Consumer, Wholesaler and Retailer Perceptions About Selected Marketing Issues Concerning Fresh Fish and Seafood Products

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Introduction

In the seafood industry, the link between wholesaler, retailer, and consumer is vital to the success of the industry. Seafood wholesalers and retailers should examine consumers' preferences and attitudes towards fresh fish and seafood products. Because consumer demand for products has a direct effect on the success or failure of the wholesale and retail establishments, wholesalers and retailers must examine feedback from consumers. Aquaculture producers can then receive information on how much of each species to produce, as well as preferred sizes and forms, from the wholesalers and retailers. This research focuses on viewpoints of wholesalers, retailers, and consumers, regarding their opinions about selected marketing issues concerning fresh fish and seafood products.

Safety of the seafood supply has been a important topic for sometime, and many have called for the inspection of seafood. The government has proposed to use the HACCP (Hazard Analysis Critical Control Point) plan, with estimated costs to implement the plan being placed at $116 million for the first year and $65 million for each year afterwards. Estimated start up costs will be higher for small plants than for large plants, but the costs of continuing the program will be smaller for smaller plants (Williams, Zorn 1994).

In the Delmarva region, commercial aquaculture is a young enterprise, and it has the ability to provide farmers with a supplemental source of income. Producers must carefully work with distributors to satisfy the consumers' preferences if the industry is to succeed and grow (Bacon et al. 1994). Consumers tend to believe that seafood is more expensive than poultry, beef, or pork, while they felt quality was about the same (Kreider et al. 1993). Poultry will be the biggest competitor of seafood in regards to price and healthfulness.

Objectives

The overall objective of this study is to determine and compare consumer, retailer, and wholesaler opinions concerning issues regarding fresh fish and seafood products and industry issues in the Delmarva region. Opinions are expected to vary, especially concerning the issue of safety. Specific objectives are:

1. Determine consumer, retailer, and wholesaler concerns with fresh fish and seafood safety issues.

2. Determine fresh fish and seafood purchasing practices and preferences by consumers, retailers, and wholesalers.

3. Analyze trends in demand and supply for wild-harvest and farm-raised fresh fish and seafood.

Procedures and Data

Three mail surveys at the consumer, retail, and wholesale levels were conducted, starting in 1991, in the Delmarva region. A total of 338 wholesalers were asked to participate, with 66 usable surveys returned, for a response rate of 19.53 percent. The retailer survey had 44 usable surveys out of 294 potential participants for a response rate of 14.97 percent. For the consumer survey a random mailing sample of 10,000 telephone subscribers, based on zip code population and including unlisted households, was obtained from Targeting Market Service, a division of TRW. There were 1463 usable questionnaires returned for a response rate of 14.6 percent. The consumer survey obtained information concerning fresh fish and seafood

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purchasing practices, preferences, concerns on safety issues, demographics, and socioeconomic data. The wholesaler and separate retailer questionnaires obtained information concerning industry trends, marketing constraints, government regulations, the market potential for wild-harvest and farm-raised aquaculture products grown in the Delmarva region, and consumer relationships and contracts. The data obtained from these three levels of the marketing channels allows the comparison and analysis of responses concerning fresh fish and seafood products.

The main age group of the consumers was in the 35 to 49 range, with 36.8 percent of the respondents in that category (Table 1). Of the respondents, 52.6 percent were males and 47.4 percent were females. The educational attainment was as follows: just under 9 percent did not complete high school, high school graduates 37 percent, some college 16 percent, a bachelor degree 24.1 percent, and just over 13 percent had done some graduate work. Nearly 60 percent of respondents reported income in the range between $20,000 and $60,000.

