

AN ABSTRACT OF THE THESIS OF

Christina L. Package for the degree of Master of Arts in Applied Anthropology presented on September 11 2009.

Title: Improving Community Profiles for Oregon Fisheries and Coastal Communities through Collaboration

Abstract approved:

Bryan Tilt

In an effort to supplement the recently completed NOAA fishing community profiles, three coastal Oregon communities were chosen as sites for a collaborative project designed to produce long-form profiles. In order to provide a representation of the coast Newport, Port Orford, and Garibaldi, Oregon were included based on community size, fishery types, and gear types. Community researchers from each community along with social scientists at Oregon State University teamed up to collect ethnographic data not included in the already existing profiles. The community researchers were trained in interviewing techniques, conducting the bulk of the 64 interviews completed by the project. Community researchers interviewed their own peers in their communities in addition to being involved in all aspects of the project. Three long-form community profiles were produced. These profiles include information on the importance of fishing to each community, characteristics of fishermen, descriptions of fishing families and how they have changed over time, support services for fishing and connections to other

communities, communication within the fishing community and with others, perspectives on management and effects of management actions, changes in the economics of fishing and seafood and changes in fishing effort, perceptions of the state of the ocean and its resources, and perceptions of the future of fishing in each location. This cutting edge approach of utilizing community members as social science researchers was analyzed and the pros and cons of this approach were revealed, with the positive aspects outweighing the negatives.

©Copyright by Christina L. Package
September 11 2009
All Rights Reserved

Improving Community Profiles for Oregon Fisheries and Coastal Communities through
Collaboration

by

Christina L. Package

A THESIS

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Master of Arts

Presented September 11, 2009
Commencement June 2010

Master of Arts thesis of Christina L. Package presented on September 11, 2009.

APPROVED:

Major Professor, representing Applied Anthropology

Chair of the Department of Anthropology

Dean of the Graduate School

I understand that my thesis will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Christina L. Package, Author

ACKNOWLEDGEMENTS

I would like to acknowledge and thank the project partners in this study: Leesa Cobb, Michelle Cottrell, Valerie Mecum, Billy Schreiber, Bryan Tilt and Flaxen Conway. Thank you for being such a great group to work with and for providing help not only in working together to complete our project (and providing guidance throughout the project), but also in providing me support all throughout my Master's coursework and thesis process. Thank you very much for your support. I really enjoyed working with you all and feel that I have gained friendships that will hopefully last throughout our lives. You all mean a lot to me and it's been a joy to work with each of you.

Thank you also to the participants of this study in Garibaldi, Newport, and Port Orford, Oregon. Thank you for taking part in our study and sharing your perceptions. I hope that you feel that the community profiles help to add to the knowledge available on the social aspects of fishing in your community, as I do.

I would like to thank the members of my thesis committee: Bryan Tilt, Flaxen Conway, Joan Gross, and Tony Wilcox (GCR). Thank you for all your guidance and patience. Also, thank you to the funders of this project: NOAA's Northwest Fisheries Science Center, Oregon Sea Grant, and the OSU Rural Studies Initiative. I would also like to thank individuals that have helped me through their support and in providing guidance and information key to completing this thesis: Karma Norman, Suzanne Russell, Jennifer Sepez, and Ron Felthoven. Those that helped me during various parts of the process: Kai Henifin, Ashly Stone, Carrey Reynolds, Vicki Maxon, and Peter Little. Thank you to the Guin Library at Hatfield for providing me with a place to conduct my

interviews; the Anthropology Department at OSU for all the support, informative classes, and for providing me with opportunities to present on this project; the Marine Resource Management program (Robert Allen) for also providing me with opportunities to present on my research, for providing a network of other marine-related graduate students, and providing relevant coursework, and the Sea Grant program at OSU for support.

I would also like to thank my friends in Corvallis (especially Ashly, Sergio, Jill, Mark, Amy, Brendan, Chris S., Chris D., Peter, Kristi, Jesse, Matt, and Renee) and my friends in Seattle (especially Linda and Melissa). Thank you for helping me get through this! And lastly I would like to thank my family especially my parents Linda and Peter, brother Jeremy, sister Nicole, and grandma Pat. You all have been there throughout this and it has meant so much to me that you have always been there when I needed someone to talk to or needed help monetarily. I appreciate everything that you've done to help – you deserve most of the credit for this and I love you all so much.

TABLE OF CONTENTS

	<u>Page</u>
CHAPTER 1: INTRODUCTION	1
Format and Thesis Outline.....	2
Background.....	2
Literature Review.....	6
Community-based Fisheries Collaboration.....	6
Anthropologists' Role.....	9
Collaborative Ethnography.....	11
Conclusion.....	15
CHAPTER 2: METHODOLOGY.....	16
Introduction.....	16
Project Design.....	17
Selection of Study Communities.....	18
Project Partners and Roles.....	19
Community Researchers.....	21
Training.....	22
Outreach.....	23
Interviews.....	23
Informants.....	25
Composition of Community Profiles.....	28
Definition of Commercial Fishing Permits.....	29
Lessons Learned.....	31
Familiarity and Trust.....	31
Insider Knowledge.....	33
Lack of Anthropological Background.....	35

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Data Processing.....	36
Project Management.....	36
Conclusion.....	37
CHAPTER 3: DISCUSSION.....	39
Introduction.....	39
General Conclusions and Trends.....	39
Importance of Fishing.....	39
Fishermen Expressed Job Loyalty.....	41
Difficulty for Younger Fishermen to Become Involved in Fishing and Own Boats.....	43
Changes in Fishing Families.....	43
Being Diversified in Order to Remain in Fishing.....	44
Informal Communication is Still Important.....	46
Important Issues by Community.....	47
Jetty Disrepair, Infrequent Dredging, and Dangerous Conditions.....	47
Processor Monopoly.....	49
Differing Involvement in Fishing in Each Community.....	50
Smaller Communities are Dependent on Other Communities of Place for Support Services.....	52
CHAPTER 4: CONCLUSION.....	54
Improving Community Profiles.....	54
Community Researcher Methodology.....	56
Concluding Thoughts.....	57
REFERENCES CITED.....	59
APPENDICES.....	62
APPENDIX A: GARIBALDI COMMUNITY PROFILE.....	63
APPENDIX B: NEWPORT COMMUNITY PROFILE.....	77
APPENDIX C: PORT ORFORD COMMUNITY PROFILE.....	93
APPENDIX D: INTERVIEW QUESTIONS.....	106

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Study Communities by Location, Population, Gear Groups, and Target Species...	18
2. Informants by Category.....	26
3. Informants by Age by Percentage.....	27
4. Informants by Length of Time in Community by Percentage.....	27

LIST OF APPENDIX TABLES

<u>Table</u>	<u>Page</u>
1. Garibaldi's Services and Where Available.....	66
2. Newport's Services and Where Available.....	82
3. Port Orford's Services and Where Available.....	96

CHAPTER 1: INTRODUCTION

Community participation and collaboration appears to be the wave of the future for fisheries research and management. Community participation is defined by Gwynne as “the active involvement of the intended beneficiaries in every step of the change process, from planning to research to implementation to evaluation” (Gwynne 2003: 30). Community collaboration work is even more involved, sometimes stemming from the community itself.

The idea for this collaborative project originated in Port Orford, Oregon one of the fishing communities involved in the study. The project took an innovative approach and involved members of the fishing community interviewing their own peers, providing a depth of information not frequently available to scientists. The interviews took place in three communities: Port Orford, Garibaldi, and Newport, Oregon and are intended to provide information on the fishing communities’ perceptions. The data gathered is intended to supplement the recently completed NOAA Fisheries community profiles (Norman et al. 2007). It includes ethnographic data not included in the profiles and will aid fisheries managers or other decision makers to better understand potential impacts of policies by providing more accurate and up to date information on the three communities.

Federal laws call for the consideration of impacts on human communities. Information is necessary to accurately carry out the requirements of these federal laws. It is hoped that this method will provide a model for conducting such social science research and will be utilized for the production of other profiles for communities involved in commercial fishing. It is also hoped that it will provide a model for

collaborative projects between fishing communities and scientists, and will strengthen the relationships between the fishing community and scientists and fisheries managers.

This thesis has two main focuses: 1) the method of employing community members as social science researchers and 2) the production and content of the in-depth community profiles for Garibaldi, Newport, and Port Orford.

FORMAT AND THESIS OUTLINE

This thesis follows a standard format and includes an introduction, methods, results and discussion, and a concluding chapter. However the document also includes the community profiles which were the deliverable produced by this project. Chapter 1 is the introduction, background, and literature review. Chapter 2 focuses on the methods used in the production of the “long-form” community profiles and a discussion of this experimental approach. Chapter 3 includes general conclusions from the three community profiles as well as a comparison of important issues by community. The “long-form” community profiles for Garibaldi, Newport, and Port Orford, Oregon are included at the end of the document. These profiles will be provided to fisheries managers and the communities as a separate report. The interview questions are also included as an appendix at the end of the document.

BACKGROUND

A variety of laws require the consideration of human communities including most pertinently, National Standard Eight of the Magnuson-Stevens Fishery Conservation and

Management Act (MSFCMA). National Standard Eight states that “conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities”.

NOAA Fisheries began a nationwide effort to profile communities involved in commercial fishing in order to “facilitate implementation of these laws, and improve available information on affected communities” (Sepez et al. 2005: 2). Before this, data for fishing communities covered in impact analyses was available commonly either only at the county level or available for a small number of communities who are the largest players in commercial fisheries, such as those with most commercial landings. The recently-finished NOAA Fisheries profiles provide data about the communities involved in the commercial fisheries of North Pacific and West Coast. They cover a large number of communities (260 communities, including 30 in the State of Oregon) and “for many communities...provide the only systematic compilation of information available about social, economic, and fishery conditions” (Sepez et al. 2006: 288). Two members of this study (Bryan Tilt and Christina Package) were part of the team that produced the both the North Pacific and West Coast NOAA Fisheries community profiles.

These NOAA “shortform” profiles provide descriptions of the fishing communities including the location, demographics, history, economics, governance, facilities, and the community’s involvement in commercial, recreational, and subsistence

fisheries. Although these profiles are much improved from the information which existed previously, they still contain problems or holes resulting from the approach of primarily using existing data sources and only conducting fieldwork in a small number of communities. This study added additional information gathered from in-depth interviews with community members, providing a better mix of relevant data for fisheries managers.

As Hanna and Hall-Arber (2000: 3) explain, “information on the human components of fisheries is critical to fishery managers faced with hard decisions, but it is rarely available”. They articulate some of the missing information in the form of questions:

“Who are the people who catch and process fish and work in coastal businesses? What is the nature of the changing environment in which they live and work? How are families, businesses, and ports responding to resource decline? What is the role of public policy in addressing that decline? What is the economic history of fishing regions, and what are the economic impacts of various policy options? How are the people who are experiencing the decline being helped and by what private and public institutions? What are the assistance successes and unmet needs?” (Hanna and Hall-Arber 2000: 3).

This study provides answers to some of these questions about the three study communities and was modeled in format after a New England community profiling effort by Hall-Arber et al. at the MIT Sea Grant Program (2001). The MIT effort produced community profiles that contained some of the same information included in the NOAA profiles. However, because they were “long” profiles, they also included a section titled “Perceptions of the Fishing Community.” This section presented data collected from interviews with community members to describe such things as the importance of fishing to the community, boundaries and support services, communication issues, assessments, management practices and effects of management, economic change, fishing effort

change, characteristics of local fishermen, and information about fishing families. This study follows this same format and includes similar information and section headings. Our profiles can therefore be compared to the community profiles included in the New England effort.

The MSFCMA brought about the need for the production of information on communities involved in commercial fishing. If this need is to be met anytime soon, and if it is to include sufficient information for making management decisions, a change in methodology is necessary. Anthropological fieldwork is typically done by a solitary researcher using in-depth ethnographic interviewing over a long time period. This technique is not possible for the coverage of a large number of communities in a short time period. NOAA Fisheries simply does not have the staff or funding to independently gather this data. The method we tested for this study offers an approach between the “short-form” community profiles and the typical anthropological approach. Rather, through collaboration with community member researchers, it provides the needed in-depth information to flesh out the short profiles into long profiles.

The profiles produced by this study are meant to meet the information needs of the MSFCMA (which deals specifically with the management of fisheries) but the profiles will also likely be useful when considering the impacts of other changes in ocean policy on fishing communities. Marine reserves, wave energy parks, and aquaculture all have the potential to affect commercial and recreational fishing. These activities call for the spatial division of the ocean which will affect the locations in which fishermen will be able to fish. In order to adequately be able to site these facilities, better data is

necessary to be able to forecast the possible impacts to the communities involved in fishing. Our profiles will hopefully provide a clearer picture of how Newport, Garibaldi, and Port Orford have been affected by past changes and thus could be an aid in forecasting the impacts of these new and immense changes.

LITERATURE REVIEW

The below description is an attempt to address some of the issues and reasons for conducting community-based collaborative projects in fishing communities, through a review of some of the relevant literature. Special attention has been paid to literature written by anthropologists; however some other works by other disciplines are also included. The lens of anthropology has been utilized when possible, in order to provide an idea of the way in which anthropologists view and communicate about collaborative projects, especially those conducted in fishing communities. The questions of why there is a current shift to considering community-based collaboration in fisheries and why our project is required to look at communities, rather than smaller or larger units, have been explored. The role of anthropologists in collaborative projects has also been reviewed. Finally, a small review of collaborative ethnography and involving community members in research has been included to provide some insight into how other anthropologists have conducted such research and the issues that arise.

Community-Based Fisheries Collaboration

According to Daniels and Walker, “collaboration involves interdependent parties identifying issues of mutual interest, pooling their energy and resources, addressing their differences, charting a course for the future, and allocating implementation responsibility among the group” (Daniels and Walker 2001: 10). In fisheries, there are various types of documented community-based collaboration such as: community-based fisheries management, community-based fisheries conservation, and community-based fisheries research. Community-based fisheries management (CBFM) appears to be by far the most frequently written about in anthropological writings, when referring to fishing communities. As Weber and Iudicello (2005: 11) explain, “in its purest form, CBFM is a system in which fishermen and their communities exercise primary responsibility for stewardship and management, including taking part in decision-making on all aspects of management, such as harvesting, access, compliance, research and marketing.”

Because of recent declines in fisheries around the world, there have been “efforts to reform fisheries management institutions in both developed and developing countries” (Weber and Iudicello 2005: 13). Community-based fisheries management is one such reform and a growing trend in fisheries management.

The community has been chosen as the unit of management for what appears to be a variety of very complex and historical reasons. Agrawal and Gibson (1999) explain, in what has been referred to as their groundbreaking essay on communities and natural resource management and conservation, that there are many assumptions that go along with the idea of a community: that it is homogenous, has shared norms or values, is small in size, has a connection to territory, and has been sustainable for quite a long time.

However, these assumptions have been proven incorrect or not necessarily true of all communities. The idea of the community as the unit of management “is attractive [because] [i]t permits the easy contestation of dominant narratives that favor state control or privatization of resources and their management” (Agrawal and Gibson 1999: 6).

There is the rationale that local people are tied to and know best about their resource (Austin 2004, Agrawal and Gibson 1999). This view is a result of the enduring assumptions of what it means to be a community. Agrawal and Gibson explain that “claims assume...that ‘communities’ have a long-term need for the renewable resources near which they live, and they possess more knowledge about these resources than other potential actors. They are, therefore, the best managers of the resources” (Agrawal and Gibson 1999: 5). Brosius et al. state that

“Community-based natural resource management (CBNRM) is based on several premises: that local populations have a greater interest in the sustainable use of resources than does the state or distant corporate managers, that local communities are more cognizant of the intricacies of local ecological processes and practices, and that communities are more able to effectively manage those resources through local or traditional forms of access” (Brosius et al. 2005).

However, this might not necessarily be true in the age of global environmental issues. As Austin explains,

“The rationale behind decentralization is that local people know best what their problems are and how to solve them. In the face of major environmental change, this assumption must be carefully examined. While there is considerable local knowledge about the problems – be they coastal erosion, aquifer depletion, air pollution, or radioactive contamination – it is another matter to assume that local knowledge about the environment is necessarily relevant to their solutions. Many of the problems communities now face stem from large scale environmental change caused by decisions made far away” (Austin 2004: 419).

Regardless of whether or not communities are the best stewards of the natural resources surrounding them, “communities are now the locus of conservationist thinking” (Agrawal and Gibson 1999: 3-4). Whether it be community-based collaboration or co-management, which is where “a government fisheries agency shares management authority and responsibility with a group of fishermen” (Weber and Iudicello 2005: 15), the community is a unit of management which is being considered more and more.

Although this study is not focused on CBFM, it can perhaps be considered a precursor to CBFM in that it involves generating some of the knowledge necessary to better inform the managing of a resource by providing information about the human involvement in fishing in each of the three communities.

In fisheries management, focusing on the community as the unit of study may also be important in impact assessments. With the re-authorization of the Magnuson-Stevens Act in 1996, it is now required that the impact on human communities be considered when making changes in fishery regulations and that those communities should be protected when possible.

Anthropologists' Role

As Hanna and Hall-Arber explain, “information on the human components of fisheries is critical to fishery managers faced with hard decisions, but it is rarely available” (Hanna and Hall-Arber 2000: 3). The need for information on the social side of fisheries is lacking and is something that is necessary for the improvement of management and protection of human communities. As my previous NOAA supervisor

enjoyed saying, “fish don’t catch themselves; people catch them”. Therefore, the fishing community’s perceptions need to be considered when changes in management are being made as they are the ones that are actively conducting the fishing, making choices, and obeying or choosing not to obey the relevant laws. Useful local knowledge can be provided through the gathering of fisher’s perceptions by anthropologists, which can inform policy decisions.

It has been well-documented that part of applied anthropologists’ role is that of culture brokers, serving as the in-between, between various groups of people (Gwynne 2003). Anthropologists “can facilitate critical dialogue in formats accessible to community members and policy makers” (Austin 2004: 428). Anthropologists are also capable of communicating to all members of a collaborative team in an equal fashion.

Another way in which anthropologists can add to a collaborative project is with the special skills gained through our anthropological approach. Austin describes this by saying “applied anthropologists, with an appreciation of multidisciplinary and inclusive approaches, a healthy respect for the challenges of community work, recognition of the importance of history, and an appreciation for patience and simply ‘hanging out,’ can and should play a critical role in these endeavors. To do so, we must also study environmental science, philosophy, and pedagogy, and be ready to tackle new topics as they arise” (Austin 2004: 428).

Pinsker and Lieber note that anthropologists are specially suited to evaluate the collaborative projects themselves, saying that “ethnographic methods for approaching the complexity of the relationship between what people say and what they do is another

advantage of anthropological evaluation of university-community collaborations”

(Pinsker and Lieber 2005:109).

Collaborative Ethnography

Ethnography is both “the process by which a researcher collects and interprets information” and “literally...the description (‘graphy’) of a people (‘ethnos’)” that the anthropologist produces from the data that they collect (Angrosino 2005: 4).

Anthropological research has traditionally been conducted by a solitary researcher. In the case of this study, the process of ethnography is being completed by a collaborative team of researchers, made up of community members and university social scientists. This process can be defined as collaborative ethnography.

Lassiter’s *The Chicago Guide to Collaborative Ethnography*, defines collaborative ethnography as

“an approach to ethnography that *deliberately* and *explicitly* emphasizes collaboration at every point in the ethnographic process, without veiling it – from project conceptualization, to fieldwork, and, especially, through the writing process. Collaborative ethnography invites commentary from our consultants and seeks to make that commentary overtly part of the ethnographic text as it develops. In turn, this negotiation is reintegrated back into the fieldwork process itself. Importantly, the process yields texts that are co-conceived or cowritten with local communities of collaborators and consider multiple audiences outside the confines of academic discourse, including local constituencies” (Lassiter 2005a: 16).

Lassiter explains that “the co-production of ethnographic texts has a long history in anthropology” including works which were produced in the developmental years of anthropology, “collaborations that built upon and extended the collaborative requisite of

fieldwork into the collaborative writing of ethnographic texts” (Lassiter 2005b: 85).

Recently,

“ethnographers have begun to outline more specific collaborative strategies for embracing the publics with which they work”, including “(1) principal consultants as readers and editors, (2) focus groups, (3) editorial boards, (4) collaborative ethnographer/consultant teams, (5) community forums, and (6) coproduced and cowritten texts” (Lassiter 2005b: 94).

Our method uses a mixture of Lassiter’s component 1, 4, and 6; it depends on community members as principal consultants as readers and editors, is made-up of a collaborative team of anthropologists and community members, and produced a final text that includes input from the community researcher partners throughout the research development and writing process. Our method also included community members from the beginning in shaping research questions.

The benefits of such an approach have been stated by Hall-Arber as a possible way to “compensate for the drawbacks in relying solely on either an ‘insider’s’ or ‘outsider’s’ point of view” (Hall-Arber 2007: 149). Both the insider and outsider perspectives are included because members of the community being studied are part of the research team. Hall-Arber also explains that an argument for doing participatory research is that “community members may have both in-depth knowledge that improves the research and also better access to others in the community who have such knowledge” (Hall-Arber 2007: 152). Austin also expressed this in her project where the teachers were the insider group involved in the project and their “ongoing interaction with families carrying out the tasks of daily life provided information not otherwise available to the group. For example, the teachers reported not only that families were moving out of the

community as soon as parents lost their jobs; they also shared how those moves were affecting seventh grade students” (Austin 2003: 150).

In addition, utilizing insider researchers in collaborative ethnography could theoretically provide information that would be inaccessible to an outsider researcher. As Krueger and King explain in their handbook, *Involving Community Members in Focus Groups*, one of the main reasons to involve volunteers (community members) in research is that

“in many situations, an outside researcher may be unlikely, or even unable, to collect the in-depth, inside data that a community member volunteer can elicit. People often feel more comfortable sharing their real thoughts and opinions with a person they know or with someone whose background is similar to theirs” (Krueger and King 1998: 5).

