFMC. However, CMRFC members e-mail ODFW more frequently. Many fishers stated their satisfaction with the quick response to their e-mails they receive from some members of the ODFW Marine Program. For example,

"... been really good about getting back, I'm impressed as a matter of fact with the length of the email that he sends back with all the points to consider... it is very thoughtful and insightful and he's always gotten back to me. On a personal basis I'm just impressed with that. I may disagree with him but the fact that he takes the time to do that is, is pretty good." (CMRFC, private fisher)
The topic of e-mails generally concerns updates on catch rates (status of the quota) and questions surrounding regulations. Within the CMRFC, a few members have been encouraging other members to e-mail the department; however, they are afraid they will end up overwhelming the department with e-mails, which will then be disregarded. Other members experienced not receiving responses from the FMC. These individuals suggested at least having an automatic response system in place.

Written Comments

PFMC does accept written comment from the public regarding input on management decisions. Written communication was only mentioned twice as a method utilized by the CMRFC to reach the FMC. The CMRFC does not appear willing to write letters to the FMC because they view it as an ineffective way to reach management. Those within the FMC would agree stating that writing letter was the least effective form of communication.

I-fish

The I-fish chat board could be viewed as a method of communication the CMRFC uses to reach the FMC because members of the FMC monitor the chat board. Some CMRFC members stated they have received responses from management based on their postings on I-fish. Those on the I-fish chat board are anonymous therefore there is no way to tell if managers are a part of the conversations. A potential communication method suggested by a CMRFC member was to establish an internet discussion board,

"So if there is anything that I can see that would, I think, improve some of the communications between sport fishers and the marine resources folks in specific would be to have them set up a chat board or internet discussion board where anglers could go and post a question and provide feedback and ODFW could interact with the public more readily." (CMRFC, private fisher)
Phone

The CMRFC cited phone as an infrequent method to reach both the PFMC and ODFW. In general PFMC does not receive many calls from the CMRFC. Similarly, ODFW does not receive many calls from the CMRFC primarily because members do not know whom to contact and feel uncomfortable calling.

"I don't know how to get to 'em. I don't know how to get to a person on the Pacific Fish Management Council. That could be effective for us. I would like to have four, five names that I could, have a conference call with 'em or whatever. Or sit down with them or whatever." (CMRFC, charter representative)

However, phone is generally the best way to get a quick response from managers.

Furthermore, ODFW has established an 800 number that the public can call to have their questions answered.

Analysis:

The results show that the CMRFC's ability to communicate to the FMC is influenced by the characteristics of the forums they are using to communicate. For example, a fisher's attendance and likelihood of providing comments during FMC meetings is linked to their perception of the goal of the meeting and agency. Many of the problems associated with the CMRFC's ability to communicate to the FMC cited in the literature were confirmed during the interviews.

As supported by the literature (Kohler and Hubert, 1999), face-to-face communication is a preferred method of communication between the CMRFC and the FMC because this form of two-way communication allows for feedback to be provided immediately to the sender. The ability to carry out a conversation and work out misunderstandings can result in mutual understanding (Conway et al., 1999; Coller,
1995). The closed-door sessions held during PFMC meetings, if held early in the process, have fostered mistrust of the PFMC amongst the CMRFC. As a result the CMRFC perceives that they are not included in the management process in the early stages, a vital component to effective public involvement programs (Lawrence and Daniels 1996; Blahna and Yonts-Shepard, 1989; Brown, 1996). Similar to work done by Brown (1996), members of the CMRFC view management meetings as being held only to fulfill a requirement which can lead to a lack of involvement. The inconvenience of meetings, their time and location, have also been identified by the CMRFC as a barrier to attendance. The inconvenience of meetings was also seen within the commercial fishing community (Gilden and Conway, 2000).

As others have found with the commercial fishing community (Gilden and Conway, 2000 and Dwyer, 1997), the CMRFC found the PFMC process intimidating and requiring more effort than they were willing to commit to. As identified in the literature the heavy use of jargon in the council process makes understanding the council process difficult for the CMRFC (Kohler and Hubert, 1999; Brown, 1996). The importance the CMRFC placed on their inability to understand the management process due to the use of jargon demonstrated that the reliance on jargon is a substantial barrier to communication. Semantic barriers, such as the use of jargon, are commonly cited as communication barriers (Fazio and Gilbert, 2000).