Of the wholesalers, 16.7 percent were located in Delaware, 71.2 percent were located in Maryland, and 12.1 percent were located in New York (Table 2). Food sales varied, with 39 percent reporting sales of $1 million or more, 33.9 percent with sales between $250,000 and $999,999, the remaining 27.1 percent reported sales less than $250,000 a year. More than half of the wholesalers (56.0%) reported that seafood sales accounted for over 95 percent of their business. Only 13.6 percent of wholesalers said that seafood sales accounted for less than 50 percent of their business. The top functions that wholesalers undertake were: wholesale/distributor (62.1%), retailer (45.5%), processor (39.4%), seafood market supplier (39.4%), and ships small amount orders (31.8%).

Nearly 70 percent of the retailers who responded are not part of a national chain (Table 3). The majority of retailers are located in rural or suburban areas. Seafood sales accounted for 30 percent or more of total sales for 50 percent of the retailers who responded. Over 40 percent of the retailers reported sales under $2 million. Nearly 49 percent of respondents reported that they operate only one store, and 31.7 percent responded that they operate two to ten stores. Retailers reported (79.5%) that their primary customer base is Caucasian and 63.6 percent said their secondary base was black. For the primary customer base, retailers indicated (54.5%) that income was between $20,000 and $40,000. The same income range was reported for the secondary customer base. Retailers responded (65.1%) that total area of their stores was under 30,000 square feet, and (59.1%) responded that selling space was under 30,000 square feet. The area dedicated to the seafood department for the majority of retailers was under 1,000 square feet.

Discussion of Findings

The findings are discussed from a descriptive perspective for the separate wholesaler, retailer, and consumer questionnaires for the following issues: nutritional labeling, inspection of fresh fish and seafood, concerns in handling, purchasing, and supply sources, trends in supply and demand, generic advertising, popular species, and crawfish/crayfish.

Nutritional Labeling

Mandatory nutritional labeling is an issue related to seafood safety. This study asked the respondents what information they would want the labels to carry. Retailers, wholesalers, and consumers all felt that fat and cholesterol were important items (Table 4). Harvest date was an item that the majority of consumers wanted to see more than any other item. However, wholesalers and retailers were not in favor of having the harvest date on the label. The Chi-square test revealed that there was significance beyond the .01 level. This signifies that there is a difference between the marketing channels regarding their opinions on having the harvest date on the label. Added ingredients was significant beyond the .01 level, indicating that there is a difference in opinions as to whether added ingredients should be on the label. A majority of the consumers wanted added ingredients on the label, but a majority of the wholesalers and retailers did not. Carbohydrates was significant beyond the .05 level. The majority of wholesalers, retailers, and consumers did not state that they wanted to see carbohydrates on the labeling. The wholesalers and retailers tend to be in favor of those items that enhance the image of seafood. Consumers tend to favor items such as harvest date, which is an aspect of seafood safety as well as quality. Support for labeling exists in the industry, but the costs of a mandatory nutritional labeling program could affect this support.

Inspection of Fresh Fish and Seafood

Inspection of seafood, as expected, was favored by retailers, wholesalers, and consumers (Table 5). Consumers had the largest percentage of respondents in favor of inspection, followed by retailers, and then wholesalers. Opinions regarding who should conduct the inspection varied with consumers favoring the government, while retailers and wholesalers favored the industry to conduct the inspections. All three

Table 1: Demographic Characteristics of Respondents of Consumer Seafood Survey, Delmarva 1991.

Characteristic	Number	Percent
Age		
18-34 Years of age	310	21.7
35-49	525	36.8
50-64	319	22.4
65 or older	272	19.1
Did Not Answer	37	N/A
TOTAL	1463	100.0
Sex		
Male	752	52.6
Female	677	47.4
Did Not Answer	34	N/A
TOTAL	1463	100.0
Education		
Less than high school	127	8.7
High school graduate	547	37.4
Some college	241	16.5
Bachelor degree	353	24.1
Some graduate work or degree	195	13.3
TOTAL	1463	100.0
Annual Household Income		
<$10,000	63	4.7
$10,000-19,999	112	8.4
$20,000-29,999	190	14.2
$30,000-39,999	247	18.4
$40,000-49,999	183	13.7
$50,000-59,999	178	13.3
$60,000-69,999	114	8.5
$70,000-79,999	72	5.4
$80,000 or Higher	180	13.4
Did Not Answer	124	N/A
TOTAL	1463	100.0

Source: Delmarva Consumer Seafood Survey and Calculations

Table 2: Characteristics of Respondents to Wholesaler Seafood Survey, Delmarva 1992.

