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SEAFOOD DIRECT MARKETING FROM FISHERMAN TO CONSUMER AT SOUTHERN CALIFORNIA FARMERS' AND FISHERMEN'S MARKETS

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Table of Contents

1. INTRODUCTION	4
2. SEAFOOD SUPPLY CHAIN	4
2.1 INDUSTRIAL SEAFOOD SUPPLY CHAIN.....	5
2.2 DIRECT MARKETING SUPPLY CHAIN.....	6
2.3 TYPES OF DIRECT MARKETING.....	6
2.3.1 FISHERMEN’S MARKETS	6
2.3.2 FARMERS’ MARKETS.....	6
2.3.3 OFF-THE-BOAT SALES.....	7
2.3.4 COMMUNITY SUPPORTED FISHERIES.....	7
2.3.5 DOCK TO RESTAURANT	7
2.3.7 DOCK TO INSTITUTION.....	7
3. METHODS	8
4. DIRECT MARKETING IN PUBLISHED LITERATURE	10
4.1 LITERATURE REVIEW OF DIRECT MARKETING BENEFITS	10
5. MARKET DESCRIPTIONS	12
5.1 SAN DIEGO	13
5.2 NEWPORT BEACH	15
5.3 OXNARD.....	16
5.4 VENTURA	16
5.5 SANTA BARBARA.....	18
5.6 MORRO BAY	19
5.7 BERKELEY	20
6. ECONOMICS OF DIRECT MARKETING AT FARMERS’ AND FISHERMEN’S MARKETS	21
6.1 PRICE ANALYSIS	21
6.2 NON-MARKET BENEFITS.....	23
7. CONCLUSIONS	26
8. REFERENCES.....	28
9. APPENDICES.....	30

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1. Introduction

The growth of the local food movement in the United States has generated an increase in demand for local seafood. The sale of catch directly from fishermen to the consumer is one mechanism by which the demand for local seafood is addressed. This practice, known as direct marketing, differs from the industrial supply chain that dominates seafood distribution in the United States today which contains multiple firms in between the fishermen and the end consumer. Direct marketing methods provide consumers with access to locally caught seafood and shorten the seafood supply chain, therefore making it easier for the consumer to know how, where, and by whom their seafood was caught. Fishermen employ various methods of direct marketing including community supported fisheries (CSFs), fishermen's markets, off-the-boat sales, and arrangements with local restaurants.

Community supported fisheries (CSFs), a model of direct seafood marketing that was designed from the community supported agriculture (CSA) model, has increased in popularity across the country and has received attention in the published literature. Other forms of direct marketing such as fishermen's markets, where fishermen gather to sell their catch directly to customers, and the sale of catch directly to customers at farmers' markets have received little attention from researchers. However, these direct marketing strategies are operated by fishermen along the California coast and are becoming increasingly popular modes of direct seafood sale elsewhere in the United States.

The aim of this research is to fill gaps in existing research on direct marketing by examining situations where fishermen sell their catch at farmers' and fishermen's markets along the coast of Southern California. To set the stage for this research, I conducted a literature review of the benefits of direct marketing to various stakeholder groups, along with the purposes and goals of these operations. The following questions are addressed in this study:

Question 1: What types of direct marketing are described in the primary literature and what are the published benefits of these operations?

Question 2: What is the diversity and structure of fishermen's markets and how do fishermen participate in farmers' markets in Southern California?

Question 3: What benefits do these direct marketing strategies offer various stakeholder groups?

2. Seafood Supply Chain

The path that seafood takes from capture to consumption is known as the seafood supply chain. This supply chain begins with fishermen, the primary producers of the seafood product, and ends with the final consumers of the product. Oftentimes, middlemen operate in between the seafood producer and consumer and provide services that add value to the product, such as transportation and processing. Variations in the seafood supply chains around the globe are influenced by many factors including the seafood type and source.¹

¹ Rogers, E. 2011. Exercising responsibility in the seafood supply chain. MS Thesis. International Institute for Industrial Environmental Economics (IIIEE). Lund, Sweden. <https://lup.lub.lu.se/search/publication/2174256>.

2.1 Industrial Seafood Supply Chain

Seafood often travels thousands of miles and goes through multiple hands on the path from the fishermen's boat to the consumer's plate. Most seafood is supplied through an international supply chain² and according to the Food and Agriculture Organization (FAO), the amount of seafood traded internationally is growing.³ Globalization is causing seafood supply chains to increase in length and become more complex in nature.⁴ According to the FAO, it is not uncommon for seafood to be caught in one country, processed in another, and shipped back to the first country or on to a third to be sold.⁵ With this increased complexity comes an increased difficulty in tracing seafood products through their supply chain and verifying their source and sustainability.⁶

Seafood supply chains are determined partially by the product being supplied. For example, fresh coastal seafood products and canned products sold by national brands have very different supply chains.⁷ Despite these differences, researchers have simplified the path that industrially supplied seafood takes from boat to plate. Studies have found that seafood often travels from the fishermen who catch the product to commercial buyers who often act as primary processors and occasionally on to secondary processors who fillet and package the product, then on to wholesalers who distribute the product to retailers and restaurants, who in turn, sell the product to the final consumer (Figure 1).⁸



Figure 1. Industrial Seafood Supply Chain (Adapted from Nelson et al, 2015)⁹

Steps in the seafood supply chain add value to the product. As a result of this, the process that brings a product from conceptualization to the consumer is also known as the value chain.¹⁰ For example, the act of catching seafood adds value to the seafood product. When, in the industrial seafood supply chain, this product is purchased by a commercial buyer and filleted and/or packaged, the value of this product increases. The product gains a higher value when transportation services bring the seafood product closer to consumers. Finally, when the seafood product is prepared at a restaurant its value increases because of the services added by the restaurant for the end consumer.

² Roheim, C. Seafood supply chain management methods to prevent illegally caught product entry into the market place, Fisheries Governance – Tackling Corruption Workshop, World Bank, Washington D.C., USA, University of Rhode Island. 30–31 January 2008.

³ Food and Agriculture Organization (FAO). 2010. The State of World Fisheries and Aquaculture. Rome, IT: FAO.

⁴ Rogers, E. *supra* note 1.

⁵ Food and Agriculture Organization (FAO). *supra* note 3.

⁶ *Ibid.*,

Roheim, C. *supra* note 2.

⁷ Rogers, E. 2011. *supra* note 1.

⁸ Rogers, E. 2011. *supra* note 1.

Witter, A. 2012. Local Seafood Movements and Seafood Sustainability in North America: A Case Study on a

Community Supported Fishery in Monterey, California. MS Thesis. International Institute for Industrial

Environmental Economics (IIIEE). Lund, Sweden. http://www.localcatch.org/wp-content/uploads/2015/04/Allison_Witter_LU_2012_final.pdf.

Nelson, C., Bavington, D. Lowitt, K., Nagy, M. 2013. Where's the Fish? The Bounty of Canada's freshwater and ocean catch is missing from the country's local food movement. Food and Drink 39.4, July 2013. www.alternativesjournal.ca/science-and-solutions/wheres-fish.

⁹ Nelson, C., Bavington, D. Lowitt, K., Nagy, M. *supra* note 8.

¹⁰ Hempel, E. (2010) Value Chain Analysis in Fisheries Sector in Africa. New Partnership for Africa's Development (NEPAD), Infosa.

2.2 Direct Marketing Supply Chain

Direct marketing strategies in which fishermen sell their catch directly to consumers are becoming more popular in the United States. These practices cut out the middlemen associated with the industrial seafood supply chain (Figure 2). This creates a shorter seafood supply chain that provides consumers with access to locally caught seafood. It also creates a more traceable seafood supply chain that allows consumers to know how and by whom their seafood was caught.



Figure 2. Direct Marketing Seafood Supply Chain

Removing these middlemen involved in the industrial seafood supply chain also removes the services they provide. To adjust, fishermen must take over steps of the supply chain traditionally held by downstream firms in a process known as forward vertical integration.¹¹ Through forward vertical integration, fishermen provide the services needed for the seafood product to be desirable to customers. When directly marketing their catch, fishermen must transport, store, sell, and often times process their seafood products. Each of these steps adds value to their product and therefore fishermen who directly market their catch may be able to sell it for a higher price than they would receive from commercial seafood buyers. However, these steps also cost the fishermen performing them time and money.

2.3 Types of Direct Marketing

Many methods of direct marketing are utilized by fishermen to sell their product directly to consumers. In addition to this, strategies exist that allow the fishermen sell their product in ways that shorten the supply chain; some refer to these processes as ‘alternative marketing’. For the purposes of this paper I will consider these ‘alternative marketing’ schemes to be types of direct marketing. Some of the most popular styles of of direct marketing include are described below.

2.3.1 Fishermen’s Markets

Designed after the farmers’ market, fishermen’s markets are established when fishermen gather in one place to sell their catch directly to the consumer. An example of this is the Tuna Harbor Dockside Market, started by the San Diego Fishermen’s Working Group, that provides a space for local fishermen and aquaculturists to sell their seafood products.

2.3.2 Farmers’ Markets

Fishermen can sell their catch directly to local consumers by operating a stall at a local farmers’ market. An example of this exists in Morro Bay, California, where a groundfishermen and his family sell part of their catch at farmers’ markets in the surrounding region.

¹¹ Carlton, D.W., and Perloff, J.M. 1994. *Modern Industrial Organization: Second Edition*. New York: Harper Collins College Publishers. Print.