The other three “practical” reasons Krueger and King layout for the use of community members in research (in their case to use them in focus groups) are (1) that “they increase the feasibility of conducting studies in settings where a more traditional research design would be prohibitively expensive and simply out of the question”, (2) there’s an “increased likelihood that they will care about the results” and they will want to use the results produced, and (3) that “those who participate as volunteers may benefit as individuals, and these benefits may help strengthen the organizations in which they work” (Krueger and King 1998: 5-6).

The benefits of collaborative ethnography are also in that it fosters relationships among members of the collaborative team (Austin 2003, Hall-Arber 2007) and can “build community capacity in social science research that would eventually lead to improvements in policy, and in this case, fisheries management” (Hall-Arber 2007: 149).

As Abbott-Jamieson notes when speaking about the National Marine Fisheries Service, “because the agency regulates marine fisheries resources, its actions can profoundly affect fishermen’s ability to make a living and thus the welfare of fishermen’s families, fishing communities and ports involved in fishing” and this “regulatory power can generate antagonism toward both federal and state fisheries regulators from those being regulated” (Abbott-Jamieson 2007: 137). Collaborative ethnography could be a way to create a positive relationship between the collaborative partners in order to alleviate some of the antagonism brought about by the regulatory system.

The drawbacks of the collaborative ethnography approach are in that it’s more time consuming to work as a collaborative team, compared to working as a solitary anthropologist (Hall-Arber 2007). Working in team-based qualitative research requires a “process of development” for the team. This process is time-consuming and goes through four stages: forming (getting to know each other), storming (negotiation), norming (team pride as members work together), and performing (working as a team) (MacQueen and Guest 2008: 5). The whole qualitative research process in general is time-consuming. Gardland et al. advise that:

“Qualitative team research requires far more time than individual research, not less. Allow enough time for that work, and then double your estimate to account for working as a team” (Garland et al. 2006: 106).

However, the amount of time spent on certain tasks can be decreased in other ways through collaborative ethnography; such as in finding informants and being familiar with the community’s issues. Collaborative ethnography also involves managing people, rather than conducting research which is usually the favored task of anthropologists;

however the management aspect is critical in a collaborative project (Austin 2003). One additional potential critique is that involving community members in research introduces bias into the process.

Conclusion

The literature in this review was selected for its relevance to the research project and research plan. The literature on community-based fisheries management provides some background knowledge on a trend of managing at the community level (because it is commonly assumed that communities know best about their resource and have a greater interest in sustaining that local resource) and helps to explain how our study could serve as a precursor to CBFM (because it has generated some of the knowledge required to manage fisheries by providing information about the human involvement in fishing).

However, the pieces of literature in this review that I believe are especially important to our study are on collaborative ethnography and team-based qualitative research and on an anthropologist's role in general and in an anthropologist's ability to evaluate such projects because we (a group of social scientists and community researchers) produced an ethnographic text that details a variety of cultural elements about fishing in a collaborative manner. Part of the goal of this study was to work collaboratively to produce the research and text for the community profiles. The reviewed literature provides pros and cons of such an approach and provides a good background of knowledge for this study's approach.

CHAPTER 2: METHODOLOGY

INTRODUCTION

This study developed a collaborative-partnership format including both members of the fishing community and members of academia to produce in-depth community profiles for use by fisheries managers. This was done in order to address the need for information about the social dimensions of fishing (as required by National Standard Eight, discussed in Chapter 1) in a timelier manner. This cutting-edge approach utilized fishing community members as social science researchers, conducting the bulk of the interviews in their own communities.

This project was created with the idea that community members would have better access to their peers and would be able to generate information in a quicker manner than traditional anthropology, which usually involves a solitary outsider researcher conducting fieldwork for a long time period (typically at least a year) in a particular place.

If done on a large scale with interviews conducted in many communities consecutively, we imagine that it would be possible to provide in-depth social information about many communities involved in fishing in a shorter timeframe. The lessons learned from this process are included at the end of this chapter. This study can be considered as an experiment or pilot project of this new method and includes three Oregon fishing communities: Garibaldi, Newport, and Port Orford. The purpose of this chapter is to describe this innovative methodological approach, and to reflect on some of its advantages and limitations in the context of our research project.

PROJECT DESIGN

The idea for this project was developed by Flaxen Conway, an Oregon State University Sociology Professor and Extension Specialist, and Leesa Cobb, a fishing community leader in the coastal community of Port Orford, Oregon. It is a collaborative project which involved members of the fishing community and social scientists from Oregon State University (their roles are discussed in more detail below in Project Partners and Roles). It utilizes a new method of employing community members as social science researchers; however, the data gathered and the questions asked were based on previous work by social scientists at the New England MIT Sea Grant Program in 2001 (Hall-Arber et. al), which sought to provide in-depth information about New England fishing communities.

The New England community profiles include information about communities involved in fishing from secondary sources (such as the U.S. Census and fisheries information) and also information gathered from interviews conducted by their research team in a section entitled “Perceptions of the Fishing Community”. Our project was meant to mirror the information in the “Perceptions of the Fishing Community” sections of the MIT work, but also supplements the recently completed NOAA Fisheries “short-form” community profiles (Norman et. al 2007) which provide the secondary data for the Oregon area (these profiles were described above in Chapter 1).

The “Perceptions” piece of the MIT work included sections entitled:

- Importance of Fishing to the Community (importance of fishing to the community of place),

- Boundaries (where people go to do things such as sell fish, get fuel, etc...),
- Communication Issues (how well fishermen and managers communicate),
- Assessments (whether fishermen agree with fisheries stock assessments),
- Local Management Practices (local forms of fisheries management and cooperation with management),
- Economic Change (change in economic condition of fisheries),
- Changes in Fishing Effort (changes in number of fishing trips, catch, etc...),
- Effects of Recent Management (effects of management actions),
- Characteristics of Local Fishermen (description of local fishermen),
- Fishing Families (description of local fishing families).

Our project follows closely along the same lines, addressing the same topics and with similar headings throughout the report for the purpose of comparison.

SELECTION OF STUDY COMMUNITIES

Our three study communities of Garibaldi, Newport, and Port Orford were selected in order to provide a representation of the Oregon coast. They have differing population sizes, are involved in different gear groups, and each target a different variety of fisheries. They also are representative of the Oregon coast in terms of their locations: the northern, central, and southern coast (Table 1 below).

Table 1: Study Communities by Location, Population, Gear Groups, and Target Species

Community	Location	2000 U.S. Census Population	Gear Groupsⁱ	Targeted Fisheriesⁱⁱ
Port Orford	Southern Oregon Coast	1153	Hook and line, pot fisheries, long lining, and trolling.	<u>UU</u> West Coast: groundfish, crab, highly migratory species, salmon, shellfish, and other species
Newport	Central Oregon Coast	9532	All gears fish out of Newport: trawling,	<u>West Coast</u> : groundfish, coastal pelagic, crab, highly migratory, salmon, shellfish,

			trolling, pot, long lining, hook and lining, and the distant water fleet.	shrimp, other <u>North Pacific:</u> crab, Bering Sea and Aleutian Islands groundfish, other finfish, Gulf of Alaska groundfish, halibut, herring, salmon, shellfish
Garibaldi	Northern Oregon Coast	899	Trawling, trolling, pot fishing, long lining, and hook and lining.	<u>West Coast:</u> groundfish, coastal pelagic, crab, highly migratory, salmon, shellfish, shrimp

Although each fishing community in Oregon is different, the issues expressed by participants in each one of the communities could perhaps be applied to communities which are similar in population size, gear, fisheries, or location. These three communities were selected for the purpose of conducting a pilot study. We believe that these “long-form” community profiles could eventually be completed for the remaining communities in Oregon which are involved in commercial and recreational fishing.

PROJECT PARTNERS AND ROLES

As the project developed, it became a collaboration between Oregon State University social scientists (Co-Principal Investigators [Flaxen Conway and Bryan Tilt], and graduate student [Christina Package]) and community members (Community Researcher Coordinator [Leesa Cobb] and Community Researchers [Billy Schreiber, Valerie Mecum, and Michelle Cottrell]).

Although the project was initially thought up by the Principal Investigators and Community Researcher Coordinator, as the project progressed all project partners were

involved in the project design. The interview topics were based on the Hall-Arber work in New England, but the interview questions were designed by the whole project team with special attention paid to the Community Researchers' input in order to ensure that the questions would be understood by interview participants (their peers) and to ensure that the questions were relevant to their particular communities. The categories of informants which would be interviewed were also decided upon by all members of the team.

Training (discussed in more detail below) on goals, recruitment, and interviewing techniques was provided to all team members by the Co-PIs and graduate student. Additional training about equipment use on location was provided to the community researchers by the graduate student.

As stated earlier, the community researchers conducted the bulk of the interviews in their communities (16 out of 18 interviews in Port Orford, 14 out of the 15 in Garibaldi, and 16 out of the 31 total in Newport). The graduate student also conducted about half of the interviews in Newport (15 out of 31), two in Port Orford, and one interview in Garibaldi.

Each interview was audio-taped, with the permission of the participants. The interview tapes were sent by mail to the graduate student. The tapes were transcribed by an outside transcriptionist and by the graduate student. The graduate student analyzed the interviews using NVivo software and composed drafts of each one of the community profiles. Each community's profile was presented to the relevant community researcher (and the rest of the team) to ensure accuracy, and their comments and changes were

incorporated by the graduate student. Community researchers also helped to troubleshoot details that were unclear to the graduate student. Changes were also suggested by the PI, Co-PI, and Community Researcher Coordinator.

COMMUNITY RESEARCHERS

Community researchers (CRs) were initially recruited from each of the three study communities. They were recruited either from community members known by the PI and Community Coordinator or from suggestions from colleagues. They were asked to participate if they were found to be good candidates (based on criteria from a written questionnaire), and if they were interested and able to commit to the timeframe of the project. One CR was selected from each study community.

Each CR is a part of the fishing community in their particular community and thus has both inside information and contacts in their communities which would not necessarily be available to an outside researcher. All CRs are respected members of their community. The Garibaldi CR is an adult Caucasian male who has lived in Garibaldi for a long amount of time (since the 1970s). He is a former owner of a fish processor and long-time fisherman. Newport's CR is a young adult Caucasian woman. She is a fisherman's wife and held a position with the Fishermen's Wives organization during the time of the project. Port Orford's CR is an adult Caucasian woman who has resided in the community for a long amount of time. She is a part of a fishing family and is a fisherman's wife, a former fisher, and also held a position with the Port Orford Ocean Resource Team (POORT) organization during the time of the project.

The CRs were compensated for their time with an hourly wage and were provided with equipment and other necessary materials.

TRAINING

The CRs (and all other members of the team) were required to complete an online training course and exam as part of the Institutional Review Board (IRB) approval process. The IRB process includes training on proper treatment of human subjects and also informs researchers about the mistreatment of human subjects in the past.

In addition, the CRs were provided with 20 hours of concentrated training on the project goals, conducting outreach, recruiting research subjects, the interview process including how to conduct interviews (including how to ask probing questions), confidentiality issues including the informed consent form and how to maintain confidentiality, and training on equipment use (all interviews were taped with standard cassette tapes). They were also provided with written material including a chapter from what is considered the main methods text in anthropology, *Research Methods in Anthropology: Qualitative and Quantitative Approaches* by H. R. Bernard (2006: 210-250). This chapter, “Interviewing: Unstructured and Semistructured” details important instructions for conducting interviews such as getting started, probing, ethics, language, equipment, response effects, and accuracy.

The first interview done in each community was an interview with each CR (by the graduate student). This did two things. One, it allowed the CRs to have an outlet to

express their perspectives and knowledge on the research topics, as probed via the interview questions. Secondly, it provided a model for conducting interviews.

After each CR has conducted a few interviews in their region, the graduate student (and PIs) provided feedback on interviewing techniques and how to avoid typical pitfalls such as asking leading questions.

OUTREACH

Community outreach was conducted by the CRs (in each of their three communities) and the graduate student (in Newport) in order to alert the communities that the project would be taking place. An article was submitted by the CR in Newport to the *Newport Fishermen's Wives* newsletter, which described the project (this article was used as a guide by the other communities). Short presentations were also given to the Newport City Council (by the graduate student and CR) and Port of Newport (by the CR). Garibaldi also ran a news release in the local *Headlight Herald*, and the community researcher made a presentation to the Garibaldi City Council and Port of Garibaldi. Port Orford also had an article in the local paper and the community research presented the project goals and design to their City Council and Port.

The project was also presented at various academic and community-sponsored meetings and conferences by both the PIs and the graduate student.

INTERVIEWS

A total of 64 semi-structured interviews were completed with participants (18 in Port Orford, 15 in Garibaldi, and 31 in Newport). The number of interviews for each community was based on time and budget constraints. Roughly double of the amount of interviews were conducted in Newport because of the larger population size in Newport (both in terms of the community's general larger population and the population of the fishing community).

The interviews were about an hour in length on average. However, the length of the interview varied widely, with the longest interview lasting about three hours and the shortest lasting less than half an hour.

The interviews were conducted from the end of January 2007 to the beginning of January of 2008. The bulk of the interviews in Newport were conducted over the summer months of 2007 (May-August) because of the CR and graduate student's school schedules. Whereas the interviews in Garibaldi were mostly conducted March through May of 2007; with some interspersed until January 2008. Most of Port Orford's interviews were conducted in April through August 2007, with the last few in December of 2007.

A total of ten distinct interview questions were asked to each participant. Additional probing questions were asked for many of the interview questions. Standardized probing questions were designed by members of the team in order to ensure consistency across all interviews.

The complete interview questions are included in an appendix at the end of this document; however an abridged version of the question topics are given here:

- 1) importance of fishing for the community,
- 2) how the community supports fishing-related activities,
- 3) communication process within the community and with others,
- 4) description of a typical commercial fisherman in the community,
- 5), what fishing families are like in the community and how they have changed,
- 6) perception of the ocean and fisheries off the coast of their community,
- 7) perception of the economic changes related to fishing and seafood in their community,
- 8) fishing effort changes off the coast of their community,
- 9) effects of management decisions on their community, and
- 10) a description of the future of the fishing community (both what they think it will look like and what they would like it to be like).

INFORMANTS

The categories for the potential informants were located first from within the CRs' social networks. Snowball sampling was then used to locate more informants. As Bernard explains,

“In the snowball technique, you use key informants and/or documents to locate one or two people in a population. Then, you ask those people to (1) list others in the population and (2) recommend someone from the list whom you might interview. You get handed from informant to informant and the sampling frame grows with each interview” (2006: 193).

As mentioned above, the categories for informants were decided upon by all members of the team. The project set out to interview members of the fishing community in each place. We selected study participants from the following primary sample groups: full-time commercial fishermen (fishermen that derive their full income from fishing), retired commercial fishermen, fishermen's wife/partner, Port manager/workers, charter fisherman, and shoreside business workers (i.e.: processors, fuel/dock workers, filleters, marine suppliers). A matrix was created in each community to ensure that participants from all categories were included.

To the extent possible, we also wanted to make sure that our sample included participants with a variety of secondary characteristics including: fishermen from all fisheries (crab, salmon, groundfish, shrimp, etc...), the owners of vessels and crewmembers, those who had spent various lengths of time in community (long-short), highliners (those who make a large amount of money from fishing) and regular folk, those of various ages, and both genders. The matrix also included all of those categories to ensure that participants of all secondary groups were included in the study. Throughout the study the matrix for each community was monitored by the Community Researcher Coordinator to guarantee that informants from each group and category were included.

Because of confidentiality issues, the total number of informants for by each category cannot be listed by each community. Instead, the totals for each community have been summed together and the results are displayed below in table form (Table 2). The total does not equal a total of 64 participants because in many cases a particular individual is included in several categories; for example, someone could be a shoreside business worker and also be a retired commercial fisherman and part of a fishing family. The majority of the categories are self-explanatory. The shoreside business category includes processors, fuel/dock workers, filleters, marine suppliers or SeaGrant Agents.

Table 2: Informants by Category

	Full-time Fisherman	Retired Fisherman	Fishing Family	Port Manager/Worker	Charter Fisherman	Shoreside Business
Total	30	9	23	7	2	18

In terms of secondary characteristics, by gender the sample contained 14 females (22%) and 50 males (78%). The ages of participants are included in table form below

(Table 3). The percentage does not add up to one hundred percent as the age of two participants is not known. About half the sample were in their 20s to 40s and about half were in their 50s or older. Most participants that were included in the category of 20s-30s (who are fishermen) are crew members; whereas in nearly every case the older members of the study (who are fishermen) are boat owners or captains.

Table 3: Informants by Age by Percentage

	20s-30s	40s	50s	60s	70+
Total	22%	27%	33%	11%	5%

Note: total does not equal 100% because of the unknown age of a few participants.

As far as the amount of time each participant had lived in the community: nearly 70% of participants had lived in their community for a long amount of time and the remainder of the participants had lived in the community for either a medium or short amount of time. These percentages are displayed in Table 4 below. The percentages do not equal 100 percent because of the unknown length of time in community for a few participants. The category of length of time in community is fairly subjective as it was determined (long, medium, or short was selected based off of information given by the participant) by each researcher when they interviewed a member of the sample. It roughly corresponds to a range of about 1-5 years in the community for short, 6-15 years for medium, and 16-30+ years in the community for long.

Table 4: Informants by Length of Time in Community by Percentage

	Long	Medium	Short
Total	69%	16%	11%

Note: total does not equal 100% because of the unknown length of time in community of a few participants.

As far as the number of fisherman who were crew members (those who work on a boat) and those which were boat owners: about two times as many boat owners were included in the study (as compared to the number of crew included). For those fishermen which were highliners (those that make a large amount of money from fishing meaning that in most cases members of this group are millionaires) versus those which were just regular folk (fishermen who make a normal amount of money from fishing): about 70% of the fishermen that were interviewed were highliners and about 30% of the fishermen were regular folk.

Participation by informants in various fisheries is more difficult to express in terms of number or percentages because in nearly every case (except one in this study) the fisherman was engaged in targeting more than one species of fish. The fishermen participants were involved in the following categories of fish: black cod, salmon, crab, tuna, halibut, shrimp, whiting, Pollock, herring, sablefish, bottomfish, rockfish, and groundfish. These categories varied according to the community (see Table 1 above for targeted fisheries by study community).

COMPOSITION OF COMMUNITY PROFILES

The information from each taped interview was transcribed and this information was then uploaded into a qualitative data analysis program called NVivo. Large codes comprised of the interview questions (1-10) were assigned. These codes were assigned by community with each community having its own NVivo “project”. Each “project” then had a code for each question (i.e. “Importance of Fishing”, “Fishing Effort Changes”,

etc...). These question files were then taken and smaller specific codes were written by hand onto the printed version of each code (for each community). A community profile was drafted for each of the three communities using the coded information to write each section.

The titles for each section of the community profiles follow closely to those of the Hall-Arber work (described above), with some minor differences, including the order in which they appear. Our community profile section titles are:

- Importance of Fishing to the Community of Place
- Characteristics of Fishing Members and their Families
- Boundaries: Connection between the Fishing Community and the Community of Place
- Communication within the Fishing Community and between the Fishing Community and Others
- Perspectives on Management and Effects of Management
- Change in Fishing and Seafood: Economics and Fishing Effort
- Perceptions of the State of the Ocean and its Resources
- Perceptions of the Future

The profiles are a summary of the perspectives expressed in the interviews and are meant to represent informants' opinions; therefore they sometimes include contradictory or ambiguous terminology. The profiles are included at the end of this document in appendices.

DEFINITION OF COMMERCIAL FISHING PERMITS

Commercial fishing permits are briefly described here to provide some background for the layperson reading the community profiles, as commercial fishing permits (called "permits" in the profiles) are referred to throughout each profile and are

an important piece of the puzzle when understanding the current situation for fishermen. Commercial fishing permits are required for involvement in most commercial fisheries. These fisheries are limited entry fisheries and limited entry permits are required. As the Commercial Fisheries Entry Commission (CFEC) for Alaska explains,

“Limited entry permits are the permanent permits issued for limited fisheries. They are issued to applicants who received enough points on their applications. Limited entry permits must be renewed annually and most can be transferred to another person after initial issuance” (2007: 1).

When a fishery is transferred to a limited entry system (a system which limits the number of fishers – this has already been completed for nearly all Oregon commercial fisheries) those that have received enough points from past participation, receive a permit; however this point system is not necessary for new applicants once the system has already been transferred to limited entry (and the resulting number of permits have been issued). Instead these new applicants must purchase, be given, or inherit a permit from someone who already holds a permit in that fishery. The CFEC clarify that,

“in order to enter a fishery which is under limited entry, a permit must be obtained by transfer from a current permit holder. Many of these transfers involve sales, and the prices may range from about \$2,000 to about \$300,000. These prices fluctuate with the market” (2007: 1-2).

These permits are issued for the involvement in a specific fishery and a separate permit is required to be engaged in another fishery. Even though permits are referred to as permanent they can become worthless if fishermen are not allowed to fish because of issues with the stock of the fishery. In some cases the number of permits is decreased by fisheries managers (such as with the groundfish buyback in 2003 which was intended to limit the number of boats involved in groundfish fishing by purchasing boats and permits

from their owners) through some sort of action in order to be able to maintain commercial fishing.

LESSONS LEARNED

The method of utilizing community members as researchers and including members of academia and community members as part of a collaborative team presented both advantages and limitations (described in detail below), with certain aspects proving to be both an advantage and limitation simultaneously. One constraint of this section regarding the lessons learned is that the study involved only three community researchers and one graduate student (as the interviewers) and thus it is difficult to know whether the issues faced resulted from the personalities or other aspects of the specific parties involved. In spite of this caveat, when something appeared to be a trend across all the CRs it is assumed that this would be true of any respected fishing community member acting as a social science researcher.

Familiarity and trust: since the community researchers were part of their particular fishing community, they had ties to many individuals within the community and also were peers with participants and had a common fishing background. Community members are familiar socially with many of those in their community and this familiarity proved to be very useful in terms of both finding research participants and in getting those people to agree to be interviewed. One of the CRs gave an example of having only to tell potential participants that her husband was on a certain boat in order for them to agree to be interviewed by her. It doesn't appear that these potential participants felt

compelled to agree to be interviewed because of the person's position in the community, but rather because the researcher was part of their community and had common ties (with the participant) to other community members.