Simplification of the regulations also needs to occur. Previous surveys conducted in 1980 in the southwest part of the U.S. also revealed frustration and confusion regarding regulations (Dawson and Wilkins, 1980). As with other areas of the country,
recreational fishers interviewed for this project are in agreement over the desire for simplified regulations.

Work done by Kohler and Hubert (1999), Blahna and Yonts-Shepard (1989) and Henning (1987) demonstrates that it is important the receiver (the CMRFC) provide feedback to the sender (the FMC) therefore the sender will know their message was received. This is recognized by the CMRFC in their request for the FMC to hold more meetings to allow them to express how management decisions have affected the community.

Previous work has identified those agencies that are responsive to the public are perceived as more effective (McMullin, 1996; Dean, 1996; Fazio and Gilbert, 2000). In e-mail interactions some members of the CMRFC were satisfied with the response from the FMC while others were not. The amount of time it takes to receive a response from the FMC varies from individual to individual within the FMC and appears to be influenced by their workload. One individual within ODFW was constantly praised for their quick response to members of the CMRFC whereas other members were cited as less likely to respond.

The CMRFC may utilize the phone as a method of communication more frequently if they had greater access to contact information and knew who would be the best to contact. The regulation packet provided by the state does contain contact numbers of the FMC and the PFMC website lists all of the contact information for council staff and members which members of the CMRFC may not realize. The second reason phone is not frequently used is because members of the CMRFC report that they do not feel comfortable contacting the FMC over the phone.
Establishing an internet discussion board operated by the state could provide an environment in which the CMRFC feels comfortable expressing their opinions and offer a convenient way to do so. However, this would only capture those who have access to a computer and the internet.

**Methods Used by the FMC to Communicate to the CMRFC**

**Results:**

Given that it is one of the roles of the FMC to communicate to the CMRFC, the FMC produces a great deal of information that does not always reach members of the CMRFC. Communication methods mentioned in the interviews included: face-to-face, electronic, written, media and phone. Each of these methods will be discussed along with identified benefits and barriers.

"Sometimes it is a conference call and sometimes it is a face-to-face meeting. And if you want to be effective you have to have as many of those communication tools in the box as possible. Sometimes it is the written word and sometimes it is a speech. It is a variety of things rather than the best and the worst." (CMRFC, sport fishing organization representative)

**Face-to-face**

Similar to communication from the CMRFC to the FMC, meetings are an important way for the FMC to communicate to the CMRFC.

"I think it's [FMC meetings] an effective way for them [FMC] to be reached by people. I don't think it's a good communication method [to reach the CMRFC] because not enough people can attend." (CMRFC, private fisher)

I will discuss meetings held by ODFW and those held by the PFMC from the FMC perspective. The FMC likes to see people attend the meetings they host. It provides them with motivation to continue to hold the meetings, as recognized by this CMRFC respondent:
"What they like to see is industry taking a part in it. The fact that I go to all these meeting to them that makes it worthwhile to them. If they hold a public meeting and nobody shows up they are not going to hold these meetings for long, nobody cares. But if people are showing up and voicing their opinions then it makes them feel that they are doing a job that is important to somebody and they do a good job of it." (CMRFC, charter representative)

ODFW tries hard to hold meetings all along the coast in order to explain options for management plans. One member of ODFW stated that after each meeting they sort through all of the comments they receive and determine the most popular ideas and comments. ODFW felt that it was beneficial to hold these meetings to hear the viewpoints of those involved; however, attendance by private anglers is often quite low. ODFW does listen to the CMRFC at meetings; however, even a member of the CMRFC recognized,

"...[the CMRFC is] heard their ideas can be a little far out sometimes. [Their ideas] may not work in the management scheme of the agency and therefore they are not implemented. And then it goes back to [the CMRFC] saying we sat there we told you [FMC] what we thought; our ideas are not being implemented so I am out of this discussion. So if [CMRFC] ideas don't get implemented then they [CMRFC] are saying they are not being heard." (CMRFC, guide)

Some members of the FMC consider PFMC meetings an effective form of communication if those participating know how the process works. Therefore, these FMC members cited attending PFMC meetings as the best way for the CMRFC to communicate with council members. However, several members of the FMC recognized the shortcomings of PFMC meetings as an effective communication tool:

"Not necessarily, not for the common person. For the person that's engaged in the council and understands the council processes and how to access the council I think it's effective, but you'd have to be pretty well versed in the council activities and how it's structured and be pretty well plugged in. For somebody to just come in off the
street and access the council, I don't think it's a very effective communication tool. But then, I don't think that's what the council was set up to do.” (FMC, PFMC member)

The FMC can also communicate with the CMRFC during advisory body meetings. As mentioned above, communication within the sub-panel can occur more freely than in the formal PFMC meetings. This is beneficial because both the FMC and the CMRFC can freely exchange ideas and therefore understand each others’ ideas and opinions.