2.3.3 Off-the-Boat Sales

Fishermen can sell their product directly to the consumer via off-the-boat sales. In these situations, consumers come to the dock and buy their seafood directly from the hold of fisherman's boat. In Half Moon Bay, California, for example, a whiteboard is located at the harbor master's office that indicates who is selling seafood products, what the product is, and what slip the sale is located in.

2.3.4 Community Supported Fisheries

Community supported fisheries are a method of direct sales between fishermen and consumer that was designed after the community supported agriculture model. In this model, consumers pay the fishermen ahead of time for regular and scheduled seafood deliveries.¹² Within the overarching term "CSF" are many different models of operation. Not all CSFs are owned and operated by fishermen and because of this some people consider CSFs that are owned by outside firms to be "alternative marketing" as opposed to direct marketing. An example of a fishermen-operated CSF can be found in Port Clyde, Maine, where a fishermen's cooperative catches, packages, and delivers fresh fish and shrimp for CSF members.

2.3.5 Dock to Restaurant

Dock to restaurant direct sales occur when fishermen sell their catch directly to restaurants. These sales range from one time events to long-standing agreements. Oftentimes restaurants will display the name of the fisherman who caught the seafood on their menu. An example of this type of direct sale occurs in San Diego; in this case the F/V Chula catches swordfish exclusively for The Fish Market, a local restaurant.¹³

2.3.6 Restaurant Supported Fishery

Restaurant supported fisheries (RSFs) are created when chefs agree to buy a certain amount of seafood from local fishermen. Unlike typical sales where chefs decide what to species to purchase, RSFs do not let chefs choose the seafood products and instead provide them with the "catch of the day". An example of this occurs in Southern California, where an organization called "Dock to Dish" connects Los Angeles chefs with Santa Barbara fishermen who provide them with their recent catch.¹⁴

2.3.7 Dock to Institution

Dock to institution sales are when fishermen and institutions such as schools or hospitals create an arrangement so that a fisherman's catch will skip the hands of middlemen and be sold directly to large institutions. An example of this form direct sale occurs in Sitka, Alaska; in this Alaskan town the Sitka Conservation Society has created a program where local fishermen sell seafood to local school districts twice a month.¹⁵

¹² Brinson, A., Lee, M.-Y., and Rountree, B. 2011. Direct marketing strategies: the rise of community supported fishery programs. *Marine Policy* 35 (4): 542–548 <http://dx.doi.org/10.1016/j.marpol.2011.01.014>

¹³ Rowe, P. "How That Swordfish Got On Your Plate." *The San Diego Union Tribune* [San Diego] 1 Feb 2014. <http://www.sandiegouniontribune.com/news/2014/feb/01/fish-tale-did-not-away/2/?#article-copy>.

¹⁴ Leschin-Hoar, C. "From Dock to Dish: A New Model That Connects Chefs to Local Fishermen." National Public Radio. 2 Sept 2015. <http://www.npr.org/sections/thesalt/2015/09/02/436934709/from-dock-to-dish-a-new-model-connects-chefs-to-local-fishermen>.

¹⁵ Sitka Conservation Society. 2016. "Fish to Schools". http://www.sitkawild.org/fish_to_schools.

3. Methods

In this study, I first conducted a literature review to determine what types of direct marketing are described in the primary literature. Through this review I also compiled the published benefits of these models of direct sales compared the the more traditional supply chain. I then examined eight fishermen's markets and farmers' markets where fishermen sell their catch directly to consumers along the California Coast (Figure 3). I visited seven of these markets in person. In lieu of a visit, I examined one market through personal communication with the fisherman who operates it. The eight markets I examined are run by fishermen in seven locations along the Southern California Coast. Due to time and financial constraints, the eight markets visited in this study are not an exhaustive list of where this type of direct marketing exists in Southern California, but are limited to those I was able to identify and examine between January and April of 2015.

I conducted semi-structured interviews with participants in each market to determine the enabling conditions for the market's establishment, how the market operates, the benefits of selling product at the market, and the lessons learned from participating in a fishermen's or farmers' market. Semi-structured interviews are a method of gathering information that allows the interviewer to ask open questions in a conversational style and alter how questions are asked for each interviewee¹⁶. This approach offers the interviewer with flexibility when asking questions and provides the interviewer with freedom to explain their thoughts and opinions.¹⁷ I conducted semi-structured interviews with twenty market participants. These interviews varied significantly; interviews were conducted in person, over the phone, and via email. In some instances, interviews lasted from ten minutes while in other instances these interviews lasted for over an hour. Questions were not asked in a consistent manner or with standard wording. I used information from these interviews, along with participant observations, to create small case studies of each market visited. Additionally, I used the responses to some questions asked to determine the benefits of selling catch at farmers' and fishermen's markets perceived by participants. I paraphrased the benefits noted by participants and sorted them into categories for figures in this paper.

¹⁶ Millwood, J., Heath, M.R. 2000. Food choice by older people: the use of semi-structured interviews with open and closed questions. *Gerodontology* 17 (1): 25-32. <http://onlinelibrary.wiley.com/doi/10.1111/j.1741-2358.2000.00025.x/epdf>.

¹⁷ Horton, J., Macve R., and Struyven. G. "Qualitative research: experiences in using semi-structured interviews." *The real life guide to accounting research* (2004): 339-357.



Figure 3: Direct Seafood Sales in Southern California Visited in This Study

To further understand the benefits of direct seafood sales at farmers’ and fishermen’s markets, I conducted a price analysis of these direct marketing strategies. To do this I collected prices and descriptions of products sold at each market in this study. From these data, I calculated the average price per pound of each species sold. If the price per pound of a species ranged due to size and grade of the individual fish, the price in the middle of this range was used in calculations. These average prices were compared to the average price per pound paid for the species in 2015 and 2016 by eighteen commercial buyers in the ports examined. These average prices were generated from Pacific Fisheries Information Network (PacFIN) data that was collected from commercial seafood landing receipts.¹⁸ PacFIN is a collaboration between state and federal agencies that provide the data needed to manage fish stocks along the west coast of the United States from California to Washington.¹⁹ The commercial buyers chosen for this study were the three buyers with the largest number of fish landing receipts in each port focused on in this study. I calculated the percent difference in price between the commercial buyer’s average price to the price paid by customers at fishermen’s and farmers’ markets for each species sold in their unprocessed form. For this study, “unprocessed” can be defined as fish or invertebrates sold in the fashion they would have been sold to commercial buyers. I conducted a similar calculation to display the percent difference in price between the commercial buyer’s average price and the price paid by customers at fishermen’s and farmers’ markets for fish species that were cut and packaged for purchase. For this study, “fish species that were cut and packaged” can be defined as any fish species presented to customer already cut into a useable form and packaged.

¹⁸ Pacific Fisheries Information Network data are maintained by the Pacific States Marine Fisheries Commission, Portland, Oregon (www.psmfc.org). The data for my study included all landings to a selected group of commercial buyers located in the PacFIN ports of San Diego, Newport Beach, Santa Barbara, Ventura, San Francisco, and Morro Bay in 2015 or later.

¹⁹ Pacific Fisheries Information Network. 2015. “About PacFIN.” <http://pacfin.psmfc.org/about/about-pacfin/>.

Lastly, I collected price data at three specialty fish markets in San Diego in May of 2016. The price per pound of cut fish available at the direct markets visited in this study was collected from Catalina Offshore, El Pescador, and Point Loma Seafoods. I averaged these prices and calculated the percent increase in price between the average price at fishermen’s and farmers’ markets to the average specialty market price per pound of cut and packaged fish products. There is a wide range of limitations in the way both price comparisons described above were conducted in this study. Due to time and financial constrictions, these methods do not take into account seasonality or location, among other factors. Additionally, for reasons explained further in this study, not every species sold at direct markets could be compared to landings data and/or specialty market data. Further research is needed to address these issues.

4. Direct Marketing in Published Literature

4.1 Literature Review of Direct Marketing Benefits

Few publications describing and analyzing direct seafood marketing have been written and the overwhelming majority of the existing literature discusses community supported fisheries (CSFs) (Appendix A). The benefits of direct marketing discussed in published literature fall into five categories: benefits to fishermen, consumer benefits, environmental benefits, benefits to the local community, and benefits to the socio-ecological systems in which the fisheries belong (Table 1).