The CRs used their social networks (community members that the CRs know) as a starting point to find participants for the study. One potential critique of using their social networks as a starting point for contacts is that this could bias the research because they 'selected' those that would be included in the study. Although this critique is something that should be considered as conceivably influencing the results of the study, it also is important to realize that in any qualitative anthropological study the participants are based off of the network of the researcher as they are in the field. Although, in most cases that person is an outsider and new contacts are suggested from other participants. But it is likely that there is some form of bias in any anthropological study regardless of whether it contains community members as researchers or not. It seems that using their networks as a base for research participants was a useful device in that it made participants more likely to agree to be interviewed because they knew or knew of and trusted the CR because they were part of their fishing community and an insider.

The graduate student however, had a more difficult time persuading informants to agree to be interviewed (even though her original list of possible informants was assembled by the CR) and in those informants actually showing up for the scheduled interview. Also, the graduate student felt as if she had to legitimize herself and the project to many of the informants (because many informants had been asked to participate in other studies in the past with outside researchers where they felt the research didn't go

anywhere or they never received any follow-up as to what product was produced from the research and held bad feelings because of this); whereas it doesn't appear that the community members needed to legitimize themselves or the project to the same extent.

In order to justify herself as a researcher with some background in fisheries (which seemed important to the participants because many of them asked about her background) the graduate student told participants about having traveled to Dutch Harbor, Alaska, the largest U.S. port for landings (which seemed to establish some sort of bond especially with the distant water fleet fishermen in Newport but also with fishermen in general) and told participants about having worked for the National Marine Fisheries Service (although this sometimes did not help to establish trust), in addition to establishing that she attended Oregon State University as a graduate student. It would be interesting to know how participants would have reacted if the graduate student had not had any background with the fishing industry because this seemed to be important to participants.

Insider knowledge: community members have knowledge of the issues in their community or 'insider knowledge' (as opposed to an outside researcher who must orientate themselves with the issues in a particular place). Since the CRs are part of and reside in their community, they are likely aware of the issues facing their community (i.e. jetties which are in disrepair affecting the ability to fish); whereas an outsider researcher must learn this information over time. Perhaps this could be seen somewhat as both an advantage because the community member is already aware of those issues and thus able to comprehend what the interviewee is saying, and a disadvantage because it's possible

that since the CR already has the insider knowledge, they might not probe their interview subjects further on specific topics because they were already aware of that information (therefore not including that specific information in the study because it was not recorded on the cassette tapes).

It seemed that the graduate student's interviews contained more clarifying questions because she was an outsider and thus ignorant of the issues in the community and not as knowledgeable about fishing in general as the CRs. However, it seems that the CR for Newport also asked clarifying questions and it is wondered if this had anything to do with her position in the community (the wife of a fisherman and someone who had never fished herself) and age (she was much younger than the other two CRs). Although, it is unknown as to whether or not these clarifying questions actually added any information to the text of the community profiles that would have otherwise not been included.

Another way in which having insider knowledge about the community could also be considered an advantage is that the CRs were more aware of who should be included in the study in their particular community (i.e. that Garibaldi has a lot of sportfishing guides; whereas Port Orford has none), but an outside researcher would not be aware of the specific fishing community population in each place and who that contains without conducting some initial research. The CRs had a better understanding of how many of each particular group were available in their community (and in many cases know personally who each one of these individuals are) and thus how many of each group should be included in the study to get a fair representation of the groups present.

Lack of anthropological background: a negative aspect of employing CRs seems to be a different understanding of the rules for conducting social science research (despite the training provided at the beginning of the project) and also a different understanding of reasons behind why the project was conducted. These both could be attributed to not having a background in anthropology.

As to the rules for conducting research, there was an issue with CRs asking leading questions during the interviews which the graduate student attempted to mitigate; however after the fact it was clear that this was a problem throughout the interview process. If this method were used again it is suggested that the interview process be much more closely monitored. And that the interview tapes are reviewed as they come in and comments are given much more often than was done in this study. This is a clear issue in this study.

Even though the issue of leading questions has been presented under the topic of lack of anthropological background, this issue could have arisen with any researcher (whether they were trained traditionally in anthropological methods or a community member) on a project. However, it's more likely that someone with university training in anthropology would have a better understanding of the methods of science and why and how to attempt to be an unbiased researcher and thus attempt to not impact the results of the study.

In terms of the understanding of why the project was conducted, despite the training received by the CRs on the project goals, it still appeared that there was a different understanding of why the project was being done. And because of this different

understanding, the way in which they conveyed the project to participants and the way in which they asked clarifying questions were different. It is wondered whether or not this may have affected the results of the study in some way. There also seemed to be a different understanding of the meaning of the interview questions. The team dealt with this early on in the interview process by having a team meeting to discuss the meanings of the questions; however it still appears that certain questions were interpreted in different ways by some of the researchers.

Data processing: even though the interviews were conducted for the most part by community researchers, the graduate student was the one that (for the most part) filtered the information in the form of analyzing the data. This process was time-consuming because of the number of interviews conducted. It is assumed that if this project were completed on a larger scale with more communities included, that the data processing and composition of profiles component would become even much more time-consuming (as would the transcription piece of the process). It seemed helpful that the graduate student had travelled to each one of the communities and conducted at least one interview in each place. This provided the graduate student with an idea of the issues in each community which made it easier to compose each profile and organize the data. It is recommended that if this method were used again, that the person responsible for composing the profiles should travel to each place and either engage in a few interviews in each community or observe a few interviews.

Project management: although there were components of the project which likely took less time (such as the CRs finding informants), the project management process of

the project was energy-intensive as far as requiring the monitoring of the CRs' interviews, organization of their interviews as they arrived by mail, monitoring of their contact spreadsheets/matrixes, and in working to keep ties between the members of the team. The PI organized several meetings throughout the project which not only held purposes of training the CRs or editing a specific profile, but also helped to create a group identity and establish ties within the group.

Conclusion: this experimental methodology was very successful at gathering appropriate informants, guiding those informants through the interview process, and in gathering data and creating an ethnographic description of three communities' involvement in commercial and recreational fishing. The process also appeared to create a team of researchers that valued each other's skills and knowledge and respected each other for the pieces that they provided. This seems to have met our goal of strengthening the relationship between the fishing community and scientists on a small scale.

In spite of the fact that there were some issues that can be viewed as negative in this approach (some leading questions, a more time intensive project management process, and a differing understanding of interview questions), the benefits seem to outweigh the negatives. Because the community researchers were able to rely on their position and familiarity with their fishing community, it seems that they were able to more easily recruit research subjects and provide credibility for the project. They also came into the project with insider knowledge of the issues in each place that would have taken (and did take) an outside researcher much more time to become familiar with.

The key to applying this methodology on a larger scale seems to be to realize that there are parts of a collaborative project that are more labor and time intensive such as monitoring and managing the project, and to allow sufficient time for these important aspects. It also would be important to ensure that there is sufficient support in the data processing phase in order to allow for the transcribing to be completed and the data analysis to occur. This phase was the most difficult for the graduate student and sufficiently prolonged the duration of the project to the point that the group had somewhat disbanded (in the sense that a group identity was lost) and were perhaps disillusioned by the project by the time that the final product was completed. If this were done on a larger scale, it might be appropriate to have several or many individuals responsible for transcribing and several individuals responsible for composing the draft community profiles, rather than one individual as was appropriate in this case for a Master's thesis and a more small scale project.

CHAPTER 3: DISCUSSION

INTRODUCTION

This chapter presents the author's interpretation of some general conclusions from the community profiles (Garibaldi, Port Orford, and Newport, Oregon which are included as appendices at the end of this document) and interview data from the three communities; a comparison of some of the important issues in each place that vary by community; and attempts to address the implications of these issues and conclusions.

GENERAL CONCLUSIONS AND TRENDS

The following conclusions and trends are true of each of the three communities in this study: Garibaldi, Port Orford, and Newport. Although there were a large number of commonalities between the three communities, the themes listed below were selected because they were viewed by the author as some of the main trends that could help to inform the social side of fisheries management.

Importance of fishing: fishing was perceived by members of the fishing community to be very important to each community. Each community emphasized that fishing IS their community. This statement was singlehandedly the one item that was expressed the most frequently in each place. Although this comes as no surprise, it helps to accentuate the importance of commercial and recreational fishing to fishing community members in Oregon coastal towns, both economically and socially.

Fishing is a major employer in each place and provides income not only through commercial and recreational fishing, but also through the businesses that rely on fishing. Fishing was also said to draw tourists to the communities; either through a way to fish recreationally (Garibaldi and Newport are destinations for sport fishing) or through the draw for tourists to visit a “quaint fishing village.” Newport especially prides itself on the fact that the working waterfront (which is made-up of a harbor of fishing vessels, some fishing vessels that sell their catch to tourists, visible processing facilities that are located on the main street, and some local restaurants that serve local fish) brings tourists in to experience being in a fishing community in addition to its primary function of providing services for fishermen. However, each coastal community has experienced an influx of new residents (mostly retirees that move from other communities) in recent years that have different values and may not believe that fishing is as important for the community (both in terms of their voting power – i.e. voting to not support fixing the terminal and their idea of what community should be like aesthetically – i.e. there shouldn’t be a stinky fish smell and noisy docks in view/earshot of their houses).

The implications of fishing being expressed as very important to each community of place (by members of the fishing community) are that since the “MSA definition of fishing community is based on recreational, subsistence, and commercial fishing, related industries, and cultural dependence” (Clay and Olson 2008: 147), then these statements could help to provide support not only for the communities’ economic dependence on fishing (as can also be seen through the fisheries statistics provided in the short-form profiles), but also support for a cultural dependence on fishing in these communities.

This cultural dependence is obvious in the frequency with which statements like “this community is fishing” were expressed and the fact that intertwined in these explanations was an account of the long-time history of fishing in each place. Informants also commonly expressed that fishing had been passed down through generations in each community. The summary provided in each profile’s “Importance of Fishing to the Community of Place” section, along with statements throughout the remainder of the profiles, can act as ‘heritage narratives’ or ‘cultural biographies’ which Clay and Olson explain “places a community in historical and situational context [and] can be a valid factor (though not the only one) for MSA fishing community status and may provide a more nuanced sense of what might be at risk in vulnerable fishing communities” (Clay and Olson 2008: 147). Whether or not a community is considered a ‘fishing community’ may aid in protecting the community when changes in fishing regulations are made. These expressions of fishing’s importance to each place could help to ensure that these communities are included as designated Magnuson-Stevens ‘fishing communities’.

Fishermen expressed job loyalty: commercial fishermen were said to love fishing, are tied to their occupation, and are dedicated. In spite of changes in regulations over the years that have caused fishing to become less lucrative and extreme years of hardships such as declines in the West Coast salmon stock that have resulted in salmon disaster years (and years of extreme difficulty for those engaged in salmon fishing), fishermen expressed that they are dedicated to fishing. They enjoy the parts of the job that are unique to fishing such as the independence of being one’s own boss and being out on the water. There was also a sense of pride and a social importance expressed in fishing in

many cases being passed from generation to generation with fathers fishing and then their sons being fishermen (as was mentioned above).

In the past there have been some re-training opportunities offered to fishermen in disaster years and also buybacks that have occurred (where vessels were purchased by the government in order to reduce the fleet of certain species); however it seems that this appreciation for fishing itself might be a hindrance to such programs or should at least be considered when designing these programs, because there seems to be such a loyalty to one's job. This loyalty might affect the success of re-training programs and buybacks because many fishermen are tied to their occupation and may not desire such opportunities. However, it was also mentioned in some of the interviews that re-training programs had been successful for some people that were involved, but were not successful in other cases.

As Pollnac et al. explain, there is quite a bit of literature which supports that,

“the structure of job satisfaction among these groups [commercial fishermen and charter fishermen and guides] manifests a common component that is not always found in other occupations – a self-actualization component that includes ‘adventure’ and ‘challenge’” (Pollnac et al. 2008: 5).

It is not clear as to whether or not the desire for adventure and challenge is what has resulted in the job loyalty expressed by informants in this study (as fishermen weren't directly asked why they feel this way), but it seems that this might be a good avenue for future research to explore. Fishermen were commonly classified as independent and perhaps this independence might be what is valued along the Oregon coast. Regardless of the explanations for why there is such an extreme job loyalty, it seems that fisheries

managers should be made more aware that fishermen in these communities show such a loyalty to their occupation.

Difficulty for younger fishermen to become involved in fishing and own boats:

Many informants explained that with the high price of permits today and fishing becoming less stable than it has in the past (especially certain species like salmon), it has become difficult for younger fishermen to become boat owners unless they inherit the boat and or the permit to fish. It was also articulated that when considering what the future of fishing will look like in these communities (especially in the smaller communities), that it's likely that the vessels whose owners have been involved in fishing for a long time and own their own boat will survive; however it's not as likely that the newer fishermen will be able to stay in fishing. This difficulty of becoming a boat owner for younger fishermen could possibly affect the future of fishing in each place because the current population of fishermen is aging.

Changes in fishing families: Fishing families have changed in two obvious ways in all three of the study communities. It was explained that children today are encouraged by their family to go to college and to find an occupation other than fishing, or at least to have attended college in order to have something to fall back on if they choose to still become fishermen. This seems contrary to the statements about the pride that people seemed to feel in fishing having been passed on for generations, but highlights that fishing has become less stable with less guaranteed income and that parents would like something better for their children. It seems that this lack of encouragement for children to become fishermen might also perhaps affect the future of the fishing fleet (as discussed

above) because it seems that less young men might be getting into fishing because of not only the difficulties in becoming a boat owner, but also because they are not being encouraged to carry on the family occupation. It was also mentioned that even the children of fishermen that do become fishermen themselves have had difficulties staying in fishing (and being a boat owner) and sometimes have to move on to other careers.

The second way that fishing families have changed is that the spouse of a fisherman commonly holds an outside job today (and in spite of this are still often the bookkeepers of the family fishing operation). This is necessary in order to supply health insurance for the family and also to supply a steady paycheck that can provide for the family in low periods of fishing. It's very difficult and expensive for fishermen to acquire health insurance and many families need the spouse to hold an outside job in order to provide insurance for the family. This need to hold an outside job was also mentioned as being necessary because it has become difficult to make a family wage with fishing (which also seems to follow along the national trend of households depending on two incomes; whereas they used to survive off of one). Also, it might allow for the family fishing operation to be able to devote more money to the purchasing of gear, which could lead to more opportunity, rather than just providing for the family. Learning that commonly wives of fishermen today hold outside employment could aid fisheries managers in helping to consider the dependence of fishing families on fishing.

Being diversified in order to remain fishing: Fishermen expressed that it is necessary nowadays to be diversified in order to be a fisherman (this seems to be especially true for smaller vessels such as those that make up the fleet in Garibaldi and

Port Orford and the smaller vessel part of the fleet in Newport). This means in most cases being engaged in targeting multiple species. Or it could mean finding part-time employment in times of hardship in order to survive. Being engaged in multiple fisheries is necessary in many cases because it has become more difficult to make a living from fishing. Also, it seems that by engaging in various fisheries it would aid in being able to ensure that one makes a sufficient amount of money for the year – if one fishery were down in a particular year, the others might be having good years. So, it would be a way to increase the likelihood of a more dependable income.

It also was mentioned that with the changing fishery regulations over the years and the move from open access in the beginning of fishing in the United States, then closures of specific fisheries, and then to limited entry in more recent years – it has become more difficult for fishermen to become involved in new fisheries and thus diversify enough to make a living from fishing. This is something that should be considered by fisheries managers when making changes in regulations because 1) fishermen seem to depend on multiple fisheries in many cases, and 2) it is difficult for fishermen to become engaged in new fisheries because of limited entry. Point number one is important because if an Individual Fishing Quota (IFQ) system is developed (a trend now in fisheries management– to develop catch share programs) which would allow for fishing throughout the year up to a certain quota amount, it would be important to consider that the fisherman is engaged in other fisheries throughout the year and to consider how changing the manner in which fishing is conducted in the IFQ species would affect the rest of his livelihood. Point number two is important to consider because

as some fisheries become less lucrative or possibly end their commercial catch, fishermen will need to move into other fisheries in order to survive. If this is not possible because of limited entry then it decreases the opportunities for fishermen to be engaged in fishing.

Informal communication is still important: Informal communication (the communication between fishermen at informal locations such as the docks, processors, local watering holes, coffee shops, restaurants, gear stores, etc.) was explained as still being important and having a place in all communities in the study. Fishermen especially in the smaller communities still pass information to each other in these informal locations. This information can include interpretations of regulations, closures of fisheries, etc. Fishermen also share in informal ways the decisions made at the fisheries council meetings with those who did not attend the meetings.

However, this is not to downplay the need for formal communication within the fishing fleet and with fisheries managers. All communities mentioned that it was important to have fishing community members attend fisheries council meetings and also to be engaged in various species specific groups such as the Crab Commission (crab fishermen engage in conference calls with other crab fishermen each year). Formal organizations such as POORT in Port Orford have also helped communicate fisheries information to fishers and the Sea Grant Extension office in Newport serves a similar function.

Informal communication within the fishing community is still is important in each community. This could be somewhat related to the lack of internet access and use by fishermen (for a tool to access information) or perhaps just part of the established fishing

culture in each place. For management this information might be valuable to consider when dispensing information to fishermen. It might be useful to engage fishermen as sort of a community liaison to pass on the information to the other fishermen (in addition to sending mailings and posting the information on the internet).

IMPORTANT ISSUES BY COMMUNITY

The topics listed below are issues that varied among the three communities involved in this study. Some topics appeared to be regional (such as processor monopoly) whereas some topics appeared to be related to the community's size (such as jetty disrepair and issues with dredging as well as a dependence on other communities for support services for fishing). And some were unique to the community such as a differing engagement in commercial and recreational fishing.

Jetty disrepair, infrequent dredging, and dangerous conditions: Both Garibaldi and Port Orford fishing community members explained that a major issue in both places is the inability to get out on the water predictably and safely because of either infrequent dredging (in Port Orford and Garibaldi) or unsafe bar conditions because of jetties that are in disrepair (Garibaldi). This may be more of an issue in the smaller communities in this study because of their size and their amount of landings delivered each year and because more funding is likely given to larger communities.

Both situations of infrequent dredging and jetty disrepair can create difficult circumstances especially in winter, during crab season where the fleet cannot access the water to fish or must sometimes choose to access the water in dangerous conditions. It

can also affect whether or not some vessels choose to make deliveries of landings to the port or are based out of the port which could conceivably result in fewer vessels coming to those places.

A recent analysis conducted by the National Institute for Occupational Safety and Health revealed that, “during 2000-2006, the average annual fatality rate for commercial fishing deaths reports from California, Oregon, and Washington was approximately double the national fishing fatality rate of 115 deaths per 100,000 workers and also double the Alaska rate of 107 per 100,000 FTE fishermen during the same period” (Lincoln and Lucas 2008: 1511). This report also found that “the Northwest Dungeness crab fleet had a greater number of fatalities and a higher fatality rate during 2000-2006”, equal to a rate of 305 deaths per 100,000 FTE fishermen. This equates to 17 actual fatalities in the Northwest Dungeness crab fleet during that time (Lincoln and Lucas 2008: 1511). This was the first study that showed the surprising finding that crab fishing in Washington, Oregon, and California is actually more deadly in recent years than that of the crab fishery of Alaska (which is featured in the television show “Deadliest Catch” that follows vessels in the Alaskan crab fleet). In a large amount of the total fatalities of Washington, Oregon, and California analyzed by the Lincoln and Lucas report, weather conditions were explained as a contributing factor.

In the beginning of our study there were two fatality events involving commercial fishing vessels targeting crab, one vessel around Garibaldi and one around Port Orford. It appears that the conditions of the bar contributed to both of the above fatality events around Port Orford and around Garibaldi (one occurred right after crossing the Rogue

River bar and the other during crossing the Tillamook bar). Considering that the bar conditions in Garibaldi and Port Orford were reported in our study as being in need of attention in the form of repairs and/or more frequent dredging, it seems that this should be considered as possibly affecting such events or affecting future events. It was just learned however that Garibaldi recently (after the interviews for this study were conducted) acquired funds to conduct repairs on their jetties.

Processor monopoly: Both Garibaldi and Newport fishing community members in this study expressed that in recent decades, fish processors have shut down in their communities and the processing sector in those places has become dominated by one large processing company. When there were more processors available, there was more of a chance to be able to choose which plant one delivered their catch to and if there were issues with one plant, one could choose to deliver to an alternate plant. This increased the options available to fishermen. This monopolization by one large processor also affects the pricing of fish. Informants believed that other processors might be afraid to raise their prices (the price they give to the fishermen for their catch) until the large processor does so, because they might worry about creating an enemy by choosing to set their price higher (and thus risk being undersold by the large processor and put out of business). This appears to be a regional issue along the Oregon Coast and although it doesn't really impact the community of Port Orford directly because there is not a processor located in the community (but does impact the other two communities in this study); it seems to be trend along the coast in communities with fish processors.

This ‘processor monopoly’ issue would suggest that a situation for fishermen has been created where fishing became less lucrative in recent years because of changes in management and problems with certain species (such as salmon). Fishermen also have less power than they did in the past in terms of where they can sell their catch and the prices they receive for their catch. Many fishermen mentioned that although the prices of fuel and other necessary up-keep items such as boat repair have increased over the years, the price received for their catch (in many cases) has stayed at a constant level. Fishermen also mentioned that there needs to be a mix of lean years and good years for fishing in order to be able to afford things like the upkeep on a vessel. In some cases, these good years are becoming less frequent (such as with salmon). This would seem to aid in creating a situation where one must make somewhat unsafe decisions about when to repair one’s vessel and when to wait to conduct those repairs.

Differing involvement in fishing in each community: Each of the three communities in this study has a varying degree of involvement in commercial or recreational fishing. All three communities are involved in commercial fishing, but at a differing degree (in terms of targeting different fisheries, the locations they fish, and differing fleet sizes) and have different constraining factors as to the fisheries they can be involved in. Just two of the communities, Newport and Garibaldi, are engaged in sport fishing (and have charter boats that cater to visitors). Port Orford is not engaged in sport fishing.