“I get a lot of info out of two things. One is particularly in advisory panel meetings sitting and listening to what the fishermen concerns are and hearing their stories of what is going on and also in sidebar discussions during breaks. People will approach others about what they heard during the meetings.” (FMC, PFMC staff)

However there are two drawbacks to this form of communication. The first identified by the FMC is the difficulty in getting private recreational fishers to serve on the panels. Serving on a panel often requires traveling, a substantial amount of time, and dedication on the part of the CMRFC. Secondly, as one member of the CMRFC pointed out, the panels have created an ‘old boy network.’

“I got very, very disgusted with the whole situation because there is so much old boy network goin on there that it is really, really hard to make any significant change in anything.” (CMRFC, marina representative)

Recently, ODFW has established a sport fish advisory panel consisting of approximately fifteen individuals who are representatives of the CMRFC. ODFW will consult with the advisory panel to obtain a general idea of how the sport fishing community may feel about management issues.
Other methods of face-to-face communication include presentations at tackle shops and setting up booths at sportsmen’s shows. The positive aspect to this type of communication is the interactive nature however,

"... this can be very time consuming and it is hard to measure how much benefit you are getting." (FMC, OR state police)

Lastly, CMRFC organizers of I-fish sponsored events have cited the desire to see members of the FMC attend. This could serve as an excellent way for the FMC to reach the CMRFC:

"Well, when we put these things together there's also an opportunity, you know, there's an audience there. We meet with the Coast Guard to talk about safety. So there's an opportunity if someone from the PFMC, from one of these subcommittees wanted to come to that group and say hi I'm [so and so] and I'm the head of [such and such] committee, you know whatever, and I just want to introduce myself and tell you what it is that we do and if any of you [have any questions]. You know just showing up if there was a willingness to do that it would be huge. And we can set those kind of things up, but maybe it's, I don't know if it's whoever who makes the first move, I'm not sure how these things work." (CMRFC, private fisher)

"But I think just like private sport fishers would find that those guys [FMC] don't bite and they're not so bad after all. I think once they got together they [FMC] [would] realize most [of] these private sport fishers are pretty cool and want to help." (CMRFC, private fisher)

Furthermore, CMRFC suggest that if PFMC members could make a connection with members of the CMRFC, it would change the perception of them. By forming a connection they would not be viewed as ‘faceless bureaucrats.’ The CMRFC also states that the sooner in the management process this connection can be made the better.
Electronic

Websites are used frequently by the FMC to post updates concerning management issues. The PFMC operates a website listing council members and staff, describing council duties, management decisions, as well as several other issues. Throughout the interviews the PFMC website was spoken of very highly by the CMRFC. CMRFC members felt that it was user friendly, a good medium to communicate meeting summaries, and post regulation changes. One member of the CMRFC could not say enough to compliment the PFMC website.

"...the PFMC web site is, it's great, it's really good. Ah they’re always publishing what they’re doing and all that kinda stuff and ah so on. But I read that, I take time to read it. ...I really gotta compliment though, just one more time the Pacific Fisheries Management web site. It’s a really good web site." (CMRFC, private fisher)

The only barrier mentioned to the PFMC website was the requirement to have access to a computer.

The ODFW Marine Program also operates a website, posting information relevant to the CMRFC. For example, ODFW posts monthly catch data for species of concern, updates of commission decisions, and regulations. ODFW was praised for quickly posting any regulation changes during the season on the website. While members of the CMRFC praised the website for the amount of information available it was frequently referred to as difficult to navigate. Many members of the CMRFC found the information out of date and the data difficult to access. A user-friendly ODFW website with easy data access was desired by the CMRFC. ODFW has also conducted surveys of the CMRFC on the web, which managers found to be helpful. However, this was only done
on a limited basis because it was determined that an experienced survey writer was needed.