Table 1: Literature review of benefits of direct seafood sales

Benefits to Fishermen	Increases profits (Stoll et al. 2015) (Brinson et al. 2011)
	Provides platform for support and appreciation for the local fishing community (Witter 2012)
	Gain social and regulatory support (Brinson et al. 2011)
	Social connections with seafood consumers (Brinson et al. 2011)
Consumer Benefits	Provides access to local, sustainable, and fresh seafood (Brinson et al. 2011) (Witter 2012)
	Provides consumers with access to the producers of their food (Witter 2012) (Brinson et al. 2011)
	Opportunity to learn more about their seafood (Witter 2012) (Bolton et al 2016)
Environmental Benefits	Decreases carbon footprint (McClenachan et al. 2014)
	Creates local demand for locally abundant but underutilized species (McClenachan et al. 2014)
	Seafood traceability (Brinson et al. 2011) (Bolton et al 2016)
Benefits to the Local Community	Boosts local economy (Brinson et al. 2011)
	Provides outlet for local caught or domestically sourced seafood (Brinson et al. 2011) (Bolton et al 2016)

Benefits to the Socio-Ecological System

Leads to cooperation between fishermen allowing them to better address issues facing their socio-ecological system (Stoll et al. 2015)

Published literature highlights the benefits fishermen capture by participating in direct marketing. Studies found that CSFs provide fishermen with a higher, more stable price for their catch than the traditional supply chain.²⁰ CSFs also allow fishermen to capture the profits from a larger part of the supply chain than more traditional sales.²¹ This increased profit was first published in a 2015 study that found that fishers participating in a CSF received a 33% increase in revenue compared to average ex-vessel prices in the region.²² This study also found that fishers received 14%-18% more per dollar through year-end profit sharing.²³ Direct marketing has also been found to provide social benefits to fishermen. Direct seafood sales from fishermen to consumer provide the platform for local support and appreciation of the fishing community.²⁴

The published literature describes direct marketing as a method that provides the consumer with access to local, sustainable, and fresh seafood.²⁵ In a review of many different direct marketing operations “local” and “sustainable” are difficult to define. Therefore, from this review it can be concluded that CSFs guarantee seafood that is domestically sourced from a fishermen and fishing practice with which the the consumer is familiar.²⁶ These models of direct sales allow the consumer to converse the with producers of their food and therefore provides them with the opportunity to learn more about the seafood they consume.²⁷ This increase in information allows consumers to make informed purchases and to observe the impacts regarding their seafood choices.²⁸ It has also been argued that connecting with their fishers can alter the way consumers think about sustainable seafood by encouraging individuals to think about the human dimension of sustainability in addition to the environmental components.²⁹

Many of the environmental benefits in published literature generated from direct marketing stem from the shortened seafood supply chain this model provides.³⁰ This shortened supply chain allows for increased traceability from boat to plate and therefore allows consumers to know the source of their seafood and provides them the option to make environmentally conscious seafood choices.³¹ Additionally, a 2014 paper by McClenachan et al. determined that consuming seafood sourced by local CSFs decreases the carbon footprint of seafood by two orders of magnitude than if consuming industrially supplied seafood in the United States.³² The publication also states that CSFs create markets for locally abundant underutilized species, create local demand for species usually exported or imported, and create markets for species caught as bycatch and other waste

²⁰ Brinson, A., Lee, M.-Y., and Rountree, B. *supra* note 12.

Witter, A. 2012. *supra* note 8.

²¹ Brinson, A., Lee, M.-Y., and Rountree, B. *supra* note 12.

²² Stoll, J. S., B. A. Dubik, and L. M. Campbell. 2015. Local seafood: rethinking the direct marketing paradigm. *Ecology and Society* 20 (2): 40.

<http://dx.doi.org/10.5751/ES-07686-200240>

²³ *Ibid.*

²⁴ Brinson, A., Lee, M.-Y., and Rountree, B. *supra* note 12.

Witter, A. 2012. *supra* note 8.

²⁵ Witter, A. 2012. *supra* note 8.

²⁶ Bolton, A. E., Dubik, B.A., Stoll, J.S., and Basurto, X. *supra* note 16.

²⁷ Brinson, A., Lee, M.-Y., and Rountree, B. *supra* note 12.

Bolton, A. E., Dubik, B.A., Stoll, J.S., and Basurto, X. *supra* note 16.

²⁸ Witter, A. 2012. Witter, A. 2012. *supra* note 8.

²⁹ Witter, A. 2012. Witter, A. 2012. *supra* note 8.

³⁰ Bolton, A. E., Dubik, B.A., Stoll, J.S., and Basurto, X. 2016. Describing the diversity of community supported fishery programs in North America. *Marine Policy* 66: 21-29.

³¹ *Ibid.*

³² McClenachan, L., Neal, B., Al-Abdulrazzak, D., Witkin, T., Fisher, K., and Kittinger, J. 2014. "Do community supported fisheries (CSFs) improve sustainability? *Fisheries Research* 157: 62-69.

products. Although in this study there was no difference in sustainability between the target species produced by CSFs and industrially supplied seafood, the local demand CSFs created for locally abundant but underutilized species has beneficial environmental implications.³³

Researchers have also argued that the new markets for underutilized species also have the potential to help fishermen go against the current trend of increasingly specialized industrial fishing and harvest small amounts of many species instead of large amounts of a single species.³⁴

The surrounding community also reaps benefits from seafood direct marketing because it provides an outlet for seafood products caught locally or domestically.³⁵ Additionally, direct marketing can boost the local economy when the increased profit retained by fishermen is reinvested in their community or is used to hire local individuals³⁶.

Lastly, a 2015 publication by Stoll et al. described how seafood direct marketing can increase the resilience of the socio-ecological system in which the fishery operates. In this study, the authors argue that the economic benefits gained by selling catch via CSFs creates an incentive for fishermen to participate. This participation leads to cooperation and increased communication skills between fishers which allows fishermen to better identify and address issues facing their socio-ecological system. Therefore, direct marketing practices that bring together multiple fishers have the potential to increase the resilience of the socio-ecological system in which that fishery exists.³⁷

5. Market Descriptions

This study examined eight fishermen's markets and farmers' markets where fishermen sell their catch directly to consumers. (Figure 4). The markets visited in this study were those I was able to identify and visit between January and April of 2016. The fishermen's markets visited in this study include all the fishermen's markets I was aware of between San Diego and Berkeley by May 2016 with the exception of a possible fishermen's market in Half Moon Bay, CA. It is likely that other farmer's markets where fishermen sell their catch exist in the area studied. However, due to time and financial constraints, only three farmers' markets were identified and visited in this study. Case studies of each market visited were generated from information collected from semi-structured interviews and site visits.

³³ Ibid.

³⁴ Witter, A. 2012. *supra* note 8.

³⁵ Brinson, A., Lee, M.-Y., and Rountree, B. *supra* note 12.

Bolton, A. E., Dubik, B.A., Stoll, J.S., and Basurto, X. *supra* note 16..

³⁶ Brinson, A., Lee, M.-Y., and Rountree, B. *supra* note 12.

Witter, A. 2012. *supra* note 8.

³⁷ Stoll, J. S., B. A. Dubik, and L. M. Campbell. 2015. *supra* note 23.



Figure 4: Direct Seafood Sales in Southern California Visited for this Study

5.1 San Diego

A fishermen’s market is located on the Tuna Harbor Pier in San Diego each Saturday from 8:00am to 1:00pm. This market, known as the Tuna Harbor Docksider Market, was established by local fishermen and aquaculturists of the San Diego Fishermen’s Working Group so that they could gather and sell their catch directly to the public. The market, which officially opened in 2014, is composed of fishermen and fishing families who operate independent booths to sell their catch. The market also offers a booth that fillets customer’s fish purchases for a small fee and multiple food vendors that operate at the market to prepare seafood dishes from local products for customers.



Photo by Katherine Masury

A variety of local seafood products are provided at this fishermen’s market due to the diversity of the participating fishermen. Some of the fish at the market is sold whole and some is pre-cut and bagged for the customer. Many invertebrates for sale at the market are kept alive in tanks. Fishermen, fishing families, and deckhands operate each booth and are willing and able to inform the customer about their seafood products and how to prepare them.

This fishermen’s market is located next to San Diego’s Seaport Village, a busy area that has restaurants and stores, along with parking available nearby. Additionally, the market sits within walking distance of the USS Midway Museum, a popular site for both tourists and locals. The location of The Tuna Harbor Docksider Market provides customers with a prime view of Tuna Harbor, one of the last remaining working harbors in San Diego. Often, fishing vessels tie up on the Tuna Harbor Pier during market operation and offer customers the chance to see the boat that caught their seafood purchases.

The Tuna Harbor Docksider Market operates in a unique fashion. Five members of the fishing community own the market, called Tuna Harbor Docksider Market, LLC.³⁸ These owners

³⁸ Abell, N. Personal Communication. 27 Feb 2016.

provide the space, tents, tables, an ice needed for fishermen to sell their catch and hire two market workers to assist with overall operation.³⁹ Additionally, these owners deal with the market permitting and health inspections for the market.⁴⁰ The market is operated by board of directors which includes all market owners in addition to a fisherman who runs a central booth at the market. Finally, fishermen who wish to sell their catch at the market must meet certain qualifications, such as having a San Diego home-ported boat, and apply to participate in the market.⁴¹ If they are accepted, fishermen pay a small portion of their earnings to the Tuna Harbor Dockside Market, LLC for the services the company provided them. Once operating a booth at the Tuna Harbor Dockside Market fishermen can sell their own products and products for two other fishermen.⁴² Additionally, people helping fishermen operate their booths must be connected to the fishermen in some way.⁴³

The Tuna Harbor Dockside Market was preceded by fishermen who sold their own catch and seafood caught by other local fishermen directly to customers off their boat.⁴⁴ However, dock space was constricting and the participating fishermen wanted to move their operation to land.⁴⁵ In addition to this, a market where some local fishermen sold their catch opened in Point Loma in 2013 but a lack of customers and participation caused this operation to close.⁴⁶ At this point the San Diego Fishermen's Working Group began to work on establishing a fishermen's market. However, the regulatory system had no method for permitting fishermen's markets and the fishermen's working group found themselves at a dead end.⁴⁷ Luckily, this regulatory gap was covered by a Voice of San Diego journalist and the article was read by San Diego County Supervisor Greg Cox. Cox assisted the San Diego Working Group get a temporary permit to operate their market.⁴⁸ Acknowledging the need for more permanent permitting, the San Diego County Board of Supervisors asked the Department of Health to drafted regulatory changes to make a space for fishermen's markets in California's state regulations.⁴⁹ This bill was introduced by Speaker Toni Atkins in February of 2015 and was supported in the state assembly and state senate, and signed into law by Governor Jerry Brown in October of 2015.⁵⁰

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Halmay, P. Personal Communication. 24 Feb 2016.