Port Orford’s commercial fishing fleet is constrained by their lack of a protected harbor because the vessels are required to be lifted out of the water each day by crane,

thus the vessels must be smaller in size with a 40 foot vessel length limitation. The fishermen in Port Orford are engaged in much more local fishing as they are required to be “day fishermen” and it was expressed that sometimes they are unable to get out on the water (when larger outsider boats are able to fish in their area) because of infrequent dredging (discussed above). This dependence on the local fishing grounds could cause Port Orford to be more inflexible to changes in fishing regulations. However, the local organization POORT (Port Orford Ocean Resource Team) has been involved in attempting to create the Port Orford Stewardship Area, an area that would be community-managed.

Newport has the largest commercial fishing fleet of the three communities and the widest variety of species targeted by fishers. In addition to being involved in local fishing, Newport also has vessels that are part of the distant water fleet and travel to Alaska to engage in fishing. Newport is also involved in recreational fishing. Newport thus has a high diversity of fishing that occurs by members of its community. This level of diversity could perhaps help Newport to be more resilient to changes in fishing regulations.

Garibaldi is also engaged in both commercial and recreational fishing and community members expressed that it was dependent of both. It seems to the author that sport fishing is especially important to Garibaldi in comparison to the other two communities. Sport fishing was frequently mentioned as drawing tourists to the community. It seems that perhaps because of Garibaldi’s smaller size (in terms of total

population and community size) in comparison to a larger port like Newport, that changes in sport fishing rules might more adversely affect the community of Garibaldi.

Smaller communities are dependent on other communities of place for support services: Both Garibaldi and Port Orford are dependent on other communities for many fishing support services, whereas the hub community of Newport provides nearly all of its support services for fishing. Commercial fishing gear and more technical boat repair are especially absent from the communities of Garibaldi and Port Orford and in most cases it is necessary to travel to other communities (or have gear sent from other communities) to access these services. Both Garibaldi and Port Orford have also lost fish processors over the years and this has resulted in both ports essentially existing as buying stations ports now (Port Orford doesn't have a processor located in the community and Garibaldi is mostly a buying station port as well). Buying stations are stations in the community that receive fish from a vessel and don't process the fish, but instead transfer it to another location (in this case another community) for processing. In contrast, Newport has also lost fish processors in recent decades but still has processors and a wide variety of various support services necessary for fishing that operate in the community of place of Newport. This dependence on other communities for support services in Garibaldi and Port Orford and the linkages to those communities are something that should be considered because it's important to consider how changes in those places might affect the community that is dependent on their services and also important to consider how other communities are dependent on a particular community when defining

how dependent or engaged a particular community is in fishing. The support services provided by particular community could be an important part of this.

CHAPTER 4: CONCLUSION

This thesis has focused on two main components: 1) the production of three long-form community profiles for the communities of Garibaldi, Newport, and Port Orford, Oregon to improve the information available on these communities and 2) the method of employing community members as social science researchers. In this chapter I would like to conclude by discussing these two components including the improvements made to the existing community profiles by the addition of the information compiled in the long-form format. I would also like to briefly discuss the possible issues with utilizing the amount of information produced by adding this depth to the profiles. Lastly, I would like to conclude by reviewing the lessons learned through the process of utilizing community members as researchers (which is discussed in detail in the Methods section of this document).

IMPROVING COMMUNITY PROFILES

The community profiles produced as the deliverable for this study (which are included as appendices at the end of this document) are meant to act as supplements to the NOAA ‘short-form’ community profiles. The NOAA community profiles are somewhat brief descriptions of each community’s involvement in fishing, as well as a description of the community’s location, demographics, history, current economy, governance, and facilities available in each place. Although these ‘short-form’ profiles are much improved from the information that existed previously, they are based, for the

most part, on secondary data sources (and a small amount of quick fieldwork) in order to be able to cover a large number of communities.

The ‘long-form’ community profiles produced as part of this study are meant to complement the NOAA ‘short-form’ profiles as they provide added depth through the inclusion of the perceptions of members of the fishing community. Our ‘long-form’ profiles include an ethnographic account of the importance of fishing to each community, descriptions of the characteristics of fishermen in each place, descriptions of fishing families and how they have changed over time, the connections between these communities and other communities (in terms of the support services necessary for fishing), communication in each place (between fishermen and between fishermen and other organizations), perspectives on management and effects of management actions, changes in fishing and seafood (economics and fishing effort), perceptions of the state of the ocean and its resources, and perceptions of the future of fishing in each location.

Some of the interesting things learned from the profiles were featured in the previous chapter (Chapter 3: Discussion). Our long-form profiles have produced a more complete picture of the social side of fishing in Port Orford, Garibaldi, and Newport. This helps us to answer some of the questions that Hall-Arber and Hanna explained as the information missing on the human components of fishing, such as who the people are that fish, what the changing environment is like that they live and work in, what the economic history of the area is like, what the economic impacts are of management actions, and how families have responded to the resource decline (Hanna and Hall-Arber 2000: 3).

This information will hopefully aid fisheries managers in making more informed decisions about how changes in regulations could affect each place.

However, even though the ‘long-form’ profiles provide a better picture of the social side of fishing, it’s possible that there will be issues with fisheries managers using the information in the community profiles. Fisheries managers already receive a large amount of information to read and consider when making council decisions on fisheries management actions. It is entirely possible that the amount of detail presented in the community profiles will be too much for most managers to use (because of the length) or to know what to do with (because they have a greater familiarity with biological information on fish and a greater familiarity with applying this information). Although, as has been the case with the NOAA community profiles which have been used in social impact assessments by being cut and pasted directly into those documents, it is possible that our long-form community profiles could be used in the same way. Or councils could use our information to help infer the possible social impacts of management actions on the three communities in our study if someone on staff with the council has a familiarity with social science and knows how to present the information to fisheries managers and apply it to the situation at hand.

COMMUNITY RESEARCHER METHODOLOGY

Our methodology of training community members as social science researchers was described in detail in “Lessons Learned” section of Chapter 2 of this document. A brief summary of the lessons learned from this process are that community researchers

had an easier time acquiring informants, community researchers didn't need to legitimize the project to their informants, and community members had insider knowledge that allowed them to more easily determine who should be included in the sample as well as understand the current issues in their own communities. Using community members as researchers provided all of these beneficial aspects and also helped to distribute the work that needed to be done to several researchers which allowed for the interview phase to be conducted in a quicker manner. Community researchers also helped to provide comments and edits for the community profiles and fill-in data gaps. However, utilizing community members as researchers was also disadvantageous in one way: the issue of community researchers phrasing questions in a leading way. This problem could conceivably be dealt with by more closely monitoring the interviews conducted and providing more feedback to researchers throughout the interview process. The other issues with employing community members as researchers seem to be true of any group ethnography project which has multiple researchers: that the project management component is more time-intensive. The positive aspects of this approach seem to substantially outweigh the negatives.

CONCLUDING THOUGHTS

The production in depth community profiles for Port Orford, Garibaldi, and Newport (to provide a better mix of information for fisheries managers) and the utilization of community members as social science researchers were both successful. The three community profiles provide information for fisheries managers that was not

previously available. Important lessons were also learned through the method of employing community members as researchers and this methodology was effective in gathering informants and interviews in a more timely manner. It is hoped that the community profiles produced in this project will be used by fisheries managers and that this cutting-edge methodology will be used to conduct future research.

REFERENCES CITED

- Agrawal, A. and C. Gibson. 1999. "Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation". *World Development*. 27(4). 19 pages.
- Angrosino, M. 2005. *Projects in Ethnographic Research*. Waveland Press, Inc. Long Grove, Illinois.
- Austin, D. 2003. "Community-Based Collaborative Team Ethnography: A Community-University-Agency Partnership". *Human Organization*. 62(2). 143-152.
- Austin, D. 2004. "Partnerships, Not Projects! Improving the Environment Through Collaborative Research and Action". *Human Organization*. 63(4). 419-430.
- Bernard, H. R. 2006. *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Altamira Press: Lanham, Maryland.
- Brosius, J.P., A. Tsing, and C. Zerner. 2005. *Communities and Conservation: Histories and Politics of Community-Based Natural Resource Management*. Altamira: Walnut Creek, California.
- Commercial Fisheries Entry Commission. 2007. *Commercial Fishing Permits*. Available at: [TThttp://www.cfec.state.ak.us/Publications/Commercial_Fishing_Permits.pdf](http://www.cfec.state.ak.us/Publications/Commercial_Fishing_Permits.pdf)
- Clay, P. M. and J. Olson. 2008. "Defining 'Fishing Communities': Vulnerability and the Magnuson-Stevens Fishery Conservation and Management Act". *Human Ecology Review*. 15(2). 143-160.
- Colburn, L., S. Abbott-Jamieson, and P. Clay. 2006. "Anthropological Applications in the Management of Federally Managed Fisheries: Context, Institutional History, and Prospectus". *Human Organization*. 65(3). 231-239.
- Daniels, S. and G. Walker. 2001. *Working Through Environmental Conflict: The Collaborative Learning Approach*. Praeger: Westport, Connecticut.
- Garland, D., M. O'Connor, T. Wolfer, F. E. Netting. 2006. "Team-based Research: Notes from the Field". *Qualitative Social Work*. 5(1). 93-109.
- Gwynne, M. 2003. *Applied Anthropology: A Career-Oriented Approach*. Pearson Education, Inc. Boston, MA.
- Hall-Arber, M. 2007. "The Community Panels Project: Citizens' Groups for Social Science Research and Monitoring". Ingles, P. and J. Sepez, ed. *Anthropology and*

Fisheries Management in the United States: Methodology for Research, National Association for the Practice of Anthropology (NAPA) Bulletin. 28. 148-162.

Hall-Arber, M., C. Dyer, J. Poggie, J. McNally, and R. Gagne. 2001. *New England's Fishing Communities*. Revised version of the final report for Northeast MARFIN grant #NA87FF0547.

Hanna, S. and M. Hall-Arber, ed. 2000. *Change and Resilience in Fishing*. Oregon State University, Corvallis, OR.

Krueger, R. and J. A. King, ed. 1998. *Involving Community Members in Focus Groups*. Sage Publications, Thousand Oaks, CA.

Lassiter, L. E. 2005a. *The Chicago Guide to Collaborative Ethnography*. University of Chicago Press, Chicago, IL.

Lassiter, L. E. 2005b. Collaborative Ethnography and Public Anthropology. *Current Anthropology*. 46(1). 83-106.

Lincoln, J. and D. Lucas. 2008. "Commercial Fishing Fatalities – California, Oregon, and Washington, 2000-2006". *Journal of the American Medical Association*. 300 (13). 1510-1511.

MacQueen, K. M. and G. Guest. 2008. "An Introduction to Team-based Qualitative Research". Guest, G. and K.M. MacQueen, ed. *Handbook for Team-based Qualitative Research*. Altamira, Lanham, MD. 3-19.

Norman, K., J. Sepez, H. Lazrus, N. Milne, C. Package, S. Russell, K. Grant, R. Petersen, J. Primo, M. Styles, B. Tilt and I. Vaccaro. 2007. *Community Profiles for West Coast and North Pacific Fisheries – Washington, Oregon, California, and Other US States*. NOAA Technical Memorandum NMFS-NWFSC-85.

Pinsker, E. and M. Lieber. 2005. "Anthropological Approaches to the Evaluation of University-Community Partnerships". *National Association for the Practice of Anthropology (NAPA) Bulletin*. 24. 107-124.

Pollnac, B. R., S. Abott-Jamieson, C. Smith, M. L. Miller, P. M. Clay, and B. Oles. 2008. "Toward a Model for Fisheries Social Impact Assessment". *Marine Fisheries Review*. 68(1-4). 1-18.

Sepez, J. B. Tilt, C. Package, H. Lazrus, and I. Vaccaro. 2005. *Community Profiles for North Pacific Fisheries – Alaska*. NOAA Technical Memorandum NMFS-AFSC-160.

Sepez, J., K. Norman, A. Poole, and B. Tilt. 2006 "Fish Scales: Scope, Scale, and Method in Social Science Research on North Pacific and West Coast Fishing Communities". *Human Organization*. 65(3). 283-296.

Weber, M. and S. Iudicello. 2005. *Obstacles & Opportunities for Community-Based Fisheries Management in the United States*. Coastal Enterprises, Inc. 101 pages.

APPENDICES

APPENDIX A

GARIBALDI, OREGON COMMUNITY PROFILE

Each section of this profile contains a summary of perspectives and information provided in the interviews. Where indicated with quotations, we have included verbatim comments from transcribed interviews to add depth and color.

Importance of Fishing to the Community of Place

Fishing is very important to the community of Garibaldi. As one community member remarked, “Without fishing Garibaldi wouldn’t hardy exist. It’s a noted fishing community and it’s a destination”. Tourists are drawn to Garibaldi to sport fish. It’s the closest port community (about 80 miles) to the metropolis of Portland, Oregon. People travel from Portland to fish recreationally around Garibaldi for species such as tuna, crab, halibut, and salmon. Recreational fishing draws in a lot of business for the town; especially for the hotels, motels, tackle shop, and the Port of Garibaldi. People also travel to Garibaldi to purchase seafood.

Commercial fishing also contributes substantially to the economy of Garibaldi by creating and providing jobs for fishermen and cannery workers, in the fuel that is purchased locally by commercial fishermen, and in fishermen patronizing local businesses.

Fishing has been important to Garibaldi throughout history. One resident mentioned, “Traditionally this area, the Tillamook County area has been economically dependent on timber and fishing, as well as agriculture”; however both fishing and timber have been restricted by management decisions. Timber has been substantially cut-back in the area, with one mill currently operating in the town.

Fishing is also important socially in that many generations of Garibaldi residents have been fishermen. As one person explained, “my father was a fisherman, he taught me, and my son wants to be a fisherman”.

Garibaldi is dependent on commercial fishing and recreational fishing, and they both need to be protected. “I think the survival of the town is very directly related to the fishing industry and how that industry is regulated”.

Characteristics of the Fishing Members and their Families

Fishing Members

Full-time commercial fishermen in the community of Garibaldi are hard-working and dedicated, “willing to work a lot of hours to do what they need to do”. They are always working on their boats and waiting to go fishing when they’re not out on the water. They are resilient. Some have diversified and are engaged in multiple fisheries and “will crab in the winter, they’ll salmon fish, they’ll tuna fish, they’ll do whatever it takes to make that home payment and get little Johnny a pair of shoes”. This engagement in

multiple fisheries is necessary because it has become difficult to only target one species of fish and make a living.

However, the fleet is varied and in addition to being made up of full-time commercial fishermen that are dependent on fishing for their livelihood, there are also some commercial fishermen that are retired and will fish occasionally or fishermen that are not retired, but are not as active of fishers. Some wealthy boat owners have also purchased a commercial license and fish occasionally in Garibaldi.

Most fishermen in the community have a high school education. Fishermen are mostly male in Garibaldi, with very few women fishers. Fishermen (boat owners/captains) are about 40-60 years old. A lot of the salmon troll fishermen are older. Crewmembers are younger, usually in their 20s and 30s.

One person remarked that there are “not a lot of younger guys coming into the commercial field”. The opportunity is limited. There are not as many recruits coming into fishing, and the younger ones are in some cases not getting an opportunity to run the boat because of insurance issues (need to have prior experience in order to be insured to be an alternate skipper).

There used to be more career crewmen and the good ones were highly sought after, but today fewer fishermen are looking to become captains and it’s theorized that crewmen aren’t as interested in the future of the industry. A lot of crewmembers go from boat to boat, they “just come and go”. Sometimes they have an addiction of some sort.

Boat owners own the business and are responsible for making the boat payment, so it’s necessary to be committed. Some boat owners hire a captain to run the boat and handle the maintenance, but it’s more common in Garibaldi for the owner to also be the captain. Both crewmembers and skippers work hard.

Crewmembers are required to put in hours before fishing to prepare the gear and vessel and “are told to be there during the off-season, they don’t get paid anything, very little if any. And so they donate their time whenever they are needed down there”.

There are some one-man operations in Garibaldi; however the larger vessels still often have three or four crew members on them. One person mentioned that with Albacore fishing it is common to see a retired couple working the boat together or a husband and wife (who are not retired).

Most of the commercial fishermen in Garibaldi “have been almost all their life in Oregon fishing” and had parents that were in the fishing industry. Fishermen in Garibaldi band together and stand up for each other.

There are more sport fishing guides in Garibaldi than there used to be. There has been an upsurge in this kind of activity.

Fishing Families

Garibaldi fishing families are often involved in the family fishing business. As one community member noted:

“A lot of times it is the whole family that is involved in the business. The kids will be down working on the boat helping out. The wife will be doing the book work and all the other support work”.

Another resident underscored the importance of family involvement in fishing: “They usually bring their sons or their daughters into it, to help out because; it is a way for families to stick together”. The children were often involved in fishing on the family boat at some point and often the sons of fishermen became fishermen themselves. There’s a history in Garibaldi of sons being involved in the family business and then growing up to run vessels of their own. The wives take care of everything in the household while the fisherman is away.

It used to be more common for the whole family to be involved in the fishing business. Today there are a few family businesses in Garibaldi which involve everyone in the family. One person said that they think today “the fishing family business is made up of about thirty percent in this port [and] the rest are independent, owned by individuals and not families”.

The wives of Garibaldi fishermen have outside jobs for the most part, to supply a steady paycheck and health insurance for their family. Also, “most of the wives ha[ve] to work full time to support the family because you can’t [make a family wage] with just fishing”. Commonly the wives are still the bookkeepers of the family fishing business even if they hold outside jobs.

Changes Over Time

Family involvement is changing and more and more families tell their kids not to be fishermen and go to college. More families are encouraging their children to have an occupation outside of fishing because fishing has become less stable with less guaranteed income.

It has become harder to make a living in fishing and a lot of the young people coming into the field including the sons of fishermen have had to move on to other careers, “because it is difficult to come in here as a young twenty-five, thirty year old man, and take on the responsibilities of a boat and make an honest living with the restrictions that are in place now”.

Boundaries: Connection between the Fishing Community and the Community of Place

Table 1 below lists services available in Garibaldi and elsewhere. Garibaldi fishermen often live in neighboring communities (such as Tillamook), but fish out of the Port of Garibaldi. Local fishermen are dependent on other communities for the purchasing of commercial gear (Newport, Astoria) and boat repair services (communities located to the north and south); however a lot of the boat repair is done by the fishermen themselves. Some limited boat repair services are available in the community (welding, diesel repair).

A few large processors have shut-down in the community in recent decades, but one processor is located in the community along with a few other buying stations which for the most part ship the product outside the community for processing. The availability of commercial ice in the community is a major issue because of its limited availability

(ice is available at the processors but the ice machines are small) and it's sometimes necessary to purchase ice from other communities (such as Tillamook) during peak times.

Fuel is available within the community. Some legal services are available; however some fishing community members travel to other communities in the county for legal services and also for book keeping services. It was mentioned that the pastor of the local church is a fisherman. The local restaurants stay open for extended hours during peak fishing seasons to cater to the fishermen.

Table 1: Services and Where Available

Service	Community Where Available
Gear	Recreational gear/tackle is available in the community of Garibaldi, but the availability of commercial gear is very limited in the community. Most commercial gear is shipped in. It is necessary to go to Newport or Astoria to purchase any major commercial gear and if one is not in a hurry a truck travels to the community about once a week and delivers commercial gear.
Fuel	Fuel is available in Garibaldi at a few places at the docks (including from a processor/buyer and the boathouse) and also from a fuel truck. There are two recreational fuel stops and one commercial fuel stop.
Ice	Ice is available in the Port of Garibaldi at two processors (if not selling to a processor it's very difficult to get ice), but is very limited (the machines are small). Some buy ice in peak times from Tillamook. Ice for sport fishing is available in the community, but also limited.
Boat Repair	Garibaldi has lost the dry docks that used to be available for the larger commercial vessels (the area that used to be the dry docks has been turned into a recreational marina). There's one boat repair facility in Garibaldi, but mostly caters to recreational fishermen. One individual does diesel repair in the off-season. There's a new welder that does repairs above the waterline. It's necessary for the most part to go to other ports for boat repair. Most fishermen do a lot of their repairs themselves.
Processors	One large processor is located in Garibaldi (Smith Pacific Shrimp) which processes tuna, salmon, shrimp, and does custom processing of sport fish. A few other smaller facilities are located in Garibaldi, but a lot of the product is trucked out to be processed. It is mostly a buying station port now. Two of the main processors were lost in the early 90s and 80s.
Bookkeeping	A lot of fishermen in Garibaldi do their own book keeping. Some people go to other places in the county for book keeping.
Legal Services	There is one local attorney in Garibaldi. Some people go to other places in the county, such as Tillamook for legal services.
Social Contacts	Have churches, schools, etc... Trollers restaurant is located at the Port and is a meeting place for fishermen.

Communication within the Fishing Community and between the Fishing Community and Others

Communication process within the fishing community

The communication process within the fishing community in Garibaldi is mostly informal with a lot of one-on-one communication. As one person noted, “Ninety-five percent of all talk is informal, fisherman-to-fisherman, processor-to-processor, processor-to-fisherman”. There is a watering hole that is a gathering point for fisherman, Trollers restaurant and also a lot of fishermen communicate at the docks, on the water, or at local taverns during their leisure time.

Some of the fishermen in the community attend meetings (such as the fishery management council meetings) and share the information/decisions made at those meetings with the other fishermen in the community in informal ways. Usually whoever attends the meetings will bring the information back to others in the community. This informal passing of information from fisherman to fisherman is the way that it seems to work best because with “formal...the schedule just doesn’t seem to work”.

Everyone talks and if something occurs or changes, then it is passed along the fishing community pretty quickly. However, the problems with informal communication are “getting all the facts. By the time the next person hears it...[it] may not be exactly the way it is”.

Communication process with other organizations

There are conference calls at the beginning of crab season (through the Fisherman’s Marketing Association) where fishermen from Garibaldi communicate with the rest of the West Coast crab fleet; although Garibaldi is a non-association crab port so sometimes they are left out of the meetings.