Lastly, the Oregon Sea Grant Extension website “Heads Up” was cited as a good source of information, in fact, “the best around” according to one respondent. However, this same individual as well as others cited “Heads Up” as being oriented towards commercial fisheries. Several members of the FMC and CMRFC stated that developing a similar site oriented to recreational fisheries would be beneficial.

The FMC has established e-mail listserves to reach the CMRFC. Listserves are a good way to communicate to those CMRFC members who have access to computers. Furthermore, it is an inexpensive and quick method of communication. ODFW has two list serves, a main ODFW one and a Marine Program one specifically for marine issues. Several CMRFC members cited the Marine Program listserv as difficult to subscribe to. It was suggested that the main ODFW listserv be combined with the Marine Program listserv because all the issues are important and this would avoid confusion regarding which listserv to subscribe to.

Several CMRFC members felt that ODFW should solicit for e-mails more frequently. Recently, ODFW has been asking for e-mail addresses from those who attend meetings and are working on developing an e-mail listserv. A CMRFC member made a suggestion, to develop an e-mail network that could serve as an action alert network that would notify people of events and regulation changes. Furthermore, a suggestion was made, by the CMRFC, to develop listserves for particular species of interest. This idea stems from the fact that some marine fishers specifically focus on one species. However,
this may serve to fragment information farther. An important barrier to electronic forms of communication was mentioned:

"There is the problem of course of reaching the fishers that aren't internet people that are not at computers they don't want to do email, they don't [know] how do you get those people. And that's a tough one, you know, how do you communicate with folks that are unreachable?" (CMRFC, private fisher)

Written forms

Written communication is a commonly used method of communication by the FMC. This includes the use of newsletters, published angling rules, and flyers. The PFMC newsletter is one of its main outreach tools. However, those who are on the mailing list are typically those who are involved in the management process. Recently, the PFMC has been distributing their newsletter to tackle shops along the coast:

"We've been sending the newsletter to fishing, like tackle shops up and down the coast. Only about twenty up and down the coast..." (FMC, PFMC staff member)

"And their little newsletter is doing very well." (CMRFC, tackle shop representative)

ODFW also mails notices of events and management decisions; however, some members of the CMRFC find that they are received after the fact. Informational brochures produced by ODFW are distributed to sporting good stores. These brochures are not always read, especially if they are too lengthy and complicated. According to the FMC, direct mailings are appropriate when informing anglers of long-term changes.

Flyers often serve as an effective way to provide notice of short-term regulation changes and can be posted at locations affected by the regulation change. Flyers regarding regulation changes are also distributed to marinas and tackle shops. Flyers are often posted notifying the public of in-season changes, these flyers are typically in a
different color than other notices in order to attract attention. This form of notice can be especially useful for those members of the CMRFC traveling to fishing locations from different areas of Oregon. A drawback to flyers, stated by the CMRFC, is the tendency for them to not be maintained and updated.

Flyers are also used to notify of upcoming meetings. However, the FMC needs to pay special attention to ensure that the signs are clear and avoid the use of jargon. Both members of the FMC and the CMRFC cited examples of individuals being confused by flyers produced by the FMC resulting in attending the wrong meeting.

Once a year, the state also publishes a regulation booklet containing those regulations approved by the ODFW commission. The regulation packet also includes information regarding fish identification, safety information, and instructions for releasing fish.

"We do informational fish identification cards, for example, we're always posting signs at the docks. Changes to regulations. If you spend any time looking through regulation booklets we have, here's a page of key species and how you tell them apart, and here's ways of avoiding mortality techniques for release, for example. We have the brochures that are informational in terms of here's sites where you can fish from shore and here's examples of how you tie your lures, and the life history." (FMC, ODFW staff)

Due to budget constraints, ODFW attempts to include a lot in one brochure. The regulation packets are distributed to a number of locations including sporting goods stores. While it is good to have them available in several locations, frequently those distributing the information are unaware of regulations and therefore unable to answer any questions the CMRFC may have. A majority of anglers stated they find the regulation packet adequate for receiving information.
The Federal Register is also considered a source of information regarding management decisions however; only one member of the CMRFC mentioned the Federal Register as a source of information.