⁴⁵ Ibid.

⁴⁶ Ibid.

Heral, M. "San Diegans Bait Hook for Seafood Market". *JMS Reports* [San Diego] 27 May 2014. <https://jmsreports.org/2014/05/27/san-diegans-bait-hook-for-seafood-market/>.

⁴⁷ California Sea Grant. "CA Sea Grant Informs New Law to Permit Fishermen's Markets." 09 Oct 2015

⁴⁸ California Sea Grant. "CA Sea Grant Informs New Law to Permit Fishermen's Markets." 09 Oct 2015.

⁴⁹ California Sea Grant. "CA Sea Grant Informs New Law to Permit Fishermen's Markets." 09 Oct 2015

⁵⁰ California Sea Grant. "CA Sea Grant Informs New Law to Permit Fishermen's Markets." 09 Oct 2015

5.2 Newport Beach

The Newport Dory Fleet was started in 1891 by a fisherman who no longer wanted to sell his catch to wholesalers.⁵¹ This fisherman pulled his dory up on the beach next to the Newport Beach Pier, sold directly from his dory to the public there, and was soon joined by other fishermen doing the same. In late 1960s the Newport Beach City Council set up pilings that currently surround the market for protection of the area and in 1969 Historical Society recognized this location as a permanent historical landmark.⁵² Although as of 2016 only six fishermen sell their harvest at the market, at one point twenty-two fishermen sold their catch at the Newport Dory Fleet.



The Dory Fleet is located in a permanent, semi-enclosed location on the Newport Beach. In 1987 the City of Newport Beach provided this location with electricity and running water.⁵³ Fishermen own individual stalls within the structure and the cost of the utilities provided by the city are prorated among stall owners.⁵⁴ These stalls, which include a room that can be locked and bins in the shape of dories for displaying seafood, are either purchased, inherited, or rented. The operation of the market is largely individual, however market participants work together and have a set of bylaws that determine the operation of the market. These bylaws declare that the individuals who own or rent stalls and the Newport Dory Fleet must have a commercial fishing license and must sell seafood they have caught themselves. Enforcement of these rules falls on the participant's shoulders.⁵⁵

The Newport Beach Dory Fleet is open on Friday through Sunday but is the busiest on Saturday when all fishermen are typically present. This market opens around 5:00 am and at that time there is often a line of customers waiting for the rock crab, spot prawn, spiny lobster, urchins, whelks, near shore fish, spider crab, octopus, mussels and other species sold there. Due to this large demand, much of the catch available at the Dory Fleet is sold out by 7:00 am and at this time some fishermen begin to clean up their stalls and leave. Depending on the size and nature of their catch, these fishermen have different levels of assistance at their stalls. Some stalls will have three or four people working while others will only have one. The number of workers present at each booth is largely determined by the amount of processing each type of catch requires. Fishermen who sell fish at the Newport Beach Dory fleet will fillet your fish at the time of purchase free of charge. Therefore, fishermen selling fish tend to have more employees than those selling invertebrates.

The Newport Dory Fleet is located next to many other restaurants and stores. There is also parking available nearby. Additionally, the market is located directly adjacent to the Newport Beach Pier and this ensures heavy foot traffic in the area. The market advertises its catch with a communal website that offers customers with a history of the market and a

⁵¹ Dory Fleet. 2013. "History." <http://www.doryfleet.com/history.html>.

⁵² O'Donnell, K. "More Than 100 Years of Dory Fishing". *Daily Pilot* [Los Angeles] 22 June 2003. http://articles.dailypilot.com/2003-06-22/news/export22648_1_dory-fleet-fish-market-newport-pier.

⁵³ City of Newport Beach. 2002. Dory Fishermens' Fleet. <http://www.newportbeachca.gov/home/showdocument?id=2454>

⁵⁴ Ibid.

⁵⁵ Escobar, S. Personal Interview. 5 Mar 2016.

Mutz, S. Personal Interview. 5 Mar 2016.

description of the participating fishermen. Some fishermen also have their own websites and/or advertise their catch on Twitter, Instagram, and Facebook. Finally, many news stories have been conducted on the Newport Dory Fleet and Dory Fleet participants. These news stories provide outside marketing for the Dory Fleet members and attract new customers to the market.

5.3 Oxnard

From 9:00am until 2:00pm on Sundays, Fresh Fish Fanatics, a family-owned seafood business, sells their catch at the Channel Islands Certified Farmers' Market in Oxnard. This company is owned by a fisherman and his wife who have been fishing out of the Channel Islands Harbor in Oxnard for thirty years.⁵⁶ The fisherman catches and fillets fish for his customers, and his wife and children assist him with marketing and sales of their catch. Fresh Fish Fanatics originally sold their catch from their boat at the dock adjacent to the farmers' market in Channel Islands Harbor. Recently however, the company began selling their catch at a booth in the market itself.



At their booth at the Channel Islands Farmers' Market, Fresh Fish Fanatics sells their own catch and also sells seafood imported from elsewhere. At the market, all the fish they sell is filleted, bagged, and displayed on ice. The other seafood they sell, such as scallops, shrimp, and cooked crab legs are also displayed on ice. The owners of Fresh Fish Fanatics only sell a small portion of their catch directly to the public at this time but hope their presence at the farmers' market will help them build a solid customer base so they can increase the percent of their catch that they sell directly to customers.⁵⁷

Fresh Fish Fanatics advertises their seafood sales on a website which offers information about the family, how to find their booth, and customer testimonials.⁵⁸ The company also writes a blog, titled "The Fisherman's Wife" which includes personal stories and recipes for fresh seafood.⁵⁹ To connect and stay in touch with customers, Fresh Fish Fanatics uses social media and provides the opportunity for customers to sign up for email updates both on their website and on paper at their booth. Finally, company business cards are available at their farmers' market booth.

5.4 Ventura

Each Saturday a group of fishermen gather in Ventura Harbor from 8:00am-10:00am to sell their catch directly to the public. This event, called the Ventura Harbor Fishermen's Market, has existed for over a decade.⁶⁰ The market is located next to Andria's Seafood Restaurant and Market and was initiated with the help of the restaurant's owner.⁶¹ The number of fishermen who sell their catch at



⁵⁶ Fresh Fish Fanatics. "About Us." Fresh Fish Fanatics. 2016. <http://freshfishfanatics.com/about-us>.

⁵⁷ Williams, D. Personal Communication. 1 May 2016.

⁵⁸ Fresh Fish Fanatics. "Home." Fresh Fish Fanatics. 2016. <http://freshfishfanatics.com/home>.

⁵⁹ Williams, D. 2015. "The Fishermen's Wife." <http://freshfishfanatics.com/blog/>.

⁶⁰ Schneider, J. Personal Communication. 23 Apr 2016.

⁶¹ Ibid.

the Ventura Harbor Fishermen's Market ranges from about three to seven and species sold at the market vary depending on the season.

The Ventura Harbor Fishermen's Market is composed of fishermen who gather with individual permits to market their catch. Each fishermen establishes their own booth under a canvas tent and displays their catch in coolers and baskets. Most fishermen employ other individuals at their booth to assist with bagging, weighing, and selling their product. There is no overarching management structure that dictates how the market operates. However, all the fishermen participating in the market rely on Andria's Seafood Restaurant and Market for the three compartment sink and bathroom required of the market by the permitting office.⁶²

Stores and restaurants are located nearby the Ventura Harbor Fishermen's Market. Additionally, Ventura Harbor has the added attraction of being a working harbor next to a public access beach. These factors, combined with the fact that Ventura Harbor has available parking, allows the area to successfully attract customers to the market. Customers can also learn of the Ventura Harbor Fishermen's Market on Yelp and on Ventura Harbor's website that hosts an ad for the market. For the most part, however, individual fishermen conduct their own marketing and have dedicated group of patrons with whom they have built relationships over the years.⁶³



In addition to the weekly Ventura Harbor Fishermen's Market, The Ventura Fish Company, the owner of the longline vessel the *Ventura II*, operates a fishermen's market roughly once a month during the winter. This market was established with the goal of selling the catch from their longline vessel directly to the public and therefore operates only when the *Ventura II* returns to port from their month-long fishing trips. The market opens on both Saturday and Sunday when the *Ventura II* is in the harbor and offers a variety of products. The typical fish available at the Ventura

Fish Company Fishermen's Market are Mako Shark, Ahi Tuna, Mahi Mahi, Swordfish, Opah, Wahoo, Skipjack, and Pomfret.

The Ventura Fish Company fishermen's market is set up under a series of tents located next to where the *Ventura II* ties up in Ventura Harbor. Fish are cut, bagged, and weighed on the *Ventura II* and then brought up on the dock to be sold to customers.⁶⁴ In addition to the workers on the boat who prepare their catch for market, Ventura Fish Company has many sales people ready to answer customer's questions and sell the seafood products. The market also has a division that sells whole and frozen fish. In this section of the market customers can purchase fish and the workers there will cut the fish using the Ventura Fish Company's indoor facility; a tip is expected.⁶⁵ The Ventura Fish Company is a family operated business and many of the workers at this market are family members of the owners of *Ventura II*.⁶⁶

The Ventura Fish Company advertises their markets with a mass email message to individuals on their mailing list and postings on their Facebook page. Owners of the market have developed this email list by diligently collecting the email addresses of their patrons at every market.⁶⁷ Ventura Fish Company also advertises their sales in local newspapers.

⁶² Ibid.

⁶³ Schneider, J. Personal Communication. 23 Apr 2016.

⁶⁴ Dupuy, K. Personal Communication. 6 Feb 2016.