Garibaldi is part of the Pacific Northwest Waterway Association (PNWA) which is a group comprised of ports along the coast. It’s a lobbyist group which travels to Washington D.C. (to do such things as lobby for the repair of the jetties). Also, the Port Commissioners sometimes travel on private missions to lobby congressman and senators solely for Garibaldi (to petition to receive more money for the repair of the jetties).

Fishermen receive some mailings from the Oregon Crab Commission. There are also meetings of the Oregon Crab Commission, Oregon Salmon Commission and Oregon Albacore Commission which can be attended. The Port of Garibaldi is part of the Oregon Coastal Zone Management Association and can communicate information to them.

Communication process with fisheries managers

Some community members attend meetings of the Pacific Fishery Management Council. These community members often brief other fishermen in the community on the fisheries changes determined at the meetings. “It is very good that there is formal and informal communication in the community because there are some in the community that prefer not to be at formal meetings. That is not their lifestyle”.

Attending fisheries management council meetings is very costly because the meetings are often in far-away locations. The meetings are also difficult to attend because

“for fishermen when the weather’s good you always have to go [fishing]”. It can be difficult to take time away from fishing to attend fisheries management meetings.

However, they “are learning that if we want to keep a piece of our ocean to fish and make a living that we have to become politicians pretty much. And be involved, very involved”.

There is some frustration with fisheries management meetings because it seems that the decisions have already been made by managers (or fishery council members) prior to the public participation portion of the meeting. As one person explained,

“my feeling when I go there [is] most of the decisions have been made before any testimony is made. Most of the decisions are part of ongoing or long-going processes, that for most people to do good research and find out what is going on would be overwhelming. I know it is overwhelming for me, I have a stack of papers and notes and different study things that I have gotten over the last couple of years that is probably two and a half, three feet high”.

Information is also distributed to members of the fishing community from fisheries managers in the form of mailings. Information can also be received over email, “with the internet we have email, a lot of people, a lot of fishermen will get their information direct on email from ODFW, NOAA, whatever the governing body might be”. Or information can be gathered from the governing body’s website.

Communication process with Coast Guard

The Coast Guard personnel are known personally throughout the community and this creates an informal relationship. They are “top- notch, and they jump when they are called to”. Fishermen have a good rapport with the Coast Guard and “recognize the Coast Guard as being very, very important” especially with the unsafe bar conditions during certain times of the year because of the disrepair of the jetties. The Coast Guard Auxiliary works closely with fishermen for safety.

The Coast Guard has held large meetings in the past in the community for things such as the buoy change. They sometimes have large meetings, but it’s difficult for all fishermen to attend because the meetings “are going to be in the middle of somebody’s fishing”.

Coast Guard members sometimes come down to the port and inspect vessels. Sometimes the Coast Guard will have informal conversations with members of the fishing community, but they are also busy with their own agendas. The minority opinion was that communication with the Coast Guard could be better and that it would be nice to have a representative from the Coast Guard attend fisheries meetings when they are held in town.

Communication process with City of Garibaldi

A lot of people don’t recognize the Port of Garibaldi as being part of the City of Garibaldi and the community of Garibaldi and the fishing community sometimes have conflicts. This goes both ways because sometimes members of the fishing community

don't reside in Garibaldi, some of them live in Rockaway, Bay City, or Tillamook and spend a lot of time in the port, but not a lot in the city.

Perspectives on Management and Effects of Management

With different fisheries becoming less lucrative over the years (such as shrimp and salmon), it is more common to diversify, be involved in numerous fisheries; however with changes in management (move to more limited entry fisheries) it has become more difficult to do this. Being able to diversify has "kept the commercial fleet alive because they can go to another fishery and if they don't allow that, then we aren't going to have commercial fishermen". Also, the allowable catch has been cut down to lower and lower limits over time which makes it hard to make a living. There was some concern over the future possibility of creating processor quotas (fish that must be delivered to a certain facility) because it would increase the power of a company. There was also some concern over fisheries assessments and making decisions without proper information. Some management actions could have been conducted so that both the fish stocks and fishermen could have survived a little bit better. In recent years, managers have been working more closely with fishermen: this has been beneficial and should continue.

Several specific management topics were brought up in interviews:

Salmon disasters

There have been two official salmon disasters declared in the past (2006 and mid 1990s). 2008 was considered an extension of the 2006 disaster for salmon fishermen, with disaster relief aid delivered as well. Salmon disasters have been declared during years of complete closure for salmon fishing. Here the amount of the weakest stock along the coast dictates whether or not fishing for all stocks of salmon is closed.

With the older salmon disaster, fishing (both sport and commercial) continued and was encouraged to continue even though the return of fish was poor that year and, according to one person, "they had to shut down...so it was actually one of those things where we kind of created our own problem by continuing to fish".

When loans are offered to help out during salmon disasters this might not be a good idea because the fishermen don't know if they'll be able to pay it back, "because there's no guarantee that they are going to be able to fish in the future".

If one is able to survive through the tough years, like the disaster years, then the good years will help you to continue being able to fish salmon; however for those people who just started fishing salmon it's probably much more difficult. The recent salmon disaster which occurred because of the Klamath situation "put a lot of people out of work that depend on salmon for their income. A lot of folks were tied up, a lot of boats were lost, and a lot of families were seriously hurt", but the State of Oregon provided some disaster relief to fishermen. This aid was not very much compared to the normal amount of money earned in a year. A lot of fishermen diversified in order to make it through the disaster by picking up work in other fields (such as construction) or by fishing for another species.

Groundfish buyback

The groundfish buyback was conducted in 2003 and was intended to limit the number of boats involved in groundfish fishing by purchasing boats and permits from their owners. One person explained that very little buyback money came to Garibaldi; whereas other ports had a lot of vessels that were bought out and this was confusing as to why certain boats were selected.

Many community members felt that the buyback didn't substantially decrease the number of vessels involved in the fishery, but rather allowed aggressive fishermen to use the buyback to finance a new vessel and permit in the same fishery. As one person explained,

"The buyback was kind of a restructure...it didn't really accomplish much because you had people...that had an old wood boat and got lots of money for it and then bought a better steel boat....so I don't really think it took ninety-two boats off...you put a big percentage of guys, aggressive fishermen right back in the driver seat of better boats".

It was also perceived that some fishermen made money off of the buyback by anticipating the buyback and purchasing a boat from someone that was about to go under and then selling that boat in the buyback, and so managers "got a boat out of the fishery that really wasn't part of the fishery to begin with".

Effects on charter boats

A few years ago when NOAA Fisheries halted bottom fishing both for commercial vessels and for charters because they were afraid of fishermen catching over the allowable limit, it hurt the charter fleet and put people out of business in Garibaldi because it was the busiest weekend for charter fishing. As one person explained,

"It killed us, we had millions of dollars lost on the coastline because of one person's decision...Had they let it go through the weekend, we might have exceeded the limit of fish by a few thousand pounds, but it would not have hurt the fishery, but their decision devastated the entire coastline...it cost us millions of dollars. In this port alone we lost over a half a million dollars to charter guys because they closed the weekend before. They could have let us go through, but they did not".

The number of charter vessels operating out of Garibaldi in recent years has decreased (from about twenty boats to five boats) because of management decisions. In spite of this the remaining boats still bring in thousands of tourists each year for fishing.

Change in Fishing and Seafood: Economics and Fishing Effort

In the 1960s going into the 1980s fisheries were open access with unlimited fish and unlimited seasons and "Garibaldi was a boom town in the early days". Garibaldi was mostly a salmon port before the 1980s and also targeted shrimp and some groundfish. Fishing was booming in the community in the 1960-1970s and the amount of salmon, shrimp, and drag fish that came into the community was amazing.

In the 1980s there was a lot of effort in commercial fishing in Garibaldi, "everyone threw it all in there because the port was making money". A lot of drag

technology began showing up in the community and groundfish became bigger. There were three or four bottomfishing fillet stations in the community right before 1980 and two in Bay City and there were no limits on the amount that could be caught at that time. Trolling increased tremendously from the 1970s to 1980s and that “provided the great economic boom”. At that time there were about 12 trollers that operated out of the community. Trolling hit a peak in approximately 1987-1988 and has been decreasing ever since then. Currently, “there are quite a few trollers that haven’t left the dock in a few years, it’s just not economically feasible for them”. Salmon gill-netting and set-netting also occurred in the community around the 70s and 80s.

The shrimp industry was booming in the 1980s “you could see a deckhand on a short six-month or seven-month season pull a hundred thousand dollars out of his pocket. Now you don’t see that anymore”. Fishermen were getting about seventy cents a pound for shrimp in the late 80s and there was a lot of work to be had with a lot of boats, dock workers, and crewmembers in Garibaldi. There were about 12-17 shrimp boats operating out of the community at that time. The Newport salmon fleet would come to the community in the spring in the 80s. The effects of overfishing in salmon, shrimp, and drag fisheries started to become more obvious in the 1980s and 1990s.

Historically, there were probably about 20-35 charter boats that operated out of Garibaldi; whereas today there are only about five.

In the 1990s to 2000s, fisheries managers limited entry and required the permitting of vessels to fish for each fishery. Permitting and limited entry changed everything and this change had a large negative economic impact on Garibaldi. Fishing quotas hit hard in the late-90s “and that put a stop to groundfish processing in Garibaldi pretty much except for a very limited basis”. The effort decreased in groundfish because of quotas. A fish processing plant shut-down in the community in the 1990s. In the 1990s, the Coho salmon closure shut down both commercial and sport fishing and this “was a very dismal time”.

In the 2000s the dry dock closed in the community and the shrimp plant changed hands and eventually shut down. For crab there were some historically good years in 2000-2005, and then it tapered off dramatically in recent years. For sportfishing in the 2000s, there are “a few more people with a little bit more money and bigger boats” that are able to go 25 miles offshore to target halibut or tuna and people are spending a lot of money in town to go sportfishing. Sport fishers also target salmon now.

Crab fishing effort has increased exponentially in Garibaldi from the historical past to today. Reflecting on this trend, one community member said,

“Thousands and thousands of pots fish off Garibaldi, not only from our local fishing fleet but from fleets up and down the coast...where it used to be...smaller individual and two or three man teams that would go out and now in forty foot and under boats and now quite a bit of the catch is being caught by larger boats”.

A lot of people have switched to crab because it has been more lucrative recently. There’s an issue with bigger boats coming from the north and south and crabbing around Garibaldi when the bar is too rough for the local fishermen to get access to the water. Recently, pot limits have been put in place for crab.

The commercial fleet of Garibaldi in general, however has decreased in the 2000s to today. Now there are only about one or two shrimp boats in the community (from a high of 17 shrimp boats in the past). Salmon has decreased to the point where it's difficult for fishermen to make a living.

Things have become smaller in scale as far as fish processing and now there's only a couple of seafood processors in Garibaldi (one main processor and a few smaller facilities) and one in Bay City and "half the time we've only got one" processor in the community of Garibaldi. Processors have to sometimes shut down right in the middle of the season. One large processing company controls most of the processing in Garibaldi and it is believed that their product is trucked outside the community to be processed.

The costs to fishermen (fuel, insurance, boat maintenance, etc...) have increased substantially in the last twenty years, whereas "twenty-two years later the price [for crab] has gone up a dime". The price for shrimp has actually decreased from about 1985 when it was \$0.87 per pound, whereas today it is about \$0.40 per pound (and it had been \$0.25 per pound for years in between that – in the early 1990s).

There has been a change in technology over the years with more high tech equipment required. Communication on the water has improved with radios first then cell phones and satellite phones.

It used to be that fishermen could make a living only fishing in one fishery; however today it is necessary to fish multiple seasons and diversify in order to make a living. It can be difficult to cover all the expenses that go along with owning a boat.

Perceptions of the State of the Ocean and its Resources

Overall health of the ocean surrounding Garibaldi

Generally, the perception is that the overall health of the fisheries in the Garibaldi area is good, "there is a lot of fish out there"; however it's not as good as it was in the past. "Garibaldi has a very abundant supply of a lot of different fish". Fishermen are fishing the same reefs that they did 25 years ago and haven't had to move on to other areas. Some of the stocks that were in danger are really rebounding.

The stocks are healthy; however not as healthy as they used to be because of the impacts of bottom trawling. Draggers hurt a lot of species because of their indiscriminate catch and also destroyed the habitat. It will take a long time to repair the habitat. As one person explained,

"If you destroyed the forest how do you expect the elk to come back? It is the same concept, and it is going to take millenniums for any kind of coral reef to develop out there anymore to give these fish the habitat to be back to what supposedly their virgin biomass was".

In contrast to the belief that the fisheries are healthy (although not as healthy as they once were), the minority opinion is that the ocean's fisheries are suffering and that many fisheries are overfished.

Rockfish: There are a huge number of rockfish now. As one person explained it "looks like the 70s out there". Since the troll fishery went limited entry and some sold their permits, there are a lot more rockfish. Also, shrimpers have put excluders on their nets so that they don't catch them. The creation of the Rockfish Conservation Area

(RCA) has helped rockfish stocks, but put some drag fishermen out of business. Since the RCA: black cod, ling cod, and redfish are plentiful. One person remarked, “I hear charter boats telling me that the rockfish are just exploding”. However, the minority opinion was that groundfish stocks are being overfished.

Salmon: Salmon is healthy and certain species (coho) are rebounding. The media makes it seem as if there are no salmon out there and that is the reason that the season is shut down; however it’s more complicated than that because if one area’s stock is not doing well – they will shut down the whole fishery. As one person explained, “it was just one river, it was the Klamath River, they didn’t want us to catch a Klamath fish, so they shut the fishery down”. Salmon are not as healthy as they could be because of past management decisions and changing overall environmental conditions. As one person explained, they “don’t see near the volume of salmon that I can remember seeing as a child”. The minority opinion was that salmon are slowly depleting.

Tuna: There is more albacore closer to the coast; whereas one used to have to travel farther (1200-1500 miles away) to catch them. It is pretty abundant when the water conditions are right and a lot of sport fishermen are starting to fish for tuna. Conversely, tuna has dropped off from where it was in the past.

Crab: One fisherman described the state of the crab fishery by saying that “crabbing is basically a self-sustained fishery, we are catching non-breeding males. And it is pretty well regulated. We now have pot limits, it’s limited entry”. It is a candidate for Marine Stewardship Council (MSC) certification as a sustainable fishery. Crab is cyclical and has bad and good years, but is currently coming back very strong.

Shrimp: The troll fishery was just MSC certified. “To get the MSC logo on your product, the fishery has to be well-managed, it has to be a sustainable fishery, and it has to be a clean fishery”.

Cyclical ocean and fisheries systems

The ocean follows cycles of ups and downs. “There are ups and downs, shrimp are cycling, the salmon are cycling, the crab all of them are going up and down in cycles”. There are years where certain species are in a downswing and then it will upswing again after a few years. Crab goes up and down in a cyclical pattern, as does salmon. As one person explained,

“It is always changing out there, you are going to have good years and bad years and as long as it doesn’t go on for two or three years everything is self-sustained and it will come back, something a plankton will come in bigger next time and the fish will be there, they will be healthier so they can survive better and it is just the chain of life, circle of life”.

Weather impacts such as El Nino

The ocean is constantly moving and different weather patterns (such as storms or El Nino or La Nina) affect the species that thrive or don’t thrive in a certain year, it’s a cycle. As one person explained about the year 2007 weather,

“This year we are going through a La Nina period when the water warms up at different times of the year. You are going to see changes in maybe shrimp,

salmon. Other fisheries can change, because the sea. Albacore fisheries will change because of this. It is cyclic”.

El Nino and La Nina go in cycles and change the variety of fish available for that particular year. The ocean changes every year.

There are changes which could be related to global warming such as different fish being available at higher latitudes and the frequency of storms. As one person noted, “We are seeing more storms and as we are being educated more and more about global warming, I think we are going to start noticing changes”. With changes in ocean temperature there could be a loss of local species that require colder water (such as salmon and bottomfish).

Need for science or different management techniques

There’s a need to manage a stock according to its range, instead of by arbitrary state lines. Fishermen have knowledge of where the fish are (which could be used by biologists). Many community members, especially those involved in the fisheries, feel that there’s a lot of bad science out there. One example cited by some community members was the Klamath salmon situation. In this situation, fisheries managers really don’t know how many fish are coming back and need to account for other variables such as predators and river conditions. Therefore the only thing they can control is the commercial harvest end of it, so they set stringent harvest levels.

Perceptions of the Future

Imagined future

When participants were asked to describe the fishing community in Garibaldi five years from now, it was commonly expressed that fishing will either decrease or stay the same in Garibaldi, with likely the same people remaining involved in it (because they already own boats that are paid for). However, it was also commonly hoped that fishing will get better and rebound.

The reasons that it will decrease or only involve people that are already fishing are because of things like the high cost of fuel, the lack of infrastructure, and the unsafe bar conditions or an inability to get out on the water in winter time. One community member remarked that “There are fewer and fewer people that are willing to do that [cross the bar]. When it is easier to hop in my pick-up truck and go up the street and hammer nails”. New people (new boat owners/captains) will probably not be involved in fishing in Garibaldi because it “is just not economically feasible to think about”. The tightening of regulations in recent years has decreased the amount of money to be made and new fishermen likely have a large amount of debt. Fishermen that have been long-time fishermen and have their debt down to a controllable level and those fishermen that have diversified will probably survive. A lot of the salmon fishermen are of retirement age and hopefully some will be replaced with other people.

Fish processing will impact what the future is like in Garibaldi. All the current processors are needed to support the current amount of fishermen in Garibaldi. But a lot of product might be shipped out of the community for processing (and some is already

done now). If one processor closes in the future it will likely impact the community in that either the processor is lost (and there are fewer options for delivering one's landings or nowhere to deliver to) or if it is purchased by the large processing company that is purchasing more and more processors as they hit economic hardships (and this company would have more control over fishing in Garibaldi). This large processor is starting to finance boats as well (that are having economic problems) and also gaining permits, and "he who controls the permits, controls the boats". It's hoped that there won't be a situation in Garibaldi where commercial fishermen become share-croppers. This monopolization of the industry will likely impact the future of fishing. It's likely that there won't be small mom-and-pop processors left in the community in five years. It's also likely that the number of fish buyers will decrease in the community; however it's desired that things would remain the same or that there would be more processing facilities in the community.

Zoning was also hypothesized as something that might impact the future of Garibaldi such as the citing of marine reserves and wave energy parks. It's hoped that these will not limit access to the water. Changing the zoning as far as whether or not it's commercial or sport is also something that might affect the future "because once it is gone you don't get it back". However, conversely the minor opinion was that there's room for growth for the port including yachts and mini-cruisers and this could theoretically benefit the fishing community because they would dredge to do this and there would be deeper channels, which would attract more fishermen. The minor opinion was also that sport fishing will increase and there will be little commercial involvement in Garibaldi in the future.

Desired future

When participants were asked to describe what they would like the future of the fishing community of Garibaldi to look like, a common response was that they would like to see an increase in the infrastructure in the community including more fish processing facilities or better ones (including facilities that process their product in the community instead of trucking it elsewhere to be processed) and to expand the port and harbor including more ice machines and a greater availability of fuel. Availability of more ice and fuel would be beneficial for both sport fishermen on the weekends and commercial fishing vessels and would probably bring more commercial fishermen to Garibaldi to deliver their landings because of the availability of ice. The availability of boat repair is also desired.

A common response was also to either increase fishing back to the level before it started to crash and to improve commercial fishing and the size of the commercial fleet in Garibaldi, but to have "a well-managed version". Some said to keep fishing at either the level that it's currently at or at some sustainable level. "To keep people employed and then bring that product, that value added product that we have in this beautiful seafood and bring it back to the town of Garibaldi, set-up a network where we can fill these niche markets". This could be a good relationship between newcomers to the community (who would like to purchase fresh fish) and the commercial fishing fleet. They would like to see the fishing community continue as it is, but be able to make a living and not have to

be as concerned with whether they will have the ability to pay bills and their moorage costs. If fishing improved, it could benefit the town because of the trickle-down effect.

Some would like to see charter/recreational vessels return to the level they used to be at or close to that level. They would like to not continue to see it decline. As one person explained, “it’s kind of like gas stations on the corner. The more [charter boats] there are, the more people will come here”.

It was also mentioned that more businesses that support tourists and also commercial fishermen would be beneficial such as grocery stores, restaurants, motels, service stations, moorages for boats, boat launches, and guide businesses. This, along with having a processor that processes locally, would all create more jobs for the community. Conversely one person mentioned that “we’re one of the last real fishing villages on the Oregon Coast and I would like to keep that feeling by not overdeveloping”.

APPENDIX B

NEWPORT, OREGON COMMUNITY PROFILE

Each section of this profile contains a summary of perspectives and information provided in the interviews. Where indicated with quotations, we have included verbatim comments from transcribed interviews to add depth and color.

Importance of Fishing to the Community of Place

Commercial fishing is very important to Newport. “Fishing is this community. If fishing doesn’t exist, there is no Newport”. Fishing is one of the top industries in the community (along with tourism and logging) and “is the backbone” of the community and is “responsible for most of what Newport is and does”. As one community member explained “Newport I think was #11 in the US for fish production and for landings, that that’s kind of the badge that this town holds up, is how much fish they bring in”. It has one of the largest fleets of commercial fishing vessels on the coast and is comprised of a local fleet as well as a distant water fleet that fishes in Alaska.

Commercial fishing provides money to Newport and Lincoln County in the form of income from commercial fishing, the landings delivered to the community, in the businesses that support fishing, and in the tourists that it draws in with its unique working waterfront. People are also drawn to Newport to sportfish or buy fresh fish from the commercial fishing vessels. A lot of the tourists come to Newport “not necessarily just to fish, but they come here to look at the boats, look at the waterfront” or go to a restaurant that serves locally caught seafood. The importance of fishing to the town is also visible in the zoning of the working waterfront: the town has dedicated spots on the water to waterfront processing facilities and dedicates parking along the port to fishermen.

As one person explained,

“Newport is a fishing town. A lot of people here derive their income from fishing. There’s a lot of trickle down income that comes into Newport from fishing, all the businesses that support fishing around here. And it’s also a big part of the culture, as the fishing lifestyle if you have a commercial fisherman in your family. The way your family runs is different, the way your household runs is different, and that affects a lot of the other culture throughout the city”.