**Media**

The media can be utilized by the FMC as a tool to get the word out to the CMRFC. Frequently, newspapers cover local fisheries management meetings or be asked by the FMC to publish regulation changes. This can be effective because it has the capability of reaching both a local audience and those in outlying areas, especially those who do not attend meetings. Members of the CMRFC stated that ODFW did a good job of getting information to the media quickly. There are drawbacks to using the newspaper as a communication method. First, the newspaper decides which stories to print based on preference and available space. Secondly, a majority of members of the FMC and CMRFC stated that printed stories are often inaccurate, resulting in misleading the public. This can be a significant problem because it can continue to foster false opinions of the FMC and confusion within the CMRFC. In order to improve this problem the FMC could attempt to work more closely with newspapers to review material before it is printed, a suggestion made by members of the CMRFC.

The radio can also be used to disperse information to the CMRFC. Radio announcements are a good method of communication because they are generally free and can reach a large audience, especially those who do not attend meetings. Radio shows that address sport fishing issues have proven to be a very positive and informative method of communication. Currently, Extension agents participate in a radio shows,
which address regulations, in-season changes, fishing effort and several other topics related to marine fishing.

"The recreational fishermen have been part of my audience. I am doing a radio program tonight as an example. Live radio which we do every week and that gives me a chance to address recreational interests..." (Other, Oregon Sea Grant Extension Agent)

"Live radio is good because people don’t come to meetings like they used to." (Other, Oregon Sea Grant Extension Agent)

The FMC recognized the benefits television advertisements could offer in reaching diverse audiences such as the CMRFC; however, the advertisements are very expensive to produce and air. With the budget constraints faced by the FMC this is an unlikely form of communication but one that could be explored. Members of both communities suggested increasing the use of all forms of media communication in order to improve providing timely notice.

Phone

The FMC does not frequently use the phone to reach the CMRFC. The PFMC will hold conference calls with the various sub-panels, which sometimes include members of the CMRFC. Those who mentioned these conference calls felt they were often a success. However, it is important the FMC take into consideration when the CMRFC will be on the water when scheduling the calls.

Another potential use of the phone for communication mentioned by the CMRFC was to form an advisory group, which could conduct mass telephone calls when there was a substantial change in regulations.
Status of Communication

In addition to the methods of communication used by the FMC to reach the CMRFC, interviewees also expressed their opinions of how the FMC has preformed in their communication duties. The FMC expressed their attempts at keeping current information available and providing several avenues for the public to pursue. The presence of little funding for education and outreach programs and the lack of staff to run them was an important and frequently discussed barrier to communication.

The CMRFC did acknowledge that their community is difficult to reach because they are dispersed over large geographic areas. Despite this challenge, the CMRFC did suggest improvements to communication. Several CMRFC members would like to see meetings and comments periods held earlier in the process so they would feel more a part of the process. Additionally, incorporating greater flexibility into the management process, according to CMRFC members, could improve communication and perceptions of the management community.

Analysis:
The FMC is using a number of informal and formal communication methods to reach the CMRFC. This is necessary to reach diverse audiences like the CMRFC (Blahna and Yonts-Shepard, 1989; Brown, 1996). Based on the interviews, a majority of the CMRFC receives the information; however, not all members are able to synthesize all the material due to either length or amount of jargon used.

Preparing the proper materials can be difficult because frequently managers are not trained in conducting public involvement programs. This can be seen by the ODFW’s need to hire someone to conduct surveys of anglers. Current and future FMC members should be trained in public involvement programs.
Access to meetings was a frequently cited barrier to involvement by the CMRFC. While ODFW attempts to hold meetings in several locations along the coast, there will always be some individuals who have to travel a greater distance to attend. Based on interview responses, the FMC is doing the best it can to accommodate as many members of the CMRFC it can.

According to those interviewed for the project, ODFW is continually trying to improve the way they communicate with the CMRFC especially in regards to regulations. Based on conversations with ODFW employees, it does appear that they are attempting to improve their education and outreach component. For example, the Marine Program recently hired someone to fill an education position to assist in communicating with constituents including the CMRFC. The FMC needs to continue to explore innovative ways to reach the CMRFC and tailor outreach material to the needs of the community.

**Discussion and Conclusion**

The primary objectives of this project were to: 1) determine the current communication methods used by the FMC and the CMRFC, 2) identify the state of communication within and between the FMC and the CMRFC, 3) determine the perceived effectiveness of the current communication methods, 4) identify barriers to effective communication (see Figure 2 in Appendix), and 5) suggest improvements for communication between the FMC and the CMRFC (see Table 2 in Appendix). Each objective was successfully addressed by the project.