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Ibid.

When both the Ventura Harbor Fishermen's Market and the Ventura Fish Company Markets operate on the same day, the Ventura Harbor Fishermen's Market shifts their operation slightly so that they are in view of the Ventura Fish Company customers. These two markets have different products due to the manner and location in which fishermen from the two markets fish and therefore can operate simultaneously without much overlap of product.

5.5 Santa Barbara

The Santa Barbara Fishermen's Market, located on the west side of Santa Barbara Harbor, occurs each Saturday from around 7:00 am to 11:00 am. This market has existed for over a decade, with local fishermen selling their catch directly to consumers from the dock at the working harbor. The market has grown in the past couple of years with additional members joining each Saturday including one local aquaculture facility. There are typically around five fishermen operating booths at this market although it varies week to week. The products sold at the Santa Barbara Fishermen's Market are in whole, unprocessed form. Many of the products are sold alive and some fishermen utilize tanks that circulate ocean water to display their products.



This market has no overarching management structure; each fishermen sets up their own booth and does not excessively coordinate with the other booths.⁶⁸ However, members of the market stressed the importance of each vendor selling their own catch at the market. This prevents one booth from selling many different products and dominating the market.⁶⁹ Fishing families participate in seafood sales at some booths at the Santa Barbara Fishermen's Market.

The location of the Santa Barbara Fishermen's Market has many advantages. To begin with, it is located on a working pier with fishing boats tied up near by. This benefits the fishermen's market as it shows customers the types of boats and gear used to catch their purchases. Additionally, the market is conveniently located near Santa Barbara Fish Market, a store that will fillet the fish purchased at the market for a small fee. Lastly, Santa Barbara Harbor has many restaurants and shops for customers to enjoy in addition to parking available nearby.

Advertisement for the market lies on the shoulders of individual market participants. However, one market participant mentioned an interest in establishing a website and other advertising materials for the market in the future.⁷⁰ Lastly, multiple newspaper articles have been written about the Santa Barbara Fishermen's Market which have brought attention to the market's operation.

⁶⁸ Santa Barbara Fisherman 1. Personal Communication. 19 Mar 2016.

⁶⁹ Santa Barbara Fisherman 2. Personal Communication. 2 Apr 2016.

⁷⁰ Santa Barbara Fisherman 1. Personal Communication. 19 Mar 2016.

5.6 Morro Bay

Morro Bay is home to a fishing family that has decided to sell part of their catch directly to the public. This is done weekly at two different farmers' markets in the surrounding area. South Bay Wild, the name of the family-run business, has been selling directly to the public since July of 2015.⁷¹ To create a product suitable for farmers' markets, South Bay Wild chose to obtain a Fish Processors License from the State of California Department of Fish and Wildlife which allows them to process their catch before selling it.⁷² South Bay Wild sells fish such as Petrale Sole, Rockfish, Ling Cod, and Thornyheads, that their family catches from their trawling vessel the F/V South Bay. At farmers' markets South Bay Wild also sells frozen fish caught by their friends who fish in Alaska and Washington. Lastly, the South Bay Wild occasionally sells seafood caught by other members of the California Groundfish Collective, a group of fishermen of which South Bay Wild is a member, that have partnered with the Nature Conservancy to create healthier oceans and more productive fisheries.⁷³



South Bay Wild harvests and markets their product with social, economic, and environmental factors in mind; they refer to this as the “triple bottom line” approach.⁷⁴ Through direct marketing South Bay Wild is providing local seafood to local customers at a lower price. This vertical integration also leads to increased profits for the fishing vessel which means that the vessel can catch less fish to meet their bottom line. Additionally, the company leases their quota from the Morro Bay Community Quota Fund which means that part of the revenue from fishing goes back to supporting community infrastructure. Lastly, South Bay Wild harvests with the environment in mind and protecting ocean habitat and avoiding overfished rockfish species are priorities for the Community Groundfish Collective of which they are members.⁷⁵

At the end of each fishing trip South Bay Wild unloads their catch at the dock in Morro Bay. Customers have the opportunity to preorder whole fish or fish fillets and are able to pick up whole fish the day the boat is offloaded and filleted fish the day after. Lastly, South Bay Wild sets aside part of their catch to filet, package, and freeze in preparation for farmers' market sales.⁷⁶ South Bay Wild markets their product with a descriptive website of their company and their mission. Additionally, the family uses MailChimp to send out emails letting their followers know when and where they will be unloading their boat and selling their fish.⁷⁷ At their farmers' market booths South Bay Wild provides cards with recipes for and nutritional information for their products. Lastly, South Bay Wild is represented on Localcatch.org's “seafood locator”, which tells customers where to buy local seafood directly from the fishermen.

⁷¹ Seitz, T. Personal Communication. 21 Mar 2016.

⁷² Seitz, T. Personal Communication. 21 Mar 2016.

⁷³ South Bay Wild. Email Communication. 9 May 2016.

The Nature Conservancy. 2015. “California Groundfish Collective: Our Story”. <http://www.cagroundfish.org/#our-story>.

⁷⁴ South Bay Wild. “Triple Bottom Line.” South Bay Wild. 2016. <http://www.southbaywild.com/triple-bottom-line/>

⁷⁵ South Bay Wild. “Triple Bottom Line.” South Bay Wild. 2016. <http://www.southbaywild.com/triple-bottom-line/>

⁷⁶ South Bay Wild. Email Communication. 9 May 2016.

⁷⁷ Seitz, T. Personal Communication. 21 Mar 2016.

5.7 Berkeley

One Berkeley fisherman, under the business name Sunrise Fish Company, sells a portion of his catch every Tuesday at Adeline St. Berkeley Farmers' Market. Sunrise Fish Company provides customers with rod-and-reel caught California halibut, a fishing method that produces no bycatch, causes less environmental degradation and produces a higher quality product than other techniques.⁷⁸ Sunrise Fish Company also sells lingcod and rock cod seasonally along with select products harvested by other local fishermen who adhere to similar quality and sustainability standards as Sunrise Fish Company.⁷⁹ Sunrise Fish Company typically sets aside his catch from Sunday and Monday to sell directly to consumers. The remainder of their catch is sold to a company that sells sustainably caught, high quality seafood to high end grocery stores.⁸⁰



Photo by Maya Mirsky

The owner of Sunrise Fish Company began selling directly to consumers because he saw it as an opportunity to sell high quality, local seafood for a good price.⁸¹ Additionally, the fact that seafood is often mislabeled and left out of the local food equation inspired him to begin directly marketing his high-quality product. Before applying for a booth, the owner of Sunrise Fish Company visited farmers' markets to research the potential demand for his products. From these visits the owner decided that demand existed.⁸² He was right. The first time Sunrise Fish Company sold their catch at the farmers' market they sold out in three hours.⁸³

Sunrise Fish Company put in a great deal of effort in order to sell their products directly to consumers. Obtaining the permits to sell their own catch, other fishermen's catch, and to package their own product took five months and cost the company \$5,000. In addition to this, Sunrise Fish Company had to apply to be a farmers' market vendor. The fierce competition to be admitted as a vendor made it difficult for Sunrise Fish Company to get into a farmers' market in Berkeley on the more popular weekend days. However, the company was offered a spot in the Tuesday Adeline St. Berkeley Farmers' Market and has been selling there since July 2015.⁸⁴

Sunrise Fish Company has a website and an Instagram account from which they market their catch. From his time selling at Adeline St. Berkeley Farmers' Market, the owner of Sunrise Fish Company believes the company has developed credibility for themselves and the high quality product they sells which has transferred into a strong customer base.⁸⁵ Additionally, the newspaper articles written about the company's booth have helped advertise their product. Sunrise Fish Company sees an increase in direct sales in the company's future either in additional farmers' markets or in the establishment of a fishermen's market.⁸⁶

⁷⁸ Sunrise Fish Company. "How We Fish." Sunrise Fish Company. 2016. <http://sunrifish.com/howwefish/>.

⁷⁹ Sunrise Fish Company. "How We Fish." Sunrise Fish Company. 2016. <http://sunrifish.com/howwefish/>.

⁸⁰ Sewall, A. Personal Communication. 16 Mar 2016.

⁸¹ Sewall, A. Personal Communication. 16 Mar 2016.

⁸² Sewall, A. Personal Communication. 16 Mar 2016.

⁸³ Sewall, A. Personal Communication. 16 Mar 2016.

⁸⁴ Sewall, A. Personal Communication. 16 Mar 2016.

⁸⁵ Sewall, A. Personal Communication. 16 Mar 2016.

⁸⁶ Sewall, A. Personal Communication. 16 Mar 2016.

6. Economics of Direct Marketing at Farmers' and Fishermen's Markets

6.1 Price Analysis

The price of sixty-three local species were collected from farmers' and fishermen's markets in Southern California (Appendix B). Fifty-two of these species were sold in an unprocessed form (the way they would have been sold to a processor) (Table 2). Twenty-eight of the fish species were sold cut and packaged. Nine seafood products were prepared for market in ways outside of the scope of this study (Appendix C). For example, crustacean claws sold separately from the rest of the organism, cooked seafood products, and fish and octopus species kept alive for the market were not included in this study.

Of these prices collected, nineteen of the unprocessed species could be compared to Pacific Fisheries Information Network (PacFIN) commercial landings data (Appendix B).⁸⁷ Twenty species sold at the direct markets examined in this study were not present in the commercial landings data while thirteen species could not be included in this price analysis because of PacFIN data usage requirements that prevent certain price data with fewer than three sources to be published. Lastly, one species had to be dropped from the study because the price at fishermen's and farmers' markets was per individual as opposed to per pound.