Characteristic	Number	Percent
State		
Delaware	11	16.7
Maryland	47	71.2
New York	8	12.1
TOTAL	66	100.0
Food Sales in 1991		
<$250,000	16	27.1
$250,000-999,999	20	33.9
$1 million and above	23	39.0
TOTAL	59	100.0
Average Total Food Sales for 1991 = $500,000		
Seafood Sales as a Percentage of Total Food Sales		
50 percent or less	9	13.6
51 to 80 percent	10	15.2
81 to 95 percent	10	15.2
Above 95 percent	37	56.0
TOTAL	66	100.0
Average Percent of Total Sales From Seafood = 85.2%		
Specialized Functions Performed by Wholesalers		
Wholesaler/Distributor	41	62.1
Retailer	30	45.5
Processor	26	39.4
Seafood Mkt Supplier	26	39.4
Ships Small Amount Orders	21	31.8
Chain Store Supplier	13	19.7
Pack Under Brand Name	11	16.7
Institutional Feeder	2	3.0
Other	3	4.5

Source: Delmarva Region Seafood Wholesaler Survey, 1992.

Table 3: Characteristics of Respondents to Retailer Seafood Survey, Delmarva 1992.

Characteristic	Number	Percent
Part of Regional or National Chain		
Yes	14	31.8
No	30	68.2
TOTAL	44	100.0
Seafood Sales as a Percentage of Total Food Sales		
Less than 1 percent	3	7.5
1 to 2 percent	14	35.0
Over 2 percent but under 30 percent	3	7.5
30 percent and over	20	50.0
Did Not Answer	4	N/A
TOTAL	44	100.0
Location of Stores by Type of Area		
Rural	9 *	
Suburban	20	
Urban	10	
Inner city	8	
Small town/city	12	
* Number of stores in each area is 206, 360, 111, 42 and 51 respectfully		
Average Sales(millions)		
<$2	15	40.6
$2-3.9	4	10.8
$4-7.9	6	16.2
$8-11.9	3	8.1
$12-19.9	5	13.5
$20 and over	4	10.8
Did Not Answer	7	N/A
TOTAL	44	100.0
Number of Stores Operated		
1	20	48.8
2-10	13	31.7
11-100	5	12.2
More than 100	3	7.3
Did Not Answer	3	N/A
TOTAL	44	100.0

Customer Base	Customer Base Primary	Secondary
	Percent	
Asian	2.3	6.8
Black	2.3	63.6
Caucasian	79.5	2.3
Hispanic		6.8
Other	6.8	
Did Not Answer	9.1	20.5
TOTAL	100.0	100.0
Annual Income of Customer Base		
Less than $20,000	2.3	22.7
$20,000 to $40,000	54.5	47.7
Over $40,000	31.8	11.4
Did Not Answer	11.4	18.2
TOTAL	100.0	100.0

Square Footage	Selling Space	Total for Store
	Number of Stores	
Less than 10,000	14	11
10,000 to 14,999	6	7
15,000 to 19,999	2	2
20,000 to 24,999	4	2
25,000 to 29,999	3	4
30,000 to 34,999	2	1
35,000 to 39,999	1	3
40,000 and over	4	6
Did Not Answer	8	8
TOTAL	44	44
Average Square Footage Allocated for Seafood Dept.	Number	
<100	5	
100 to 400	9	
401 to 1,000	8	
over 1,000	4	
Did Not Answer	18	
TOTAL	44	

Source: Delmarva Region Seafood Retailer Survey, 1992.