As the results demonstrated, there are numerous dimensions to communication within and between these two communities. Themes from this research can be connected to form a broad understanding of the current relationship and state of communication.
between the CMRFC and the FMC. That said it is hard to distinctively characterize the relationship and general state of communication between the two communities because for each negative comment there was a positive counteracting comment. This is especially true within the CMRFC, which is not surprising given the size and diversity of the community. The FMC, on the other hand, displayed more of a consensus in their views of the state of communication between the communities.

Overall, the FMC describes the CMRFC as a user group with: a diverse set of preferences, little active involvement in the management process, and a large geographic distribution. The FMC, within their constraints, claims they do the best they can to get the word out, but beyond that it is the responsibility of the CMRFC to have the motivation to seek out the information. A majority of the FMC agreed that the current management structure, which is complex and inflexible, contributes to the CMRFC’s lack of involvement. However, given that the structure is mandated through policy (the MSA) there is little chance of restructuring the process. Rather change will have to be achieved through a combination of positive attitudes within each community and prioritizing effective communication methods within management agencies. Currently, communication is not prioritized within management agencies but the necessity of following through with this recommendation was identified by both communities.

As opposed to the FMC, the CMRFC on a whole is much more divided in their opinions on the state of communication. The attitudes towards the FMC and their communication efforts ranged from very negative to positive. A minority of the CMRFC held very negative views of the FMC. Their statements included stereotypical comments towards government agencies and the view that the FMC had no idea of the status of fish
stocks; these respondents were not involved in the management process. Overall these interviewees painted a picture of the CMRFC as an independent group of people who were continually having their right to fish taken away and facing more and more regulations. Other negative comments originated from those who had some level of involvement in the management process. Generally, these individuals were frustrated with the inflexible structure of management process, in some cases this led to discontinuing their involvement.

On the other hand, those members of the CMRFC who were involved in the management process, communicated with the FMC and attended meetings, acknowledged the shortcomings of the process while offering positive comments. Positive comments centered on the large effort the FMC was putting forward, given their constraints. Furthermore, involved members of the CMRFC found that if they became involved in the management process their efforts could result in change. It is important to note that despite the differences within the CMRFC there is general frustration with the number and complexity of regulations placed on the community.

Despite the varying viewpoints within the CMRFC, the community is becoming increasingly organized. As shown by the results, the motivation for the CMRFC’s increased organization is two-fold. First, as the CMRFC faces new regulations they are realizing they need to become involved and have a common voice. Second, the I-fish network has provided a convenient method for members to communicate.

This research suggests that the level of involvement appears to be correlated with a CMRFC members’ attitude towards the FMC. The observation that those interviewees within the CMRFC, who were involved in the management process, expressed positive
comments about the relationship and state of communication between the communities suggests that effective communication is occurring. Furthermore, these same individuals also stated that their involvement in the management process did produce change, indicating the occurrence of effective public involvement. This observation counteracts statements made by other members that public meetings are held only to fulfill a requirement and that the FMC would like to see the end of fishing. It is vital for members of the FMC and the CMRFC to continue to foster the feeling that the CMRFC can make a difference in the management process.

The positive views within the CMRFC and the desire to interact with the FMC on a more face-to-face basis are encouraging. The FMC should address this desire in order to build and maintain the respect of the CMRFC. This coincides with the CMRFC's desire to be able to provide feedback to the FMC. The feedback loop is a key element in the communication model. Effective communication is not being accomplished if the FMC's outreach material only reaches the CMRFC and no mechanism is in place for the CMRFC to respond. Providing feedback, regardless of the chosen method, will have to be a collaborative effort between the FMC and the CMRFC.

Members of both communities made suggestions for improving communication, (see Table 2 in Appendix) some of which fit into the current regulatory structures and others that do not. Two primary improvements for the FMC include training current and future management employees in how to conduct public involvement programs. Secondly, the FMC needs more staff and a greater budget to devote to outreach. Primary ways the CMRFC can improve communication efforts is through maintaining a positive attitude towards the management process and becoming educated on how to effectively
become involved in management. Lastly, it should be remembered that achieving effective communication is a joint responsibility of the FMC and the CMRFC (Walker and Daniels, 1997).

Distinct differences between the two communities and information about mistrust of the FMC by the CMRFC emerged from the project. An ethnographic approach allowed the discovery of these themes as well as the degree of their depth within and between the communities. Personal communication with members provided the informants with the opportunity to share personal experiences and stories in their own words. The language used and the way in which the stories were told allowed me to grasp the feeling behind their statements.