From the nineteen species at direct markets that were possible to compare to commercial landings data this study found that fishermen who sell their catch at farmers' and fishermen's markets ask on average 107% higher for unprocessed seafood species than the price offered to them for the species by commercial buyers (Figure 5). Price increases at direct markets ranged from -23.9% to 282.8% higher than the average price paid by commercial buyers. Eighteen of the twenty-seven species of fish sold at farmers' and fishermen's markets in cut and packaged form could be matched to commercial landings data (Appendix B). On average, fishermen who sell fish products that they have cut and packaged ask for an average of 455.26% more than the price offered to them by commercial buyers (Table 2).

It is important to note that the price analysis in this study only examines price difference and does not take into account the extra work and expenses fishermen incur when sell directly to consumers. Instead of unloading their catch at the commercial buyer and receiving payment for it, fishermen who sell directly are responsible to transport, store, and sell their seafood. This not only costs the fishermen money, but it also requires much more time and energy than selling to commercial buyers. In addition to these costs, fishermen must have a variety of licenses and permits to begin selling directly to the consumer, and these requirements can be expensive and time consuming to obtain. Therefore, the price of seafood set by fishermen who sell their catch directly to the public would need to absorb the additional expenses generated by the extra labor and cost of these types of transactions. Analyzing if, or to what extent, fishermen's net incomes change when selling their catch at fishermen's or farmers' markets was beyond the scope of this study.

⁸⁷ Pacific Fisheries Information Network data are maintained by the Pacific States Marine Fisheries Commission, Portland, Oregon (www.psmfc.org). The data for my study included all landings to a selected group of commercial buyers located in the PacFIN ports of San Diego, Newport Beach, Santa Barbara, Ventura, Fort Bragg and Morro Bay in 2015 or later.

Table 2: Percent price difference at direct markets compared to price paid by commercial buyers

Item	Number of Species at Direct Markets	Number of Species Compared to Commercial Buyer Prices	Average Percentage Difference at Direct Markets Compared to Price Paid by Commercial Buyers*
Total Species	61	26	-----
Unprocessed Seafood	52	19	107%
Fish Cut and Packaged	27	18	455.26%

*Does not account for extra work and expenses incurred by fishermen

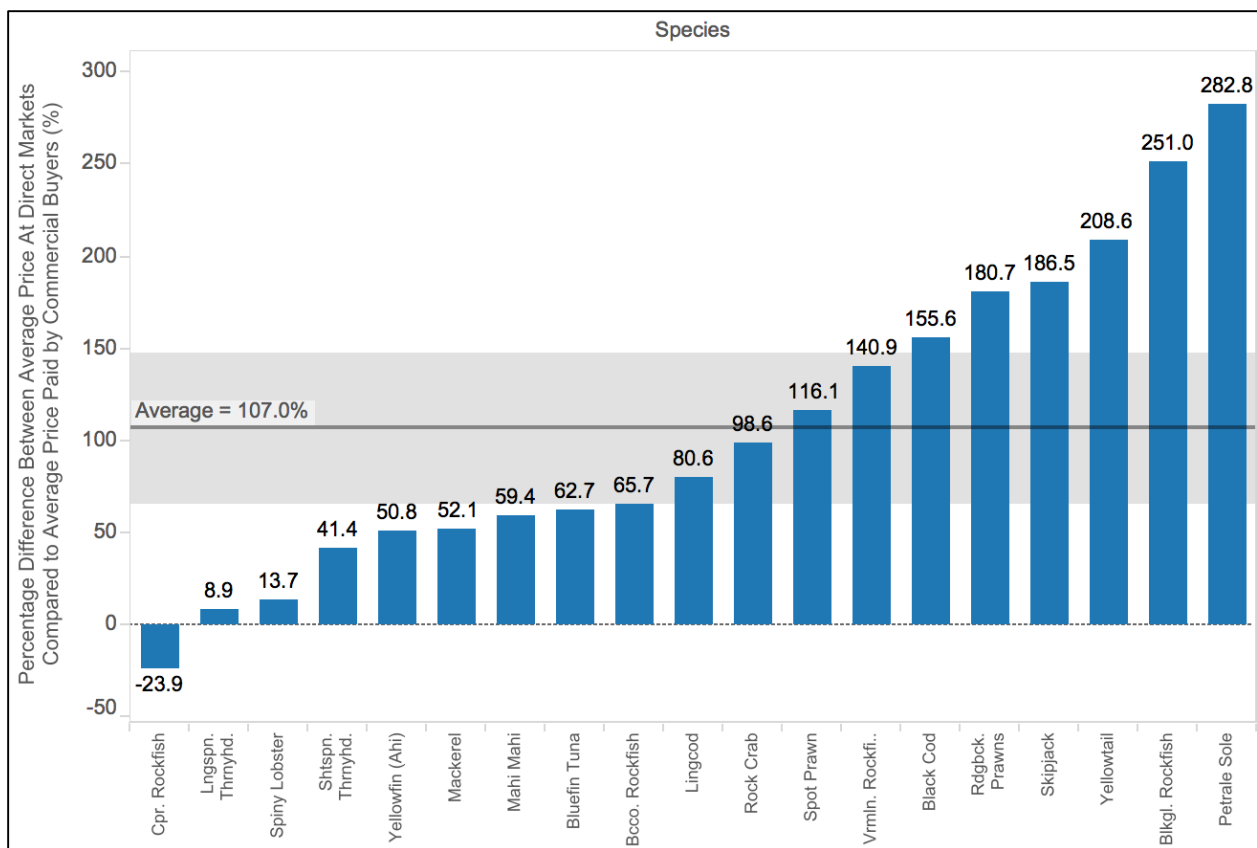


Figure 5: Percentage difference between average price at direct markets compared to average price paid by commercial buyers for unprocessed seafood products

The average prices of fifteen local species, sold at three specialty fish markets in San Diego, were compared to the prices of these species at farmers’ and fishermen’s markets in Southern California (Table 3) (Appendix D). This comparison shows that specialty fish markets charge from 4% to 81.3% more per pound of cut and packaged fish, with an average of 31.24% more per pound, than fishermen charge customers for the same product at fishermen’s and farmers’ markets (Figure 6). This price analysis only compares the prices between direct sale markets and specialty fish markets and does not consider any difference in cost to the consumer,

such as transportation costs or time costs, that the consumer must pay when choosing one of these market options over the other.

Table 3: Table 2: Percent price difference at specialty fish markets compared to direct market prices

Item	Number of Species at Direct Markets	Number of Species Compared to Specialty Market Prices	Average Percentage Difference at Specialty Fish Markets Compared to Price at Direct Markets*
Total Species	63	15	-----
Fish Cut and Packaged	28	15	34.24%

* Does not account for difference in cost, if any, incurred by the customer when choosing to purchase seafood at fishermen’s and farmers’ markets as opposed to specialty fish markets

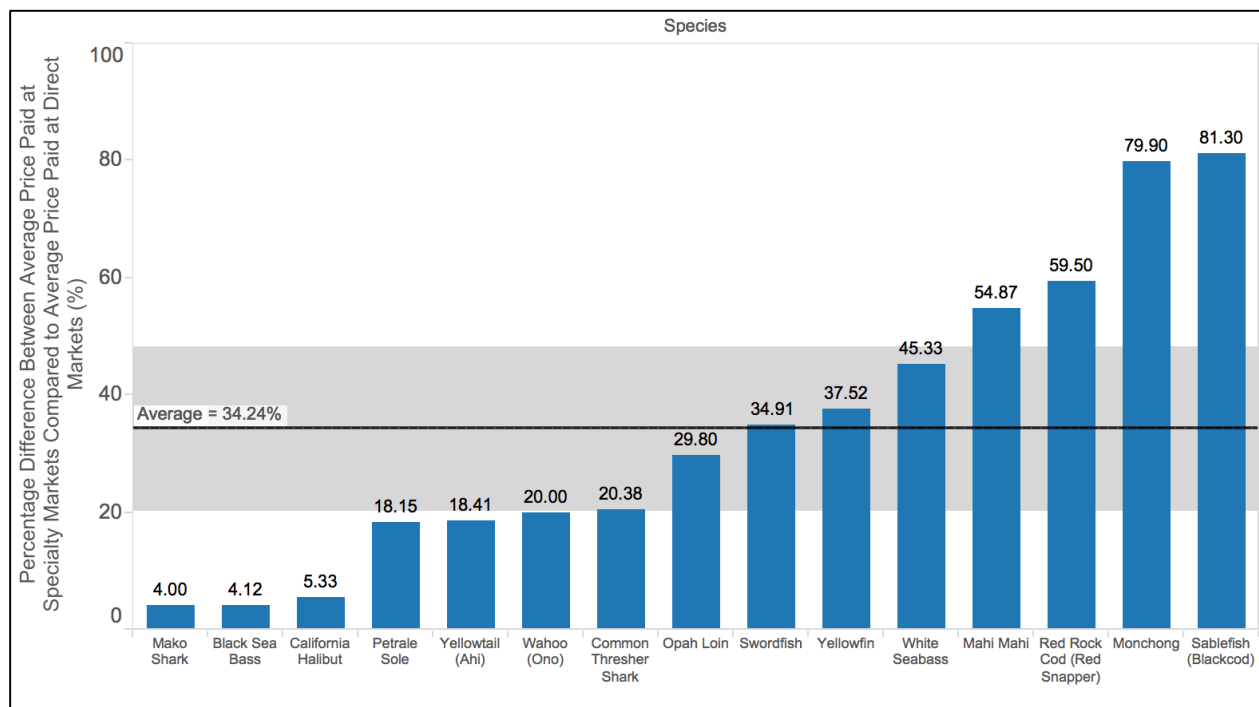


Figure 6: Percentage difference between average price paid at specialty fish markets compared to average price paid at direct markets for cut and packaged fish products

6.2 Non-Market Benefits

Fishermen and fishing families interviewed for this study who sell their catch at fishermen’s or farmers’ markets mentioned many non-market benefits that result from these forms of direct seafood sales. A total of 51 responses from eighteen market participants were collected. These responses fell into five categories with some overlap; these categories included benefits received by fishermen, consumers, the environment, the community, and the socio-ecological system to which the fishery belongs (Figure 7).