Other businesses such as support facilities including fish processors, shipyard work, maintenance, electronics, engines repair are based on fishing. A lot of fishermen make this community their destination because of the fishing services offered. A lot of people in Newport have family or a friend that fishes and fishing provides a common cause/community to those groups involved in fishing when the season starts and one can feel the town getting ready and excited for crab season. Fishing provides a cultural value to the community, “a value that you can’t really quantify”.

One person explained that fishing is “more important than most of the new arrivals in town really want to think”. It keeps money coming into the town during the winter when tourism is not occurring. It was estimated that there were 450-500 local fishermen in the

community and not including those engaged in the distant water fleet (vessels that are engaged in Alaska fishing).

Characteristics of the Fishing Members and their Families

Fishing Members

Fishermen in the community of Newport are very diverse; it's a "little microcosm of society in general". They come from different backgrounds (some come from generations of fishermen and some come from other careers) and are engaged in fishing at different levels. Some fish on small vessels and many of these vessels have diversified over the years (as far as the fisheries they are engaged in – have diversified from only being engaged in salmon to other fisheries such as crab, long-line, hook and line, etc.). It goes from "one end of the spectrum to the other" with some vessels that are happy with making enough to get by, some that are struggling, and some that are motivated to increase the size of their operation and all the way up to those that own multiple vessels and make multi-million dollar grosses. The fleet in Newport is diverse with many different gear groups, species that are targeted, and size of vessels. The success of the vessels could depend on what fishery a fisherman is engaged in: salmon has been struggling; whereas those engaged in the Alaska fleet are doing pretty well.

There's a wide range of education varying from those that didn't graduate from high school to those that are college educated; however "they all tend to be looking for their own education in fishing" and have received a lot of education on the water, getting what was equated by one community member to "a couple thousand hours of lab time in the first six months of their life" on the water. One community member explained that the fleet in Newport is better educated than elsewhere on the coast with more fishermen that were college-educated.

There's also a large spread of ages from about people in their high teens to 20s all the way to those in their 70s. Boat owners are older in age, usually forty years of age and up; whereas crewmen are younger in age (from about their 20s to 40s). Skippers are usually older as well (between 30-60). Some fisheries are made-up of older fishermen such as draggers. The fleet is aging and in many cases there are fewer opportunities for younger fishermen to become boat owners where:

"you kind of almost have to be born into it, a fishing family, and/or you have to have some money to invest, because you just don't become a deckhand and work your way up like we used to" because of the cost of permits and difficulty in getting a loan.

Although, conversely it was mentioned that if one works hard and manages their money well, they will end up with a boat.

There's an issue crew turnover and "if you find a good deckhand, you keep him" and pay them enough to guarantee they stay. One community member made a great analogy,

"I...equate it to, it's hard to find a good secretary...because the kind of person you end up wanting is someone who wants to be more, and I think it's the same with crew...eventually you're going to want to be a vessel owner".

Some crew members (or fishermen in general) have issues with alcohol or drugs and some crew members might jump from boat to boat in order to avoid things such as child support. Or just switch boats because “the grass is always greener on the other side”. There’s also an issue with good crew moving to vessels that fish in Alaska because there’s more of a chance for higher pay in Alaska. On some of the local boats crew members don’t make enough money for a family wage. It can be difficult for crew to make enough money because there’s more down time than there used to be and because fishing is less profitable. Some boat owners have new crew members each trip back into port; whereas some have crew members for over ten years or more. Larger vessels usually have older and more experienced crew. Alaska vessels (from Newport) seem to be more stable and have more stable crew as they usually try to hire them for a year.

Fishermen are mostly men in Newport. There are some women fishermen (mostly in salmon or shrimp), but there used to be more women involved in the past. There used to be more husband and wife couples that were involved in trolling, but this has decreased (because of the decrease in the troll fishery).

Fishermen (boat owners) are each an individual business and they’re independent, dedicated, competitive, and hard-working. Successful fishermen (boat owners) run their operations as a business, but there are variations in Newport in those that run a tight ship to those that don’t have as efficient and successful operations. Fishermen are self-employed. Fishermen that are successful work hard and put in the necessary free work (painting the boat, cleaning the boat, fixing the gear, fixing the engines, etc.). Whereas new people to fishing “just want the gravy and there’s not much gravy to be had”. Boat owners have more responsibility because they have to constantly think about the boat, money spent, gear, etc... and “have that responsibility 365 days a year”. Some boat owners hire a skipper to run the vessel.

It has become more difficult to enter fishing and become a boat owner. As one person explained, today it’s “very difficult to enter into the fishing business because it’s not just the price of the boat. The price of the boat in this day and age is actually secondary to the price of the permits in the drawer”. Permits can be very expensive to purchase.

Fishermen in Newport love fishing. “They come to fish because they love the ocean and want to fish”. They are dedicated to remaining in fishing and making a living in spite of changes in regulations and the fact that the industry is experiencing difficulties. They’re innovative and inventive “and seem to invent new ways to catch fish”. As one person explained,

“most Newport commercial fishermen...are passionate about fishing. It’s in their blood. They just want to go out and fish. And it’s a lifestyle”.

Another person explained that they “really feel [their] connection with the planet” when they fish.

Fishing Families

Families of boat owners are often all involved in the family business. As one person explained, “when a person owns a boat and fishes, whether it’s small or large, the family is going to be involved”. The wives are often the bookkeepers of the family

fishing operation. A lot of wives are involved in the management of the business including issues with crew and paperwork, especially the wives of larger vessels. Sometimes wives work/fish on the boat as well. Often the sons (or daughters) of fishermen will fish or work on the family boat (frequently during the summers) from a young age. A lot of the sons of fishermen become fishermen themselves and there are some families in Newport that are second, third, or fourth generation fishers. Since fishing is dangerous, sometimes there are casualties and family members lose their lives at sea. However, it was mentioned by one community member that there have been improvements in safety equipment and “that makes fishing families who are left at home more confident when their spouse is out on the water”.

There are a lot of family businesses; however there may be less fishing family businesses (family boats) than in the past. Some local family businesses have developed their own value-added, niche markets and fish, can, and sell their product themselves, “in order to do what they have to do to survive”. Or some sell to restaurants. Some children take over the family business and the vessel stays in the family; whereas some vessels don’t stay in the family. It’s nice to work for a fishing family on a family boat, “it seems more tight-knit”. As one fishermen explained,

“The families who are around are nice to work for. The one I work for takes really good care of us. He pays us all really well. Our checks are always good. If we ever are broke and we need an advance, he will always have one for us...he invites all of us [crew and captain to his parties]. He treats us [crewmen] all as equals. I have a lot of respect for some of the fishing families still in town”.

Most fishing wives in Newport hold outside jobs; however the wives of owners of the larger boats might be less likely to hold an outside job (because the larger Alaska vessels make a larger income). Sometimes wives hold outside jobs to receive health insurance for the family and some hold jobs to be able to bring in money during the slow times in fishing. As one fisherman’s wife explained, “Most of the fishing wives I know have jobs. It really takes two incomes for the most part, in order to run a household, even if it’s a fishing family...I think that’s usually true [that the wives have outside jobs], but they also have the extra job of running a whole household by themselves”. Fishermen are gone a lot and the wife handles all the duties of the household while the fisher is out fishing including raising the children and paying the bills. Some wives are involved in volunteer work such as volunteering at schools.

Fishermen are gone often. Fishermen that are engaged in the Alaska fleet must travel frequently from Oregon to Alaska. There can be family hardships and difficulties resulting from fishermen being gone so often including missing their children grow up, clashes between partners when the fisherman returns home, and also feelings of loneliness and lack of support for the wife of a fisherman during times when they are out on the water and away from the community. Sea Grant Extension and Fishermen’s Wives have been involved in Newport in programs over the years aimed at fishing families to create more of a community and support for the partner who is left at home (while the fisherman is fishing) and for the rest of the family, and this has been a positive step.

Changes Over Time

More wives hold outside jobs today than in the past because fishermen “can’t make enough fishing reliably to not do that”.

Some said they think fewer fishermen are going to want to bring their sons into fishing and that the reason that fewer kids enter fishing is because there’s less of a chance to get a high-paying job in fishing in Newport or Alaska and less opportunities, “unless you have somebody who’s a multimillionaire behind you to buy your way in, there’s nowhere to go and work up the ladder now. That’s why it’s going to kill the heritage here”. Some fishermen today are asking that their children to attend college before becoming fishermen.

There is less stability in fishing now than in the past and it’s becoming more difficult to make a living in fishing. One resident explained this saying that

“I think they [fishermen] feel more...threatened because of all the regulations, the environmentalists, everybody who is trying to shut down fishing. That threatens small family business and that in turn threatens livelihood for children and that is difficult. And it’s gotten much worse in the last 10 years”.

There used to be more highliners (those who make a lot of money from fishing) than there are today. There’s also more a disparity between the rich and the poor with crew members having a more difficult time. Conversely, fishing was said to always have had high and low years and that what matters is what ones chooses to do with the funds from those high years in order to last through the low years.

Boundaries: Connection between the Fishing Community and the Community of Place

Table 2 below lists services available in Newport and elsewhere. Local fishermen are somewhat dependent on neighboring communities (Toledo and Reedsport) for some boat repair services. Larger vessels must travel farther to acquire boat repair services because of their size. Gear is amply available in the community in the form of at least three major marine supply stores; however some still acquire gear from other communities. Fish processing is available in Newport, but in recent years this sector has become monopolized by one large processor (who has purchased what used to be different companies and now has various facilities in town). This creates a situation where fishermen have less power (in terms of who they decide to sell to, what price they receive for their catch, and when they are dictated to go fishing [because of when the processor wants to receive their catch]). There are still some smaller processors in the community as well. Fuel is available in the community; however it is somewhat of a monopoly situation. Some fishermen have fuel trucked in tankers (for large vessels) from the Willamette Valley. Ice is available in the community, but it’s sometimes difficult to get and there are times when there hasn’t been enough available. Some vessels (such as the whiting fleet) however don’t use ice and this isn’t a concern for them. Book-keeping and legal services are available. Newport has a local, active fishermen’s wives organization that helps fishing families in times of a tragedy. It also has local schools and churches. Churches also aid in times of tragedy (loss of local fisherman’s life) and

sometimes supply counseling. Oregon State University also has offices in Newport as does Sea Grant Extension.

Table 2: Services and Where Available

Service	Community Where Available
Gear	Gear is widely available in the community of Newport with at least three main gear and marine supply stores such as Englund Marine in the community. However some fishermen do purchase gear from other communities (Bellingham and Seattle were mentioned) and even as far away as Europe. There are net repair services available in the community. There are also gear sheds (for the storage of gear) available at the port and terminal.
Fuel	Fuel is available in Newport (with two fuel sellers on the Bay). Some fishermen bring in fuel from the Willamette Valley in tankers (for larger fishing vessels).
Ice	Ice is available in Newport, but more ice facilities would be beneficial. Sometimes it's difficult for the smaller vessels to acquire ice quickly.
Boat Repair	Some boat repair is available in Newport (especially electric maintenance and diesel repair) and some is done dockside; however a lot of the boat repair facilities are located up the river in the neighboring community of Toledo (which is a hub for shipyards and vessel repair) or to the community of Reedsport. Some of the larger vessels are too big for the facilities in Newport and have to be taken elsewhere to do their haul-out work (such as Reedsport and Portland). Some fishermen do their own boat repair.
Processors	There are various fish processors in the community such as: Pacific Choice, Borstein's, Hallmark, Trident; however there has been consolidation in recent years with one large processor, Pacific Choice purchasing what used to be many different companies. There are also smaller, independent buyers and sellers. Companies such as Ocean Beauty, Newport Seafood (became Pac. Choice), Pacific Shrimp, Jerry Bates, Regatta (became Hallmark), and New England Seafood are not in operation in the community anymore. The also port offers a hoist for offloading and public docks for fishermen to sell their product (for smaller catches).
Bookkeeping	Have bookkeeping services in Newport (and some that specialize in fishing); however some people do their own bookkeeping.
Legal Services	Legal services are available in Newport with some attorneys that specialize in maritime law. Some people still go to larger cities such as Seattle and Portland for major legal troubles (such as the loss of life on a vessel).
Social Contacts	Churches, schools, an active fishermen's wives organization, exist in the community of Newport as well as Oregon State University facilities (including Hatfield Marine Science Center) and Extension offices.

Communication within the Fishing Community and between the Fishing Community and Others

Communication process within the fishing community

Communication among fishermen in Newport is “largely informal, everything from radio conversations to lunch meetings to just chance encounters on the dock or in gear stores and the grocery stores... We don’t go too long without knowing what’s going on within the fishing community”. There’s daily one-on-one communication and information on what is currently going on (such as developments in wave power) is passed on among members of the fishing community. Fishermen congregate at a local café, Shirley’s or at Schiewe Marine (a gear store) and exchange information; however a lot of this informal communication can be rumors or not entirely accurate and “probably you’d have to leave Shirley’s and then go down to Schiewe Marine to hear the other side of the story”. Some respected and knowledgeable members of the industry are sometimes sought out to help disseminate information to other fishermen.

Communication process with other organizations

The Sea Grant Extension office and the Fishermen’s Wives Organization (located in the Extension office) help to communicate information to fishermen. Sea Grant “does a great job of getting information out to the fishing industry” and plays an important, critical role in disseminating the information from fisheries managers.

A lot of members of Newport fishing fleet are involved in various gear or species specific associations: the Fishermen’s Marketing Association, a crab association, trawl association, salmon association, albacore association, etc... These associations hold meetings and provide information to fishermen who are involved in the associations; however “the one problem is reaching the fishermen who don’t belong to these associations”. Englund Marine provides a meeting space for these organizations in the upstairs floor of their gear store.

A lot of crab fishermen are involved in yearly West Coast crab conference calls that discuss crab prices (before beginning the fishing season) and these calls help crab fishermen and their families have a better idea of when the season will begin.

There’s also a monthly fishermen’s forum held by the Port of Newport “to allow the fishermen to come in and just discuss issues with the port and have one-on-one communication with important officials and employees”. Information is also received through local newsletters and the local newspaper.

Communication process with the community of Newport

Communication between members of the fishing community and the rest of the community of Newport can be difficult because of a divide between “the uptown people and the fishermen”. Communication with Newport could be better. As one person explained, “We’re trying to get these groups together so that they understand where the fish and the food comes from and that the commercial fishing industry isn’t about raping and pillaging and going out and taking the last fish”. There has been an effort to educate the Chamber of Commerce on fishing by providing “dock walks” to provide educational

talks by economic experts and explanations from fishermen as to the importance of fishing.

Communication process with fisheries managers

Federal and State fisheries managers communicate with fishermen through meetings, mailings, email, websites, and faxes. However, a lot of fishermen don't have access to email or the internet or regular access to mail. Fish processors and gear stores help to disseminate the information by hanging messages from fisheries managers on their bulletin boards.

Some members of the fishing community of Newport are frustrated with the fisheries management council process. As one person explained,

“The council process appears to be more of a process to satisfy the requirement to have a public hearing. In a lot of respects, anybody who is responsible for making a decision have their minds made-up before they to the public process...and we have a tough time explaining to them why they need to do things differently. So we end up being frustrated to a point where it's almost like you don't want to be involved in the process anymore because you're not getting anywhere”.

It seems that fisheries managers ask for the opinions of fishermen, but then often ignore them which “it's sad because the people that know about the community are the people within the community”.

However, it's important to stay involved in the council process and a lot of fishermen from Newport attend council meetings. Fishermen in Newport are more involved in the State and Federal fisheries management processes than in other ports. Conversely, it was said that most fishermen don't often attend council meetings because they can't afford to spend the money to attend the meetings and “can't afford to miss fishing time to go to meetings”. Council meetings are expensive to attend and are often in far away locations which are not convenient. Fishermen in Newport are managed by two possible councils depending on their engagement in fishing: the North Pacific Fishery Management Council (for those engaged in Alaska fishing) and the Pacific Fishery Management Council (for those engaged in West Coast fishing).

Gear specific fishing associations also brief fishermen (that are involved in those associations) on upcoming council meetings and issues that are being discussed and these organizations decide on their position as an association on the proposed council measures. ODFW also holds meetings to inform fishermen of council matters.

Some expressed that there's a “communication gap between the management and the fishery”. And a disconnect between scientists and fishermen which is unfortunate because fishermen are out on the water and have a large knowledge of what is occurring out there. However, there is an organization in Newport which is “trying to facilitate that relationship between scientists and fishermen”. There should be improvements in “the communication between the people that are making the decisions that affect us”. Conversely, some Newport fishing community members expressed that communication with fisheries managers is good. And as one person explained,

“fishermen don’t always like what the fishery managers provide in information, restrictions, and regulations, but I think they also understand that by working with fisheries managers, it helps protect their own resources”.

Newport was said to have good communication with fisheries managers because Hatfield Marine Science Center (where the ODFW local office and NMFS local office are located) is “right across the street”.

Community members spoke of their good relationship with ODFW. As one person explained, “there’s a few people [at ODFW] we can go to directly who are really helpful. And I think the fishermen and those folks work together as a team pretty well”. ODFW holds meetings to inform fishermen of various issues (such as crab pot limits) and staff members are “readily available for discussions on different topics”.

Communication process with Coast Guard

Community members spoke of their good relationship with the Coast Guard. Newport fishermen “rely on the Coast Guard every time they cross that bar or return, or if there are problems at sea”. The Coast Guard has not only sea rescue services in Newport, but also air rescue services. The local Coast Guard participates in the Newport Blessing of the Fleet ceremony and the ministers (who bless the fleet) are located on the Coast Guard vessel. They are involved in Fishermen Appreciation Day where they check fishing vessels and gear and help to put on a safety class. They also help in times of tragedy and “really step up and help get the information to the people”. This good relationship with the Coast Guard was mentioned to be propagated by the Fishermen’s Wives organization who invites Coast Guard members to seafood dinners and are “made to really feel part of the community”. Coast Guard members participate in the community which is valued by fishing community members and are “good people”. The minority opinion was that there’s not currently a good relationship with the Coast Guard because of personnel changes.

Perspectives on Management and Effects of Management

Several specific management topics were brought up in interviews:

Salmon disasters

There have been two official salmon disasters declared in the past (2006 and mid 1990s). 2008 was considered an extension of the 2006 disaster for salmon fishermen, with disaster relief aid delivered as well. Salmon disasters have been declared during years of complete closure for salmon fishing. Here the amount of the weakest stock along the coast dictates whether or not fishing for all stocks of salmon is closed. These salmon disaster years have substantially impacted those involved in salmon fishing and some people lost their homes because they were not able to pay their mortgages. And some lost their boats. As one person explained,

“the salmon disaster was huge and even being in the business as long as I have, I didn’t realize how much salmon is part of the coastal fleet as well as Newport. I was really surprised it was as big as it was. I mean, that really hurt. That hurt us a lot too, because we sell a lot of stuff to salmon boats... That pinched us pretty hard”.

Disaster years hurt salmon fishermen and their families as well as support services such as gear stores. Relief funds were provided from the government with good intentions, but “it doesn’t seem like it was handled correctly on the federal end of it, how it was broken down to see who got the money and how it was distributed”. There were a lot of hard feelings about the way in which the money was distributed; with some people receiving what people felt was not their fair share. Some re-training programs were also offered to some salmon fishermen.

Groundfish buyback

The groundfish buyback was conducted in 2003 and was intended to limit the number of boats involved in groundfish fishing by purchasing boats and permits from their owners. There were 8 medium sized (75 foot) groundfish boats from Newport that were purchased during the buyback. Since all the vessels that were bought out from the community are medium sized, “now all we have is big boats and small boats. There are virtually no medium-sized groundfish boats” in Newport now. These medium sized boats “were the family continuous operation boats” and now the groundfish vessels that remain in Newport are draggers and big water boats.

The intention of the buyback -- to reduce the fleet -- was perceived as good. The buyback did accomplish removing some vessels from the fishery; however

“a lot of those boats weren’t real productive boats, but some were. The effects it had on the Port of Newport were moorage. Because a lot of those boats got sold and went to Seattle. A lot of them didn’t get sold and a lot are still in town, tied to the dock.”.

There are 4 to 8 buyback vessels that are still sitting vacant on the dock using moorage space in Newport and two docked in South Beach. A lot of vessels that were purchased in the buyback were not working boats and therefore this didn’t help alleviate over-fishing. Also, “some guys that sold their boats just went on to [purchase] other boats” and in many cases in the same fishery (which was not supposed to be allowed because of a non-competitive clause).

Some in who sold their boats had proposed a low bid to fisheries managers and were disappointed when they received this price and later wished they had not taken part in the buyback. Some of the gear stores thought they would be hurt by the buyback, but weren’t.

Communities along the coast were affected in different ways with not too much of an affect on Newport, but “other communities have had almost all their vessels bought back, so then the processor had to close”. One person explained that, “if you look at the social and economic impacts...the buyback was the worst disaster for some parts of the coast than it’s ever been” because certain ports lost their processor and also because certain areas are now over-utilized (because a port still has a good sized fleet and thus the fishing is concentrated in that area) and certain areas are now under-utilized (because a port has no groundfish vessels now and there is no fishing in that area) because the fleet only radiates so far from the port.

There were other misunderstandings or unintended consequences. For example, some people didn’t initially understand that the money which was used by the

government for the buyback program would be funded by other fishermen. For the most part it is considered not fair that all fishermen have to fund the buyback, especially when it was perceived to benefit some fishermen that used it to profit unfairly or purchase new vessels in the same fishery or just get “better boats and better gear”.

Permit stacking – black cod or groundfish

Permit stacking is where a vessel in a fishery (currently being done with black cod and groundfish) is allowed a certain number of pounds which can be caught in a certain amount of time, but vessels “stack” permits (multiple permits on one vessel) in order to be able to catch more of the same kind of fish per vessel. This can be done by leasing or purchasing the permits. Some said this is a great thing because if you have one permit “it’s just barely worth putting the gear on the boat and going fishing. When you consider the other fishing opportunities you have that are lost when you have to stop fishing and change over the gear” to switch to another fishery. It makes more economical sense to stack several permits and be able to fish continuously. Conversely, it was expressed that when a fishery is switched over to a permit stacking scenario that it should be considered on a case by case basis because “once you start permit stacking...you start putting people out of business. Less crew members, less boats”.