The depth of the underlying differences and mistrust, display the need to address these social communication barriers before large improvements in communication methods can be made. Merely, increasing communication with the CMRFC and using new and innovative communication methods will not have any effect if the CMRFC still mistrusts the agency. Similarly, communicating more scientific information to the CMRFC (which they requested) will not have any effect if the two communities continue to disagree over the status of stocks. These barriers are complex and embroiled in past negative experiences between the communities and will take time to resolve. However, both communities should acknowledge and believe that each community is concerned for the future of the resource. Throughout my interviews, I continually saw each individual’s genuine concern for the future of the resource.

This research was a successful exploration of the CMRFC and serves as a voice for an underrepresented and under studied user group within Oregon. Furthermore, this
work could serve as a stepping-stone for further research of the CMRFC. The results of this project definitely show the passion for sport fishing the CMRFC harbors as well as their increasing prominence as a vocal user group. The CMRFC's strong desire for more data and scientific information from the FMC is also documented.

Finally, these results do have implications for the success of future fisheries management policies. Previous work (Daniels and Walker, 2000; Henning, 1987; Lawerence and Daniels, 1996; Blahna and Yonts-Shepard, 1989) has demonstrated that the success of management policies depends on their acceptance by user groups. In turn, acceptance of management plans by user groups depends on their involvement in the process and their trust of the management agencies developing the policies. The voices of the CMRFC supported these findings. Those CMRFC members with greater levels of involvement were more likely to trust the FMC and be accepting of regulations. Therefore, the success of management policies leads back to an agency's initial communication with and involvement of user groups. This implies that an agency should know each user's group's needs, values, and preferences to effectively communicate with them. It is possible for this research to serve as a starting point for the FMC to understand the CMRFC, an important and growing user group within Oregon. Furthermore, from this work the CMRFC can become educated on how to become involved in the management process and of the constraints posed by the current management structure.

Furthermore, as expected the result that the CMRFC finds the management process complex and inflexible concur with the views of the commercial fishing community (Gilden and Conway, 2002). However, the communication methods used to
reach the CMRFC need to be more innovative and varied than those used to reach the commercial fishing community. This difference can be attributed to the organizational differences between the CMRFC and the commercial fishing community.

This project included only a limited number of perspectives. Therefore, the results are not generalizable to the entire CMRFC or the entire FMC. However, I feel the interviewees chosen serve as an adequate representation of the community. In order to improve on the shortcomings of this project a wider sample of each community could be conducted. This could be accomplished qualitatively through focus groups and/or conducting more interviews. Also, conducting a widespread mail survey of the CMRFC could be used to find out more about the issues raised by this research. This approach could capture a greater number of respondents and also allow for counting prominent opinions and correlating aspects of the CMRFC to particular opinions.
Bibliography


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Communication in the commercial fishing and fisheries management communities. Corvallis, OR: Oregon Sea Grant.


Appendix
Figure 1. Fisheries management structure specified in the Magnuson Stevens Fishery Conservation and Management Act (MSA).

Result: FMP, suggested to NOAA Fisheries
Primary Questions Used During Interviews

Interview Protocol for the Fisheries Management Community

- Tell me about your position within the fisheries management community.
- How does communication happen within the fisheries management community?
- What do you think the coastal marine recreational fishing community needs to know regarding fisheries management?
- What kind of fisheries management information are you and/or your organization providing to the coastal marine recreational fishing community?
- What communication strategies/methods do you use to reach the CMRFC?
- Which methods are the most effective? The least?
- What obstacles exist regarding communication between the CMRFC and the fisheries management community?
- What suggestions for improvement do you have?

Interview Protocol for the Coastal Marine Recreational Fishing Community

- Tell me about your connection to the coastal marine recreational fishing community
  - Where do you typically fish?
  - What species do you fish for?
  - When do you most frequently fish?
  - How often do you fish?
  - Are you connected to any recreational organizations such as Oregon Anglers or Recreational Fishing Alliance?
- How does communication happen within the coastal marine recreational fishing community?
- What do you think the coastal marine recreational fishing community needs to know regarding fisheries management?
- From what sources does the coastal marine recreational fishing community get fisheries management information?
- Which methods are the most effective? The least?
- What obstacles exist regarding communication between the CMRFC and the fisheries management community?
- What suggestions for improvement do you have?
List of codes used during analysis.