The non-market benefit of selling catch at fishermen’s and farmers’ markets with the highest number of responses was that these forms of marketing increase the local community’s awareness of and appreciation for the local fishing community. The benefit with the second highest number of responses was that fishermen’s and farmers’ markets directly connect the fishermen with the consumer. Other responses frequently mentioned were that selling catch at farmers’ and fishermen’s markets increase fishermen’s exposure therefore offers them the opportunity to attract new customers and that these forms of direct sales promote local seafood. Participants mentioned benefits to fishermen most frequently in the interviews conducted, while things that benefitted both the consumer and the fishermen were mentioned the second most frequently. Aspects of these forms of direct marketing that benefit the socio-ecological system by assisting fishermen to better address issues facing the socio-ecological system to which their fishery belongs were mentioned the least.

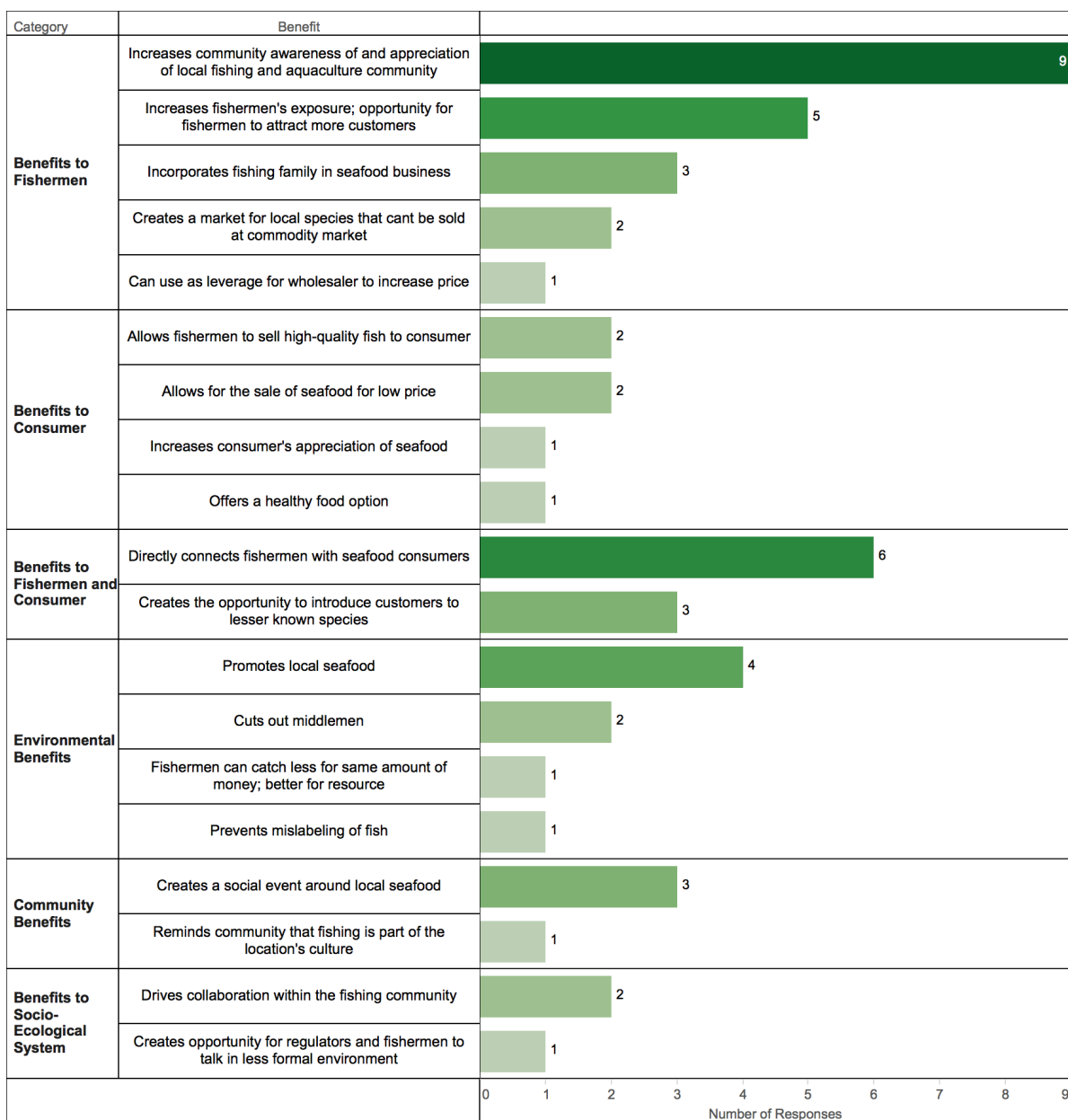


Figure 7: The benefits of selling catch at fishermen's and farmers' markets according to participating fishermen and fishermen's families.

Benefits to fishermen that were mentioned by direct market participants included the increased awareness and appreciation of the local fishing community, and an increased exposure and opportunity for fishermen to attract new customers. Participants also mentioned that direct sales offer opportunities for fishing families to get involved in their seafood business. Two families with children elaborated on this by saying that selling catch at fishermen's and farmers' markets provided their children with a chance to learn about the family business and feel proud to be a part of it. Another benefit to fishermen mentioned was that selling directly to consumers can create markets for species that can't be sold at the commodity market. Finally, one fishermen's market participant mentioned that selling his catch directly to the consumer allowed him to use this as leverage for the wholesaler to increase their price.

In this study, fishermen's and farmers' market participants mentioned benefits from these types of direct sales that overlapped both the benefits to fishermen and benefits to consumer categories. With six responses, the fact that direct sales connect fishermen with consumers received the highest number of responses in this overlapping category. From directly connecting to their consumers, fishermen are able to get to know the people who are eating their seafood products. One fisherman mentioned that he has enjoyed interacting with his customers and watching their children grow into adults who continue to visit the local fishermen's market to buy his seafood. Consumers benefit from this direct connection because they are able to obtain more information about the seafood they are eating, make more informed seafood choices, and get to know the individual providing them with their food. Market participants also mentioned that these direct sales provide the opportunity to introduce consumers to lesser known species thus benefitting them by being able to increase consumer's knowledge and understanding of the species they catch, and benefitting the consumer by introducing them to new types of seafood they might enjoy and teaching them how to prepare it.

In addition to benefits received by both fishermen and consumers, participants mentioned benefits that are retained solely by consumers receive at fishermen's and farmers' markets. Two market participants mentioned that these markets provide consumers access to high quality fish, and two respondents mentioned that these markets provide the consumer the opportunity to buy seafood at a lower price than they would elsewhere. Additionally, one participant mentioned that these forms of direct sales increase the customer's appreciation of the seafood they eat. Finally, one participant mentioned that selling seafood directly offers a healthy food option for customers.

When asked about the benefits of direct sales at farmers' and fishermen's markets, some respondents mentioned how this type of sale benefits the environment. The environmental benefit mentioned the most frequently was that this form of sale promotes local seafood; this benefits the environment because consuming locally caught seafood decreases the carbon footprint of that product. Secondly, respondents mentioned that this form of seafood sale cuts out the middleman, which benefits the environment because it allows for more traceable seafood supply chains. Two final environmental benefits mentioned by only one market participant each were that these direct sales allow fishermen to make the same amount of money by catching less and that direct sales prevents the mislabeling of fish.

According to market participants, seafood sales at fishermen's and farmers' markets also benefit the local community. Three respondents mentioned that these markets create a social event around seafood. These respondents mentioned that local individuals will come to the

market for the social aspect even if they do not need to purchase anything. Another community benefit mentioned by one participant was that selling seafood at local markets reminds the community of the historical significance of fishing in their town or city.

Finally, some fishermen and fishing families mentioned the aspects of direct sales that benefit the socio-ecological system. This concept was developed by Stoll et al. in their 2015 publication that described how direct sales via community supported fisheries (CSFs) can assist fishermen to better address issues facing the socio-ecological system to which their fishery belongs.⁸⁸ In this study, two respondents indicated that direct sales and farmers' and fishermen's markets can drive collaboration within the fishing community; according to Stoll et al. (2015), this collaboration can lead to benefits to the socio-ecological system. One of these respondents mentioned that by getting members of the fishing community together each week for the market, collaboration is encouraged. The other respondent mentioned that the success of direct sales and local markets could encourage other fishermen to join the local fishermen's marketing association which would then lead to increased collaboration in the fishing community. Another benefit to the socio-ecological system that was mentioned in this study was that these forms of direct sales allow regulators to visit the market and talk with the fishing community in a more formal environment. This interaction helps fishermen address issues facing them and thus benefits the socio-ecological system they are a part of.