Halibut fishing area

It was mentioned that the current regulations on halibut (which include a small fishing zone outside 100 fathoms and inside 30) “has had a huge impact because very little halibut can be caught depending on where the fish are” and this causes it to be a gamble to spend the money to reach the fishing grounds because there’s no way to foresee whether or not one will catch one’s quota.

Change in Fishing and Seafood: Economics and Fishing Effort

In the 1960s most of the commercial fishing vessels in Newport were wooden vessels 60’ and under in size and involved in salmon, Dungeness crab, very little shrimp, and some tuna fishing. Fishing was open-access.

In the mid-70s it was explained that,

“we began to see almost a revolution...where we saw a number of new vessels, a lot of them steel, some fiberglass, with bigger engines, sophisticated electronic equipment, lots of horsepower to pull nets in mid water instead of just the bottom, some bright young skippers jumping into the fishery who were well-educated, hard chargers, had a lot of ambition and competitiveness, and the whole sense of the fishery changed at that point in time”.

In the 1970s-1980s the Capital Construction Fund allowed fishermen to set aside pre-tax income to use to purchase new vessels or repair old ones and “a lot of fishermen invested heavily in that fund and that’s one of the reasons money became so available for new vessel construction and old vessel reconstruction”. The government encouraged growth of the fishing industry through this fund. The mid-water trawl fisheries developed in late 70s and early 80s (rockfish). Involvement in the whiting fishery began at this time.

Shrimp was priced at \$0.23 to \$0.25 per pound before 1980 and “it was a very viable business for 100-150 shrimpers” in the State of Oregon (with about 60 in Newport).

In the 1980s and before there was a huge buildup of the salmon fleet. There was also a big boom the 80s in Alaskan king crab fishing and some fishermen from Newport took part in the fishery and made a large amount of money. And “still to this day some of the #1 boats up there are Newport boats”. Some Newport residents were involved in Alaska fishing at this time and were able to purchase their vessels from the income they made.

Regulations were developed in the 1980s and entry was limited. As one person explained,

“Prior to 1980, all you had to have was a strong back and a willingness to take a little bit of financial risk and go out and go to work...the ocean was just like the First National Bank. All the teller windows were open and you could pretty much go out there and just get money, just like making a withdrawal”.

For many fisheries the 1980s were good years as far as the prices received for one's catch (especially in comparison to costs such as fuel); however those prices have in many cases stayed the same over the past 30 years (whereas fuel and repairs have at least doubled in price since then). In the 1980s the West Coast fleet was new and “they really thrived”.

In the 1990s the effects of overfishing started to become visible (from the 80s) and the groundfish industry was extremely cutback. These cut backs “were devastating to a lot of fishermen and fishing families. A lot of people went out of business”. Boats that were involved in bottom trawling had to diversify and become engaged in multiple fisheries (trawlers today are still frequently involved in multiple fisheries). There were several El Nino years in the 1990s which especially affected salmon and there was a crash in the salmon fishery in the 90s. Many salmon fishermen moved into crab fishing in the winters and the Dungeness crab fishery began to build-up in Newport. Involvement in shrimping decreased considerably in the 90s (today there are about 3 shrimpers in Newport). Most shrimp today is imported from outside the United States.

In the 1990s and 2000s it's necessary to have permits for limited entry fisheries and in some cases have IFQs (Individual Fishing Quotas, an amount of allocated catch). The groundfish buyback occurred in 2003 and cut the trawl fleet by 50%. Recently rockfish started to rebound (after they had been overfished). There have been tremendous changes in the salmon fishery and as one person explained after the 2006 disaster, salmon fishermen were “a huge group of people who used to make a living catching salmon, and now they can't do that anymore at all, and there are people losing their homes and boats because of that”. In 2007 the whiting fishery season was cut-short because of an issue with bycatch of little rock. The distant water fleet is still doing well today.

Fishermen are adaptable and “if they can't fish for one thing, most fishermen will go out and fish for something else if they can”.

Perceptions of the State of the Ocean and its Resources

Overall health of the ocean surrounding Newport

Perceptions varied as to the health of the ocean surrounding Newport. Generally, the perception is that the overall health of the ocean in the area around Newport is good or at least ok. Some fisheries are not doing very well (such as salmon), but the other species are doing well for the most part. As one person explained, “I think the fisheries are healthier than they have been in a long time”. It was also expressed that “stocks are probably healthier than we believe” and that the perception is a lot worse than the conditions truly are. In opposition to this somewhat modest outlook, some expressed that there is an abundance of fish in the area around Newport “because of the changes that the industry has done”. It was commonly expressed that Newport fishermen have been proactive about making changes that will benefit the stock of fisheries. And conversely, some community members said that the fisheries are probably not as healthy as they once were.

There are rich feeding grounds off of the coast of Newport. There are natural variations in stocks and different species (such as crab and tuna) have cycles of good and bad years. As one resident explained,

“it’s cyclical, and you talk to any fisherman who has been in the business 20, 30, or even 50 years, and they’ll tell you that the fisheries are cyclical. You’ll have a good crab year or two and then you might not have another good crab year for another five years, but it always seems to come back”.

Whiting is healthy and also goes in cycles and “a lot of that has to do with conditions in the ocean at the time and survival of the young”. There have been record years in crab harvest and large deliveries of tuna. There are a lot of shrimp. Halibut is doing well.

There are a large number of canary rockfish, more than biologists might think because of their limited means of surveying canary rockfish. There are a large number of rockfish which was attributed to the Rockfish Conservation Area and the buyback. Little rock has rebounded to the point where it was hard to avoid catching it during the whiting fishery (it’s caught as bycatch during whiting). One person explained that “the biggest challenge of fisheries off this coast is bycatch because the stocks of these other fish are so large now that it’s hard to stay away from them” but that depends on the fishery one is involved in. Ling cod is also rebounding quickly.

Salmon are not doing as well as they were in the past. One resident explained that salmon stocks depend on the conditions in the ocean by saying,

“I think salmon fishing changes almost from year to year based on what the outfalling is and what the survival rate is in the ocean. I think that more than anything, conditions in the ocean, if we get an El Nino or something, it causes a downturn in salmon”.

Salmon is also dependent on river conditions such as in the Klamath River where if there’s a drought year then the river goes down (and the water temperature increases) and this can cause the smolt to die.

Dead zone

A few long-time residents explained that there has always (or off and on throughout history) been a dead zone around Newport and that the media has blown the current dead zone out of proportion. One person explained this saying,

“I think those of us who have been around here for a few years feel that the dead zone has been there, I mean I can remember back 35-40 years ago. We had similar occurrences of lots of dead crab and fish washing up on the beach, and didn’t think much about it, but my guess is there was probably a dead zone happening then. I don’t think it has anything to do with the health of the ocean”.

One resident attributed the dead zone to a lack of northwest wind and lack of upwelling. Conversely, one resident mentioned they had not heard of the dead zone before from old-time fishermen and was concerned that they might be exacerbating the dead zone by such actions as dumping whiting carcasses into the middle of the hypoxic zone.

Weather impacts such as El Nino and cycles in the ocean

When there are El Nino years there is a different distribution of fish because of the warmer water with some squid and rockfish from California appearing off the coast of Newport. Weather events are cyclical with some warm water regimes and then some cold water regimes. When there are changes in the temperature of the water “you can see the changes in the fish stocks” with some fish species doing better in warmer water and some doing better in colder water. The water in 2007 was warmer than in some years, about “three or four degrees above what we usually would see this time of year, within a certain distance from the coast”. Tuna were being caught in warmer water than normal and closer to the coast. If there is no Northwest wind and thus no upwelling, that decreases certain fisheries. This also is cyclical.

Perceptions of the Future

Imagined future

When participants were asked what they imagine the fishing community of Newport will be like in five years, there were a variety of answers swinging both ways as far as fishing decreasing or increasing in the community in the five years. Some people said that they think there will be fewer vessels and people involved in fishing in Newport. But that “a lot of the smaller fishermen who do the multiple fisheries are the ones that will survive” or those that have developed a niche will survive. If rationalization occurs there will likely be a consolidation in the fleet which means fewer jobs including fewer crew jobs. A majority of people mentioned that they think salmon will continue to get worse and there might not be a salmon industry and some mentioned salmon will be smaller but stable. Conversely, some fishing community members said they think fishing will continue as it is now and remain strong and will be “pretty status quo” with the same number of vessels involved. Newport has a great infrastructure that will continue to draw fishermen. Some residents said they think fishing will be stronger as long as we “make sure we can sustain the stock for future years”.

The future was said to depend on several variables including the development of wave energy and marine reserves. It was hypothesized that there will be marine reserves around Newport in five years. With dividing up the ocean for these purposes “what we might have in five years is an ocean that’s totally zoned”. The Rockfish Conservation

Area already decreases the possible areas that can be fished, but with these new developments there could be less area available to fishing which could impact the future of fishing. As one person expressed, “we could have a large competition for a space to do business”. With the price of fuel, insurance, and medical coverage continuing to increase this was also said to possibly affect the future of fishing if the price received for one’s catch remains the same in five years. One person explained that “if the price of fish stays the same, you’ll see massive changes”.

Some suggested that if crab fishermen don’t receive some sort of local control for their fishery that crab fishing will decrease and “the crab fishery is the fishery that’s been keeping most of these ports alive. That means your processor goes away”.

Desired future

When asked to describe what they would like the future of the fishing community of Newport to look like, there were a variety of answers. A lot of fishing community members mentioned that they would like the future to be “just as it is” for the most part. Because, as one person explained, “We’re close to what every fishing community should be like, so I think without much more effort, we could be one of the best”. Some said they would like the community to be as it was before with fewer regulations and more of an ability to make money. People also mentioned they would like fishing to stay at a sustainable level. A few mentioned they would like the ability to plan seasons (as opposed to finding out when fishing will begin at the last minute).

It was frequently expressed that they would like to see a change in fishing processing. With either more buyers available in the community or a chance for fishermen to buy back some of the processing and create a coop. As explained previously in this profile, a large portion of the fish processing in Newport is controlled by one large processing company that especially dominates crab processing which what one person explained as “90-some odd percent of crab buying”. This allows the processor to have control over when crab fishing occurs and at what price (what price fishermen receive for their catch). Fishermen have “lost any ability to negotiate”.

Some shared that they would like the creation of a market for fishermen to sell their catch. Either something similar to a Saturday market, but daily or a “market on the waterfront where if somebody wanted to sell their product to the public without sitting on their boat” they could do so. Or the creation of a special section of the port where all the boats that sell their product would be located so the public could have easier access.

Others expressed that they would like the perception of fishermen by the public and environmentalists to be changed in the future. That the media’s portrayal of fishermen as pillagers of the sea is incorrect and something should be done to change this perception.

Putting “fishermen in more of a management role” was also mentioned as well as more interaction with fishermen and managers (including more incorporation of fisher’s knowledge) and having a “change in the management scheme of things where they’re having more meetings here and more available to them”. As was increasing the technology used to track catch statistics in order to be at more real time and using better data for stock assessments and decision-making.

Facilities: better moorage was mentioned as something that was desired in the future as was “a good haul-out facility for the bigger boats” which would provide more jobs and keep money spent in the community. More parking spots along the water for fishermen and the services they need (such as spots for visiting vessel repair services) are desired because it can be difficult to park during tourist season. Cold storage because of the shortage of ice at times was also mentioned as being desired in the future.

APPENDIX C

PORT ORFORD, OREGON COMMUNITY PROFILE

Each section of this profile contains a summary of perspectives and information provided in the interviews. Where indicated with quotations, we have included verbatim comments from transcribed interviews to add depth and color.

Importance of Fishing to the Community of Place

Although the demographics of the community have been changing in recent years and more retirees have been moving to the community, fishing is very important and has a long history in the community of Port Orford. “Port Orford IS fishing.” One resident summed up this sentiment by saying, “If you’re going to live in Port Orford, there isn’t a whole lot else to do here, so you’re going to be attracted to the area for all the things it is or isn’t, and this is what Port Orford is, and that’s what you do if you live here.”

Fishing provides steady employment to the residents and an economic benefit to the community. Fishing provides about 25% of the jobs in Port Orford and actively employs approximately 120 community members. This “translates into actual supermarket dollars, hardware stores” and other support services that are available and supported because of the revenue coming in.

Fishing is the major employer in the area. Some tourism draws people to the community, but fishing is what draws the tourists. Whereas, “the logging and other industries that have been around here wax and wane...fishing business is really steady.” However, some believe that as fishing regulations change, the possibility of being involved in fishing is decreasing. Still, in Port Orford, fishing creates a cohesive community by creating a common life; since a good portion of the community is dependent on fishing, if there are bad or good years the residents are all in a similar situation.

Characteristics of the Fishing Members and their Families

Fishing Members

Fishermen in the community of Port Orford have a love for their work and way of life: “They eat, sleep, and breathe fishing; they love it.” They’re attached to their livelihood and to fishing in general, frequently indicating that they don’t want to be engaged in any other occupation. Fishing is a way of life that provides a certain desired freedom. Fishermen are independent and self-motivated. Fishermen in Port Orford are “a bunch of independent people who want to run their own business, trying to make a bit of money at it.” This independent nature might impact the following of fishing regulations. “When you bring in these regulations and you tell them they can only catch this many fish, that is the hardest thing for them to do, is to quit fishing...so they spend all day trying to figure out how to get around that.”

Fishermen in Port Orford are mostly males; however some women in the community are or were actively engaged in fishing. Skippers tend to be older; it's becoming more difficult for younger people to get involved and own boats. "Unless they're inheriting it, they can't get in" because of such obstacles as the high cost of permits. However; some community members said that there are younger guys getting involved in fishing.

Some crew members have been crew for quite a while and are dependable. Crew members are mostly single; whereas boat owners have families. Crew members are for the most part younger men who are just starting out. Overall, crew members/deck hands are more transient and moving from boat to boat. There is "a big turnover in deck hands" and people complain that they can't find anyone to go out fishing with them on some days. Some crew members try out fishing and decide that it's not for them or switch boats. They are "here tomorrow and gone the next day." The high-turnover rate in crew might be because of the shortened fishing seasons, difficulty in having a constant job, or a job which is guaranteed in a few months. Crew members for the crab fishery must work on preparing the gear beforehand without pay, hoping that they'll make up for it when the crabbing season begins. This could be difficult for a new crewmember.

There are varying work ethics among those fishing in Port Orford depending on whether or not one is monetarily dependent on fishing. Some fishermen are more serious about catching fish. Some have moved into the area as semi-retired and are involved in fishing, but perhaps not so seriously (hobby fishermen).

Port Orford's port is unique along the Oregon coast in that there is no protected harbor. A crane on the dock lifts the boats in and out of the water daily. The vessels are smaller in size (40 feet vessel length limitation). Port Orford fishermen are "used to coming home every night. The hard, grinding fishermen up and down the coast on bigger boats are out 5, 7, 10 days at a time, when we're normally in every day. We're in and out and in and out. We're day fishermen. That is probably the primary difference between our styles of fishing."

Port Orford fishermen also lack a Coast Guard facility and are always there to help each other when they are in need and have an emergency situation. "There's no hesitation. That's just the way of life."

Port Orford fishermen understand that they must be diversified in order to stay in fishing. This means being involved in multiple types of fishing, being able to understand changing regulations, coping with irregular income and regular expenses, and having a "diversification of skills; being a mechanic, a painter, an electrician, welder." A lot of the school teachers used to be involved in salmon fishing and it used to be common in the late 1970s and early 1980s for fishermen to be loggers in the off-season.

Fishing Families

All members of a boat owner's fishing family in Port Orford are involved in the family business. "I think the mind set of a fishing family is when you do have time, you're helping." It was common in the past that children were actively involved in helping the family fishing operation in whatever capacity. This meant helping with gear or just checking in with your father when he returned from fishing to see what needs to

be done. “A lot of times the kids would be working in the gear sheds, learning from hands-on experience how the gear worked and building it, so they were helping out. Of course as soon as they were teenagers and needed that money, they were right out there figuring out what their percentage was.”

Today “very few families bring the children into [fishing]” because they want their children to avoid having the same struggles they did and be able to do other things because fishing has become more difficult. Children are not encouraged to stay in the family business but rather to go to college.

Part of being a fishing wife in the past meant that you had time to devote to your children because you didn’t necessarily have to work outside of the home. This leisure time provided a sense of community in that the spouses “were able to come together as fishing wives and raise the toddlers.” Port Orford has had a limited amount of non-fishing related businesses and, therefore, does not have as many opportunities for the spouse to work as in other communities; “we don’t have a lot of other industries [that] I am sure they do in other fishing towns.”

Today it is more necessary for the spouse to hold an outside job. “The old saying is, behind every successful fisherman is a wife with a full-time job.” Fishermen with wives that work can be more successful because they have the ability to devote more money to the purchasing of gear which leads to more opportunity, rather than having to solely support the family. Also, because of the unpredictable nature of fishing, when a spouse holds another job they can provide health insurance and income for the family in low periods of fishing.

Wives still play an important role in the family business. They are commonly the bookkeepers of the fishing operation. When the fishermen are actively fishing for long periods of time, the wives keep the operations of the house going.

Changes Over Time

When asked how fishing families have changed in the last ten years, the top response was that there is much less security and stability now. There’s less security and ability to depend on one’s income for the year. “They don’t know what next year brings” so they’re reluctant to make big decisions like building a new house; whereas it used to be that a fisherman had options and if one fishery was down you could switch your effort into another fishery. There’s less security for crewmembers and their families as well. Crew used to be able to remain on the same boat for years at a time; whereas now with the shortened seasons (crab, salmon), there’s no such job security for crewmembers.

The shortening/changing of the salmon fishing season affected families of school-teachers that used to be involved in salmon fishing. They were involved in salmon fishing because the teachers had the summers off; however since the season was changed and the beginning date to start fishing is much more variable and the fishing times are different for each individual fishery, they were not able to remain involved in it. These fishers would “take their whole family and go fishing. And that’s completely gone.”

There were mixed perspectives on how fishing families have changed. Some felt that fishing families are the same as they were ten years ago, and that the same people that were involved in fishing are still involved in fishing (with the addition of a few new

fishermen). Because these are the same individuals, in many cases their children are now grown.

Conversely, it was said that there has been a big turnover in who is involved in fishing in the last ten years and that the families are younger. One person explained that they personally are home more now because the fishery is not a derby fishery; whereas in the past they were gone and “didn’t get to see my kids grow up much.”

The minority opinion was that there hasn’t been that much of a change in fishing families in the last ten years. However, these folks believed there has been a large change in fishing families in the last thirty years.

Boundaries: Connection between the Fishing Community and the Community of Place

Table 3 below lists services available in Port Orford and elsewhere. Local fishermen are dependent on neighboring communities (Coos Bay or Charleston) or larger communities (Newport) for some boat repair services and also for the purchasing of commercial gear. Fish processing/live fish selling is also tied to other communities, with satellite buying stations being located in Port Orford. The remaining other support services necessary for fishing are located within the community of place of Port Orford. Fuel and ice are available within the community and some book-keeping and legal services are available. Port Orford has a local, active fishermen’s wives organization, a marketing association, as well as local schools and churches. The local organization of POORT (Port Orford Ocean Resource Team) plays a major role in aiding in understanding and providing information on fishing regulations to local fishermen.

Table 3: Services and Where Available

Service	Community Where Available
Gear	Recreational gear used primarily for sportfishing is available in Port Orford. For commercial gear one travels outside the community. At one time commercial gear was available locally, but not anymore.
Fuel	The Port of Port Orford supplies Fuel.
Ice	The Port of Port Orford has ice, but fishermen also purchase it from the processor (Hallmark) buying station in town.
Boat Repair	Done by the fishermen themselves because the boats taken out of water every day. There are mobile mechanics from other communities. There are electricians and radio repair men in Coos Bay. Need to go to Charleston to find parts and electronics. There's a local individual who occasionally does some repair on electronics. There's a local person who does some welding and fabrication. There's no local engine repair.
Processors	No fish processors are located in Port Orford - everything is shipped out to be processed. There are two satellite buying stations: Hallmark (processes Port Orford fish at their Charleston plant) and Nor-Cal (buys live fish), and a public hoist for fishermen and transient buyers to use. There used to be a company that processed crab, fish, and salmon in PO

	(Blanco Fisheries - closed 1984 or 1985).
Bookkeeping	Have bookkeeping services in Port Orford (one bookkeeper and one CPA); however some people go outside the community for this service.
Legal Services	Some lawyers in town; no one with specific knowledge of maritime law and fishing industry rules/regulations. POORT provides information to fishermen or guidance on where to acquire such knowledge.
Social Contacts	Churches, schools, fishermen's wives organization, a strong marketing association, etc. exist in the community of Port Orford. Fishermen are not as actively involved socially in the community as they work long and irregular hours; however their families are involved in social activities.

Communication within the Fishing Community and between the Fishing Community and Others

Communication process within the fishing community

Communication among fishermen in Port Orford is conducted for the most part at the local coffee shop/restaurant or on the dock. "It's a small enough place where you run into just about everybody you know every day, and that's how I get most of my information. Just the other day there was a one-day salmon closure and I had no idea. I might have even gone out that day. And it was a good thing I ran into somebody the day before to let me know that we weren't fishing the next day." However, this type of informal communication can also be "kind of dicey because it quite often is wrong" and can spread rumors and incorrect information. At sea, if an issue arose, information was often communicated over the VHF radio. Today, cell phones are more widely used because they provide more privacy than radio.

Fishermen have depended on informal communication to help to discern the meanings of fishery rules. In the recent history of fishing (after the 70s), "it became increasingly complex to even understand when the seasons were, or what gear you could use, it was just very easy to get confused. You had to have a Loran that interfaced with the ODFW computer, you'd turn around and you actually were still dependent on informal because you'd be talking to somebody and they'd be going no, no, no, I read the regulation differently. And you get out the 1" thick book and try to figure out what you were allowed to do." Today many find answers to questions on the meanings of rules/regulations via the Internet as it makes information more accessible. It is important to remember, however, that some fishermen don't have access to the Internet or aren't familiar with using computers.