Table 4: Desired Information for Consumer Nutritional Labeling

	Market Channel		
Nutritional Information	Wholesale	Retail	Consumer*
		Percent	
Vitamins	28.8	38.6	38.1
Minerals	22.7	29.5	35.5
Protein	37.9	52.3	46.4
Fat	47.0	63.6	70.7
Cholesterol	47.0	63.6	72.2
Sodium	37.9	50.0	62.5
Calories	39.4	56.8	60.1
Harvest Date	33.3	34.1	85.0
Added Ingredients	48.5	45.5	77.1
Carbohydrates	24.2	11.4	31.3

Source: Delmarva Seafood Retail, Wholesale and Consumer Surveys

* The consumer percentages were based on the number who responded that they would like to have nutritional labeling on seafood.

Table 5: Consumer, Retailer, and Wholesaler Opinions Concerning the Inspection of Fresh Fish and Seafood

	Market Channel		
	Wholesale	Retail	Consumer
		Percent	
Opinions As to Whether Seafood Should Be Inspected			
Yes	60.9	81.0	90.9
No	20.3	7.1	3.1
No Opinion	18.8	11.9	6.0
Total	100.0	100.0	100.0
Opinions As to Who Should Inspect Seafood			
Government	22.5	40.0	64.5
Seafood Industry	77.5	45.7	27.5
Both	-	14.3	8.0
TOTAL	100.0	100.0	100.0
Importance of Product Freshness		*Means*	
Freshness in Seafood*	1.77	1.36	1.51

* 1 = Very Important and 7 = Very Unimportant
Source: Delmarva Seafood Retail, Wholesale and Consumer Surveys

channels were asked if the government was to inspect which agency would they prefer. Consumers favored the USDA as the inspection agency with 41 percent, retailers favored the USDA, with nearly 56 percent, and wholesalers favored the USDC with 33 percent.

Wholesalers and retailers were asked what procedure they would prefer for inspection. Retailers responded 37.5 percent in favor of a random sample from each lot, 30 percent for a random sample of lots, and 30 percent favored 100 percent inspection. Wholesalers preferred a random sample of lots, with 52 percent of responses followed by a random sample from each lot with 36 percent of the responses. The perishability of seafood creates a challenge for any inspection program. If costs are too high for an inspection program, it will be difficult to implement since consumers may not be willing to pay the extra costs, especially when cheaper alternatives, such as poultry, exist.

Concerns in Handling, Purchasing, and Supply Sources

Consumers are more concerned with product flavor, freshness, and appearance than other aspects. Product freshness and product selection were two more important concerns of retailers and wholesalers. When selecting a supplier, consistent quality and dependable supply are primary concerns for both retailers and wholesalers. Wholesalers were more concerned about the price, than retailers. When asked if they purchase farm-raised seafood from local producers, 50 percent of wholesalers and retailers respondent that they did.

Trends in Supply and Demand

Wholesalers and retailers were asked about trends over the last five years in supply and demand for wild-caught and farm-raised fish and seafood. For wild-caught, 40 percent of wholesalers said supply had increased, 23 percent said it remained the same, and 37 percent said it had decreased. For farm-raised, 75 percent of wholesalers said that supply increased, 22 percent said it stayed the same, and 3 percent said it had decreased. Of the retailers, 29 percent reported an increase in the supply of wild caught, 39 percent reported it remained the same, and 32 percent said it decreased. The retailers responded with 86 percent indicating that farm-raised supply had increased, and 14 percent said it had remained the same.

Wholesalers reported that demand for wild-caught had changed as follows: 37 percent reported that it had increased, 41 percent said it stayed the same, and 22 percent said it had decreased. Changes in demand for farm-raised for wholesalers was reported as follows: 64 percent said it had increased, 30 percent said it had remained the same, and 6 percent said it had decreased. Retailers reported that demand for wild-caught fish and seafood had changed as follows: 33 percent said it had increased, 52 percent said it had stayed the same, and 15 percent said it had decreased. For farm-raised fish and seafood, retailers responded that demand had changed as follows: 68 percent said it had increased, 28 percent said it had remained the same, and 4 percent said it had decreased.