1° Methods used to communicate within the FMC
   2° Specific Method Used
      3° stated by ODFW
      stated by PFMC
      stated by other member of FMC

1° Methods used to communicate within the CMRFC
   2° Specific Method Used

1° Information the FMC thinks the CMRFC should know
   2° Specific kind of information (safety, regulatory, scientific, etc.)

1° Information the CMRFC would like to know from the FMC
   2° Specific kind of information (safety, regulatory, scientific, etc.)

1° Methods Used by the FMC to communicate to the CMRFC
   2° Specific Methods used (phone, e-mail, meetings, flyers, press releases, etc.)
      3° used method
         potential method
         barriers to using that method
         positive aspects of that method
         improvements to using that method
   2° Performance of the FMC in use of communication methods
      3° stated by the FMC
         stated by the CMRFC

1° Methods Used by the CMRFC to communicate to the FMC
   2° Specific Methods used (phone, e-mail, meetings, etc.)
      3° used method
         potential method
         barriers to using that method
         positive aspects of that method
         improvements to using that method
   2° Perceptions of the FMC in use of communication methods
      Perceptions of other CMRFC members effort to communicate with the FMC

1° Communication in general within the communities
   2° communication within the FMC
   communication within the CMRFC
      3° Themes that arose
         FMC: Time and Money; Outlook/Change; Problems with communication
         CMRFC: Regulations; Responsibility; Involvement; Attitudes;
               Data/Science; Organization/Representation

1° Communication in general between the communities
   2° Differences between the communities
      Perception of: ODFW, PFMC, CMRFC
      3° Those perceptions stated by the FMC or the CMRFC

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Inherent Barriers
Current management structure

Components of Inherent Barriers
- The use of jargon
- Decisions occur late in the management process
- Difficult to incorporate anecdotal data
- Political nature of the process
- Complex and formal process

Result of Barriers
- Decreased internal and external face-to-face communication
- Lack of regular communication
- Communication is not prioritized
- Inter-agency miscommunications
- Limited number of meetings in a limited number of locations
- Out of date information

Limited budget and time within the FMC

Complex nature of managing fish stocks

Size and diversity of the CMRFC

Frequent in-season changes

Fragmented voice within the CMRFC
- Varying levels of motivation
- Audience difficult to understand

Leads to mistrust of the FMC and possible lack of involvement

Figure 2. Relationship between barriers identified during interviews with the CMRFC and the FMC. Each arrow represents how one barrier contributes to additional barriers.
Table 2. Potential improvements to communication identified during interviews with the CMRFC and the FMC.

<table>
<thead>
<tr>
<th>Improvement</th>
<th>Applies to the FMC</th>
<th>Applies to the CMRFC</th>
</tr>
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<tbody>
<tr>
<td>Make communication a priority.</td>
<td>X</td>
<td>X</td>
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<td>Maintain a positive attitude towards communication.</td>
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<td>Develop an e-mail list of all sport fishers.</td>
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<td>Use a moderator during meetings involving controversial topics.</td>
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<td>Better equip ODFW fish checkers.</td>
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<td>Work more closely with the media to ensure accurate printed stories.</td>
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<td>Know where and when to be involved in the management process.</td>
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<td>Provide educational material that explains the management process.</td>
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<td>Hold meetings in a variety of locations as well as neutral locations.</td>
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<td>Conduct mail survey of the CMRFC.</td>
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<td>Continue and increase feedback to the FMC.</td>
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<td>Gain the involvement of the OSU Extension service.</td>
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<td>Hold meetings as early as possible in the management process.</td>
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<td>Develop a state-run internet discussion board.</td>
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<td>Make efforts to increase internal and external face-to-face communication.</td>
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<td>Make efforts to attend sport fishing events.</td>
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<td>Update information and make the ODFW website</td>
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<tr>
<td>Provide training in how to conduct public involvement programs.</td>
<td>X</td>
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<tr>
<td>Reorganize management structure.</td>
<td>X (however highly infeasible)</td>
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<tr>
<td>Find sources of funding for communication programs.</td>
<td>X</td>
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<tr>
<td>Form a connection with members of the other community.</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Encourage other members they can produce change.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Avoid stereotyping.</td>
<td>X</td>
<td>X</td>
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