7. Conclusions

The goals of this study were 1) to analyze the focus of direct marketing published literature and the published benefits of direct sales 2) to assess the diversity and structure of fishermen's markets and farmers' markets where fishermen sell their seafood directly to consumers in Southern California and 3) to research the economics of these direct marketing strategies to various stakeholder groups via a price analysis and a study of non-market benefits. A literature review, semi-structured interviews with fishermen and fishing families, market visits, and an analysis of collected and existing seafood price data provided the information needed to answer the questions posed at the onset of this study.

Findings show that the small amount of published literature on seafood direct marketing focuses only on CSFs and therefore leaves space for further research to be conducted on other forms of direct seafood sales. The publications analyzed in this study stated that CSFs can benefit fishermen, consumers, the environment, the local community, and the socio-ecological system of which the fishery is a part.

The mini-case studies conducted in this research outline the many methods by which fishermen in Southern California operate fishermen's markets and participate in farmers' markets. These methods vary depending on the fishermen's catch, location, and number of fishermen involved. However, many similarities between these styles of direct sales were found including the establishment of markets in locations close to working fishing harbors with other attractions and available parking, participation of fishing families at sales booths, and the establishment of market bylaws and guidelines to ensure the market operates the way it was intended. With continued research it is possible that these case studies can serve as templates for fishermen and fishing communities elsewhere who are interested in operating a booth at a farmers' market or establishing a fishermen's market. Fishermen's markets have been present in Southern California for over a hundred years and with the increase in demand for locally caught seafood it is likely that these methods of direct sales will be replicated across the country.

⁸⁸ Stoll, J. S., B. A. Dubik, and L. M. Campbell. *supra* note 23.

Lastly, this study shows that many different stakeholder groups benefit from the direct sale of seafood at fishermen's and farmers' markets. The price analyses indicate that fishermen are able to sell their catch for a higher price per pound at direct markets than they can to commercial buyers. This research also shows that purchasing cut and packaged fish directly from the fishermen at farmers' markets and fishermen's markets is cheaper than purchasing the same products at a specialty fish market. Although further study is required to analyze the additional cost to fishermen and consumer when selling or buying seafood in these manners, this price analysis is the first step in indicating that both fishermen and consumers stand to benefit financially from these types of direct seafood sales.

In addition to the financial benefits fishermen and consumers can potentially gain from selling and purchasing seafood at farmers' and fishermen's markets, interviews with fishermen who sell their catch at farmers' and fishermen's markets in Southern California indicate that these sales benefit not only the consumer and producer, but also the local community, the environment, and the socio-ecological system. These are the same stakeholder groups that the primary literature on CSFs claim as benefactors. In addition to this, many similar answers were generated in this study as are present in the primary literature. This study therefore, helps show that direct seafood sales as a concept, instead of only through CSFs, can benefit many stakeholder groups.

This study focused heavily on the benefits of the direct marketing of seafood via farmers' and fishermen's markets. However, a comparison of the benefits of these direct marketing strategies to the associated disadvantages could be a potential avenue for further research. As mentioned previously, there are a great number of additional costs that fishermen must take on when selling their catch directly to the public. The transport, storage, and sales of catch generates additional cost to the fishermen, as does organizing and operating the markets. Furthermore, direct sales markets only benefit customers who live nearby. Therefore, distant customers do not reap the benefits of direct seafood sales at farmers' and fishermen's markets. Understanding and comparing the disadvantages of fishermen's and farmers' markets to the benefits described here would make an interesting and useful subject for future studies. This would provide information to fishermen looking to begin direct marketing their catch and also would provide information to consumers looking to make sustainable and responsible seafood purchases.

The seafood supply chain that dominates seafood distribution in the United States today disconnects seafood consumers from producers, has a large carbon footprint, and exports locally caught seafood species while importing foreign ones. Direct seafood sales from fishermen to consumer shorten this long and confusing seafood supply chain and allows local customers to interact with local producers. This study is the first step in describing and analyzing fishing communities along the coast of California who successfully organize and operate direct seafood sales at fishermen's and farmers' markets. Although these modes of direct sales require significant work and energy from the fishermen, this study shows a great diversity of benefits associated with these styles of seafood sales. As the local seafood movement gains momentum across it is likely that more fishermen will become interested in selling their catch directly to the consumer. If this occurs, fishing communities around the country can look to Southern California for guidance on how to successfully establish and operate sales at farmers' and fishermen's markets.

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9. Appendices

Appendix A: Literature Review of Seafood Direct Marketing Operations

REFERENCE	COUNTRY/AREA	STUDY SIZE	DIRECT MARKETING STYLE	GROUPS BENEFITTING	BENEFITS
Bolton et al. 2016	USA and Canada	22 CSFs	CSF	Environment, Community, Consumer	Seafood traceability, Domestically sourced seafood, Provide information to customers
Brinson et al. 2011	USA and Canada	13 CSFs	CSF	Environment, Fishermen, Consumer, Community	Seafood traceability, Increases fishermen's revenues by generating higher prices for fish and providing fishermen with a stable income, Creates social connection between producers and consumers, Consumers get access to high quality fish, Consumers benefit from interactions with fishermen, Fishermen gain social and regulatory support, Boosts local economy Provides a local outlet for seafood products caught locally
McClenachan et al. 2014	USA and Canada	15 CSFs	CSF	Environment	Decreases carbon footprint, Creates local demand for locally abundant but underutilized species
Stoll et al. 2015	North Carolina	1 CSF	CSF	Social Ecological System	Leads to cooperation between fishermen allowing them to better address issues facing their socio-ecological system
Witter 2012	California	1 CSF	CSF		Provides consumers with access to the producers of their food, Provides access to local, sustainable, and fresh seafood, Opportunity to learn more about their seafood, Provides platform for support and appreciation for the local fishing community

Appendix B: Species at direct markets for which prices were collected and species used for price comparison with PacFIN data

Number	Total Species at Direct Markets For Which Prices Were Collected	Unprocessed Species Used for Price Comparison with PacFIN Data	Cut and Packaged Species Used for Price Comparison with PacFIN Data
1	Abalone	Boccacio Rockfish	Bat Ray

2	Bank Perch	Black Cod	Black Sea Bass (Giant Sea Bass)
3	Bank Rockfish	Blackgill Rockfish	Blackgill Rockfish
4	Bat Ray	Bluefin Tuna	Bluefin Tuna
5	Big Eye Tuna	Copper Rockfish	Common Thresher Shark
6	Black Sea Bass	Lingcod	Lingcod
7	Blackgill Rockfish	Longspine Thornyhead	Longnose Skate
8	Bluefin Tuna	Mackerel	Longspine Thornyhead
9	Boccacio Rockfish	Mahi Mahi	Mahi Mahi (Dolphinfish)
10	Pacific Bonito	Petrале Sole	Mako Shark
11	Brown Box Crab	Ridgeback Prawns	Petrале Sole
12	California Halibut	Rock Crab	Sablefish (Black Cod)
13	California King Crab	Shortspine Thornyhead	Shortspine Thornyhead
14	California Sheephead	Skipjack	Swordfish
15	California Spiny Lobster	Spiny Lobster	Vermillion Rockfish (Red Snapper/Red Rock Cod)
16	Chillipepper Rockfish	Spot Prawn	White Seabass
17	Common Thresher Shark	Vermillion Rockfish (Red Snapper/Red Rock Cod)	Yellowfin (Ahi)
18	Copper Rockfish	Yellowfin (Ahi)	Yellowtail
19	Dover Sole	Yellowtail	
20	Eel (sp?)		
21	Escolar		
22	Kellets Whelk		
23	White Croaker		
24	Lingcod		
25	Longspine Thornyhead		
26	Mackerel		
27	Mahi Mahi		
28	Mako Shark		
29	Market Squid		
30	Monchong/Pomfret		
31	Moonsnail		
32	Mussels		
33	Ocean Whitefish		
34	Ono/Wahoo		
35	Opah		
36	Opal Eye		
37	Oysters		

38	Pacific Sanddab		
39	Petrале Sole		
40	Red Sea Urchin		
41	Ridgeback Prawn		
42	Rock Crab		
43	Rock Sole		
44	Rockfish		
45	Sablefish/Black Cod		
46	Sardine		
47	Scarlet King Crab		
48	White Seabass		
49	Shortspine Thornyhead		
50	Longnose Skate		
51	Skipjack Tuna		
52	Spider Crab		
53	Spotted Prawn		
54	Starry Rockfish		
55	Swordfish		
56	Top Snail		
57	Triggerfish		
58	Vermillion Rockfish/Red Snapper		
59	Whelk Snail		
60	Yellowfin Tuna (Ahi)		
61	Yellowtail		
Total	61	19	18

Appendix C: Seafood products sold at direct markets in matter out of scope of this study

Number	Seafood Products
1	California King Crab Legs (Cooked)
2	California Sheephead (Kept Alive for Market)
3	Ridgeback Prawns (Headless, Soft)
4	Rock Crab (Claws Only)
5	Rock Crab (No Claws)
6	Sablefish/Black Cod (Kept Alive for Market)
7	Spider Crab (Claw Only))
8	Spider Crab (Legs Only)
9	Two Spot Octopus (Kept Alive for Market)

Appendix D: Cut and packaged species used for price comparison with specialty markets

Number	Species
1	Black Sea Bass
2	California Halibut
3	Common Thresher Shark
4	Mahi Mahi
5	Mako Shark
6	Monchong
7	Opah Loin
8	Petrale Sole
9	Red Rock Cod (Red Snapper)
10	Sablefish (Blackcod)
11	Swordfish
12	Wahoo (Ono)
13	White Seabass
14	Yellowfin (Ahi)
15	Yellowtail