The Port Orford Ocean Resource Team (POORT), a non-profit organization, was created by a community member to communicate fisheries information to the fishing community. Using only word of mouth, information can get skewed as it's passed from one person to the next. POORT "has been instrumental in improving those lines of communication with the fishermen." POORT helps fishermen access information by

connecting them with fisheries managers over the telephone or via the computer. It has hosted observer program meetings (when the observer program was first started), Vessel Monitoring Systems (VMS) informational meetings, marine reserve informational meetings, ODF&W meetings, and is “a hub to connect folks.”

Communication process with other organizations

Some members of Port Orford fishing fleet are involved in the Fishermen’s Marketing Association which “has meetings as needed for a season, such as [for] crab marketing.” The Association also helps ODF&W conduct tests for the crab season. Representatives from the Association attend tri-state information meetings (OR, CA, WA) regarding crab regulations usually once a year.

Some appointed Port Orford crab fishermen are involved in conference calls with other West Coast crab fishermen each year. It is a pretty effective way to “get all those people together from up and down the coast and tell them everybody has to be at this spot at this time.”

Fishing community members also communicate with other non-profits such as Surfrider Foundation and Ecotrust, who “manage to communicate with the outside world.”

Communication process with fisheries managers

Members of the Port Orford fishing community are frustrated with attempting to attend Pacific Fishery Management Council (PFMC) meetings because they are typically held far away from Port Orford (in locations such as Seattle and San Diego). Fishermen are busy and “don’t really have the time to sit.” Decisions are made at these far-away meetings and, as one fisherman remarked, “we still feel we’re being isolated because the final decision making process is far out of my reach, and we feel disenfranchised.” It is felt that PFMC meetings are simply held to fulfill a public hearing requirement.

The information sent out by fisheries managers in PFMC or ODF&W is sometimes unclear and hard to read. Some feel that POORT has helped with this; informing folks of upcoming meetings. Others still rely on informal communication with other fishermen.

Communication process with Coast Guard

Community members spoke of their good relationship with the Coast Guard. “The Coast Guard conducts safety inspections for all vessels that wish to have them or anybody who has federal observer coverage. It’s mandatory to have examinations so that the vessel is safe for groundfish observers and other observers. Even though we don’t have an active Coast Guard entity in Port Orford, we’re closely associated with the groups from Brookings and Coos Bay, and the outreach programs for Gold Beach and Bandon are closer with rescue vessels in the summertime. Coast Guard helicopter rescue service comes out of North Bend. The Coast Guard also flies over the fishing grounds for enforcement. “There’s definitely a Coast Guard presence in our area, we deal with them all the time.”

The Coast Guard conducts safety examinations of the fishing vessels on the ocean during fishing trips. Although the boardings are a good thing, they are “a pain...sometimes because it takes up a lot of your time when they get on your boat” because they need to make sure that all of one’s papers are up to date.

Perspectives on Management and Effects of Management

Overall, it is felt that frequently the number of fish out there is greater than that which has been determined by the stock assessments. Young fishermen especially find it hard to enter into the industry with current fisheries management; limited entry and the high cost of permits. “There was no feasible way for him to get in with the cost, and there was no feasible way for him to make a living once he did get in. Even if he didn’t go into debt. Imagine going into debt for some of these permits and then the rug gets pulled out from under you on a decision.” It seems that the uncertainty about the future of each fishery might affect one’s decision about whether or not to invest and become involved in fishing, even if one is able to purchase a permit.

Several specific management topics were brought up in interviews:

Salmon disasters

There have been two official salmon disasters declared in the past (2006 and mid 1990s). 2008 was considered an extension of the 2006 disaster for salmon fishermen, with disaster relief aid delivered as well. Salmon disasters have been declared during years of complete closure for salmon fishing. Here the amount of the weakest stock along the coast dictates whether or not fishing for all stocks of salmon is closed. Even if the numbers for a particular run of salmon are good (such as the Sacramento stock in 2006), “just because there were a few Klamath fish mixed in with them...we couldn’t access the resource” because all salmon fishing had been closed.

These closures significantly impact those who depend on salmon for their living and cause them to scramble to make ends meet. “Management decisions for salmon disaster changed our whole community from being a salmon port to whatever we could find to do.” In the most recent salmon disaster, the relief was administered based partly on recent landing records, and “a lot of the most desperate fishermen had some of the lowest landing records, therefore they qualified for a smaller check. There’s a lot of people who got the minimum amount of \$200 or something [and] they were the people who probably needed it the most.” There were a lot of hard feelings about the way in which the money was distributed; with some people receiving what people felt was not their fair share. Other ways have been tried in the past. During some bad salmon years, floating interest loans were provided to fishermen. After many bad years of salmon fishing and not being able to pay off any of the principle amount of the loan, “most of the guys who had those loans lost their boats.”

Groundfish buyback

The groundfish buyback was conducted in 2003 and was intended to limit the number of boats involved in groundfish fishing by purchasing boats and permits from

their owners. The groundfish buyback only included trawl boats; therefore no vessels from Port Orford were included in the buyback because they do not trawl.

The intention of the buyback -- to reduce the trawl fleet -- was perceived as good. "The buyback of the draggers was a fantastic thing, from a small port and a small boat perspective. In one tow they will catch more fish than this entire port catches in a whole year. And then they go back tomorrow." However, since those which were bought out had a lot of capital because they had just sold their boat, they were able to purchase new boats and become involved in other fisheries, such as switching to crab which was not good. They bought crab traps and "brought them all down here on their new boats" which hurt Port Orford crab fishermen.

There were other misunderstandings or unintended consequences. For example, people didn't initially understand that the money which was used by the government for the buyback program would be funded by other fishermen. The trawl buyback included purchasing all permits with the vessel. The subsequent purchase of Oregon Dungeness crab permits required the crab industry to pay for those permits by paying a tax on crab. "I did not know that when the government did that buyback, that the fishermen were going to have to pay that back. I did not know that. I was shocked when I learned." It had been promised that after the buyback the allowable amount of catch would be increased, but this was not done.

Crab pot limits

POORT was involved in establishing the recent state crab pot limit program which limits the number of pots that each vessel can fish. Port Orford fishermen had been impacted by larger vessels with a large number of pots fishing their local grounds. With the crab pot limits it "makes it fairer for us, just through that experience that one year a bazillion pots just arrived here, they laid gear right at our dock and we couldn't even get out of our harbor with the floating rope and boats from everywhere...And this [crab pot limits] has helped us, this year was the first year we have seen this, the impact of this year and there was a lot less effort down here."

Black cod permit stacking

Black cod historically was a derby fishery, but a permit system was implemented by management with permits issued based on the historical catch of those involved in the fishery. Today, each vessel is allowed a certain number of pounds which can be caught in approximately six months, but vessels "stack" permits (multiple permits on one vessel) in order to be able to catch more per vessel. This can be done by leasing or purchasing the permits. There are a few vessels in Port Orford that stack black cod permits. It was expressed by some informants felt that permit stacking is a way for the richer fishermen to have access to more of the resource, which in their opinion has become common in fishing where "one group is stuck on small limits and the other minority group that acted first is taking the lion's share, and it's totally out of proportion."

Change in Fishing and Seafood: Economics and Fishing Effort

In the late 1960s more people had become involved in salmon fishing, “boats were being built, no regulations, [and] masses of people got into the business.” When informants were asked about the economic changes that they’ve seen in Port Orford related to fishing and seafood, a common starting point for the economic changes witnessed in the community was with the first salmon regulations in 1979. At that time Port Orford was a salmon port. In a good week or two good weeks of salmon fishing, one could afford to buy a new house. As one person explained, “1979 was the first time I heard people talking on the radio about closures. We’re going to have some closures, one week closure in the salmon fishery. At that time the fleet would be pretty spread out. The whole coast was open, so there were huge areas to fish, and you could find a spot where everybody wasn’t all packed together...And you had a lot of subsidiary industries in the towns that were based on that. The fish handlers, the buyers, the packers, the truck drivers. Ice plant operators, fairly extensive community that depended on that. Once they started having these closures in the 80s, everything just started folding slowly up, because they didn’t have enough of a season to support those land-based operations.”

Regulations were developed in the 1980s. Fisheries managers limited entry into the fishery, developed the Klamath River Zone, and established closures. This affected both the fishermen and also the support services in the community which depended on salmon revenue (such as the gear stores). The fleet went from about 80 vessels, down to only 8 vessels involved in salmon fishing. By the 1990s fishermen in Port Orford had diversified and spread to other fisheries as well as salmon. In order to make it through. “I will always have my favorite fishery, but I have a plan B and plan C.”

Cycles within fisheries have also brought change. There was an urchin fishing boom in the late 1980s-early 1990s in Port Orford which brought some revenue into the community; however the urchin processing plant owner was from another state and imported his own labor into the community, so there were very few people from the community who were involved in the fishery. The fishery soon crashed. Other fisheries are said to be cyclical as well, with certain years being better in terms of catch and thus the amount of money which can be made

Other issues that affect the economics of the industry include fuel costs, which continue to rise whereas the prices received for different types of fish can be very similar to prices received a long time ago. Shoaling (affecting income because of the inability to access the water), the decreased competition for product from fish processors, and the creation of the rockfish conservation areas (RCA) and changes in rockfish regulations (because of overfished rockfish species such as canary and yelloweye) impact community members’ incomes. “I used to make \$20-30,000 a year Portugueseing rockfish, especially golden eye, canaries, yellowtail, blue rock, black rockfish, and brownies. All those would supplement me during the bad salmon years in the 90s...we were able to get by.”

Another issue is the need to hold onto their salmon market, even when there’s a salmon crisis, in order to be able to keep involved in salmon fishing. It takes time to get that market back after bad years, such as the Klamath crisis when they were not able to fish or when farmed Chilean salmon had flooded the market. The 1990s were bad years for salmon prices because “that’s where the Chilean farm fish really got their foothold.” Today the price has gone back up but there was no salmon season in 2006, 2007, and

2008. The economic situation has improved because of value added. The live fish fishery has brought the price of rockfish up, “where before they were only getting \$0.25 and now they’re doubling it, as long as they keep them alive, if not 10 times more.”

Today fishermen spend less time on the water. Changes in fishing effort in Port Orford followed the same trends in economics described above. Prior to the 1980s there was open access. Many vessels in Port Orford had become involved in salmon fishing prior to the development of regulations. Fishermen used to travel up and down the coast for various beginnings of different salmon fisheries in different areas. There used to be fewer people involved in crab fishing, but with the development of regulations in salmon, more people in Port Orford became involved in crabbing. Fishermen in Port Orford entered into other fisheries (such as black cod and groundfish) and increased the effort there, but as regulations developed for those fisheries (and the fisheries switched from open access to limited entry/derby fisheries and to more regulated fisheries) the number of days for fishing, total catch, and number of pots, etc... became more limited. “Crab...is still kind of a derby, it is an opening day and most crab are caught in the first two weeks.”

Perceptions of the State of the Ocean and its Resources

Overall health of the ocean surrounding Port Orford

Generally, the perception is that the overall health of the ocean in the area is very good, especially compared to other areas. On the West Coast “the Port Orford area is #1 in recovery and fish health.” This area has always been “fairly plentiful” because of the structure of the bottom of the ocean and the upwelling, the area’s remoteness, and because of the small boat fleet which “can only carry so much.” The community’s reliance on small craft (and lack of draggers with high volume fisheries) has allowed it to be able to self-regulate the amount harvested and keep a healthy system. It is healthy and has not changed or declined over time. “They [fisheries managers] think that we’re over-fishing. But I don’t think we are. I think they’re doing pretty good at managing their own product here.”

Conversely, some informants said that the fisheries probably are not as healthy today as they once were. The advances in gear and electronics were mentioned as a cause of the decline of certain fisheries, especially groundfish. Others mentioned that the fisheries around Port Orford have recovered since the larger boats stop coming into the area as much. Others still mentioned that fisheries rules and regulations for commercial and recreational fishing have helped to ensure that the health of the fisheries is good today.

One possibility is that the perceptions of people have changed; in the past people wanted to catch everything, but today want to maintain a balance as far as catching and preserving the resource. When explaining that they had caught a 100 year old Yelloweye rockfish and turned it loose (after venting it so that it could survive):

“10 years ago people would have been upset about that, but now they realize that you just can’t kill everything you catch and catch as many as you want, and there’s some balance to that...Certainly techniques in regard to dealing with those

kinds of fish, so that when you do turn them loose, they swim back to the bottom and have a good chance of living.”

Cyclical ocean and fisheries systems

The ocean follows cycles, and thus the fisheries are cyclical with booms and busts. “It’s all cyclical...it’s just like, the kelp comes, then there will be more kelp one year and the next year there will be less.” Albacore tuna is cyclical, with an estimated four year cycle of highs and lows. Crab follows a seven year cycle. The weather affects these cycles with the highs/lows of various species peaking when a specific weather cycle happens, “but if you recognize those cycles, you can gear your life around them, kind of like a farmer does.” These are natural cycles dictated by the ocean, rather than by overfishing.

As for fisheries that have been impacted by harvest, some feel that these should be monitored and opened when recovery has happened. For example, areas that are now closed to rockfish fishing (the Rockfish Conservation Area) should not be closed indefinitely and should be opened back up for fishing. Rockfish are doing well and have rebounded, with the stocks of Canary and Yelloweye needing to be reassessed by fisheries biologists. “The big Yelloweye Rockfish and the Canary Rockfish, they’re abundant, very abundant here. I could literally go out there and sink my boat with them.” “We need to get proper funding to do the proper science and fish stock studies, and not just once every five or 20 years; on a yearly basis.” The black cod fishery was recently reduced because of one weak year class, but this fish lives to be 30-35 years old and can spawn at three years old; therefore it doesn’t make sense that because of one weak link, that the fishery was reduced. Black cod are fast-growing, robust and have been dominating. Salmon are cyclical as far as good and bad seasons. The salmon stock is dependent upon various other factors including the diversion of river water for agriculture (and resulting fish mortality from low water conditions), dams, and release of hatchery fish by ODF&W.

Coastal development impacts

There are worries that building more golf courses in the area will further impact fish populations because of the use of fertilizer and herbicides. More and more development is happening on the coast and on the rivers of the area “which is going to really hugely impact what happens to all of these [fish] populations.”

Weather impacts such as El Nino

The first El Nino in the 1980s, a lot of people sold their salmon permits (because they couldn’t afford to keep the permit renewed) and a lot of larger boats bought up those permits. Every year the media says that it might be an El Nino year makes people scared because of the extreme impact on fisheries. Fisheries managers should give the public warning if it is actually going to occur. The El Nino of 1983 extremely impacted the fisheries that year. “In 1983 it was like night and day from the year before. Then you could see it in 1984, the ocean starting to bloom again, and by 1986 fishing salmon, you started running into bonus years.” For three years the salmon fishing was unprecedented.

Perceptions of the Future

Imagined future

When participants were asked what they imagine the fishing community of Port Orford will be like in five years, it was commonly expressed dredging will have a large impact on what the future looks like. In order for the fishermen to have predictable and safe access to the water it is necessary to dredge each year, but Congress (funding work by the Army Corps of Engineers) has provided very limited annual funding for the community. This lack of dredging impacts the ability of Port Orford's fishing vessels to access the water. Port Orford was clam shell dredged while the interviews for this project were being conducted, but before that the community had only limited maintenance dredging. Not being able to get out to fish in a timely manner or get out to fish at all, affects the money that fishermen are able to make, even if there is a good season (such as a few of the recent good crab seasons where the fishermen were not able to get out to fish). "Well, when you have to get to the dock and put your boat in at 2:30am just because you want to get the tide and need the tide depth to be able to put your boat in, and then you can't really run your boat or run your gear or operate your boat until 6am, it's what I would say is not a 'timely manner.' So you end up again forcing yourself to do things that are not in the best interest of safety and or operating your business from a pure and simple business economic standpoint, just so you can get your boat in or out of the water." The shoaling/dredging problem also affects the safety of fishermen because one is not able to maintain their boat. Fishermen "can't go a long time between those high times where you can redo your boat, redo your motor." When there are too many years in a row where one does not make a large amount of money (peak money), then it's difficult to be able to afford to maintain your vessel. Another issue is that the jetty length is not long enough to block the sand from re-entering and washing back onto the beach. Both issues of dredging and the jetty could impact the ability of people to stay involved in fishing in the future.

Gentrification will impact what the community is like in the future. The construction of golf courses nearby is currently being considered as likely to change the demographics of who lives in the area. The influx of more wealthy people could create a large gap between the working class and non-working/retiree class. The community might become unaffordable for those that earn a working wage. A few people mentioned that the nearby community of Bandon has changed substantially in recent years with higher rent prices and very little fishing. People are concerned that Port Orford could become similar to Bandon. "The influx of the hyper-rich is really impacting these coastal communities. And when that happens, it really displaces the people who are just working at a living wage around here." There were mixed perspectives on how the influx of wealthier people could possibly impact Port Orford. Some felt that it could have a positive effect on the dredging issue because if wealthy people want their pleasure crafts, then they might fund to dredge. Some felt there might be increased tourism and sport fishing interest in Port Orford in the future, with a concern that this could result in "less effort...to assist commercial fishermen." Other fears about the dependence on tourism

creating a situation where one has commute to go to work because there are limited opportunities in your own community.

Fewer young people getting involved in fishing was also explained as something that might affect the future of fishing in the community. The fishing population is aging and many people are concerned about what this might mean for the future of fishing in Port Orford. One hypothesis was that this might mean that fishing would turn industrial, with big corporations owning the vessels. Another was that the fishermen should take on apprentices in order to get more young people to become involved in fishing.

Desired future

When asked to describe what they would like the future of the fishing community of Port Orford to look like, there were a variety of answers. Some people said that that would like to see Port Orford remain the same as it is now, but with a safe harbor. A majority of the people mentioned they would like to see fixing the dredging/deep water harbor and jetty problems. “Keep it safe so (they) can continue to do what they want to do here, which is fishing. That is Port Orford.” Others mentioned that they would like to maintain the community as a working commercial fishing town, instead of turning into a sport harbor as the neighboring communities of Gold Beach and Bandon.

The creation of an exclusionary area (stewardship zone) around Port Orford to limit outsider involvement was also mentioned. Port Orford was described as an already self-regulating area because of the weather and the inability to get out to fish, the proximity to other ports, and the low impact from the local fleet. However, larger boats from outside the area such as Newport, Oregon; Washington; and California, were said to be able to come in and take the local crab because “they can fish around the clock” with their large boats that can take any weather. Creating an exclusionary area would limit the larger boats’ involvement and provide local control. Limiting the size of the vessels that could be allowed to fish in the area to mid-sized and smaller boats and then it would be likely that people could continue to make a reasonable living. The “resource close to the community should be controlled by the community.” One person mentioned that they would like to see the Rockfish Conservation Area meld into the stewardship area, and would like to have zero bycatch, which they think could be accomplished using the local stewardship area model.

Others shared that they would like to see more fish buyers and processors in the community to create some more competition; to get rid of the processor monopoly structure. “First of all, we’ve got to get rid of the old boy school. That if you sell down the street, you’re done. The isolated, one-buyer market problem.” Others shared that they would like to see a plant or cannery in the community, a processor either owned privately or one owned by the community where fishermen could process their own product. This would add value to the product and keep the revenue in the community. Conversely, it was shared that this is a big commitment and involves more than just processing; marketing. If there was a private processor/cannery, it wouldn’t be able to exist because there isn’t the amount of poundage being delivered to support another facility because large boats don’t deliver here.

APPENDIX D

INTERVIEW QUESTIONS

1. Please describe for me the importance of fishing for (community name)?

2. How does (community name) support fishing-related activities, such as:
 - offloading/selling/processing fish,
 - providing gear/fuel/ice,
 - offering boat repair,
 - book keeping or legal services,
 - or social contacts [church, schools, socializing]?

3. *This is a 2-part question:*
 - Please describe how you perceive the communication process within the fishing community
 - formal [such as meetings, conference calls, testimony, mailings], or
 - informal [such as one-on-one]

 - Please describe how you perceive the communication process between the fishing community and (community name) or others (such as fisheries managers, USCG, etc.)
 - formal [such as meetings, conference calls, testimony, mailings], or
 - informal [such as one-on-one]

4. Please describe for me a typical (community name) commercial fisherman?

5. *This is a 2-part question.*
 - In your opinion, what are (community name) fishing families like?
 - who's involved in the family business,
 - are there differences between boat owners and crew members,
 - do many wives, etc. have outside jobs?

 - And have (community name) fishing families changed over the last 10 years?

6. Please share with me your perception of the ocean and fisheries off the coast of (community name), such as

- the health of the fisheries,
- any ocean changes,
- the numbers of fish out there, etc.?

For the next three questions, we're looking for changes you've perceived over 4 time periods: historical (1980's and before), distant past (1990's), recent past (2000's), and today (2007).

7. Please share with me your perception of the economic changes you've seen, if any, related to fishing and seafood in (community name)?

- Historical (1980's and before)
- Distant past (1990's)
- Recent past (2000's)
- Today (2007)

8. Please describe the fishing effort changes you've seen, if any, off the coast of (community name)?

- Historical (1980's and before)
- Distant past (1990's)
- Recent past (2000's)
- Today (2007)

9. Please share the effects of management decisions you've seen, if any, on (community name) – such as the groundfish buyback, salmon disaster, permit stacking, etc.?

- Historical (1980's and before)
- Distant past (1990's)
- Recent past (2000's)
- Today (2007)

And, lastly, another 2-part question:

10a. Please describe the fishing community in (community name) 5 years from now?

10b. If you could create the future for the fishing community in (community name), describe for me what it would look like?

ⁱ Gear group information provided by Suzanne Russell at NOAA's Northwest Fisheries Science Center and complied together with insider information from project partners, Leesa Cobb and Flaxen Conway.

ⁱⁱ Targeted species information compiled from Norman et al. 2007.