Supply and demand for farm-raised products has increased, as indicated by wholesalers and retailers. Demand for wild-caught species has remained the same. Wholesalers feel that supply of wild-caught species has increased, while retailers felt that it reamed the same.

Generic Advertising and Popular Species

Retailers and wholesalers were asked if they believed that a generic advertising campaign for seafood would increase demand. Of the wholesalers, 64.2 percent of them responded that they believed it would increase demand for seafood, only 10.4 percent said it would not increase demand, and 25.4 percent responded that they did not know. Retailers responded as follows: 76.2 percent believed that an advertising campaign would increase demand for seafood, 7.1 percent said it would not, and 16.7 percent reported that they did not know. When asked who should pay for the advertising the retailers and wholesalers both seemed to believe that the producers or processors should pay.

Popular species for the wholesalers and retailers include: catfish, trout, tilapia, hybrid-striped bass, crabs, oysters, salmon, mahi mahi, mussels perch, clams, crawfish/crayfish, scallops, and shrimp. These species were based on the responses to the question of what they carry as well as what their best sellers are.

Crawfish/Crayfish

Wholesalers and retailers were asked if they carried crawfish/crayfish, and consumers were asked if they had heard of them (Tables 6,7). The majority of the wholesalers and retailers do not carry crawfish/crayfish. The main reason cited by both sectors was lack of demand for the product. Consumers are familiar with the product, but the majority do not purchase or eat crawfish/crawfish. The main reason cited was that they just have never eaten crawfish/crayfish; the next most frequently stated reason was by lack of availability. The popular form of crawfish for wholesalers was whole, and retailers preferred live whole and boiled/steamed forms of crawfish (Table 8). The popular forms of crawfish for consumers were pre-

Table 6: Retailer and Wholesaler Opinions Concerning Crawfish/Crayfish

	Market Channel	
	Wholesale	Retail
Count of Retailers and Wholesalers Who Sell Crawfish/Crayfish	*Percent*	
Yes	19.0	34.9
No	81.0	65.1
Total	100.0	100.0
Reasons Wholesalers and Retailers Do Not Sell Crawfish/Crayfish		
Price	11.8	14.3
No Demand	66.7	71.4
Availability	13.7	32.1
Freshness	5.9	3.6

Source: Delmarva Seafood Retail and Wholesale Surveys

Table 7: Consumer Opinions Concerning Crawfish/Crayfish

	Consumer
Consumer Familiarity With Crawfish/Crayfish	*Percent*
Yes	91.3
No	8.7
TOTAL	100.0
Consumers Who Eat Crawfish/Crayfish	
Yes	22.8
No	77.2
TOTAL	100.0
Factors Why Consumers Do Not Eat Crayfish/Crawfish	
Never Eaten Crawfish	68.0
Availability	43.1
Healthfulness	4.0
Don't Know How to Prepare	35.8
Taste	6.3
Quality	2.9
Appearance	14.2
Odor	3.1
Price	4.1
Freshness	3.9

Source: Delmarva Seafood Consumer Survey pared entrees and boiled or steamed. It appears as though there is a potential market for crawfish in the Delmarva region. However ,since wholesalers and retailers say there is no demand and consumers say there is a lack of availability, information between the market channels is not being communicated effectively improvements in communication could allow capitalization of this market.

Summary and Implications

This study analyzed the opinions of wholesalers, retailers, and consumers regarding fresh fish and seafood products and industry in the Delmarva region. Consumer, retailer, and wholesaler concerns with fresh fish and safety issues were identified and discussed. Purchasing practices and preferences by the three market channels were identified and analyzed. Trends in supply and demand for both wild-harvested and farm-raised fresh fish and seafood were evaluated. Nutritional labeling appears to have the support of the consumers, retailers, and wholesalers, as does seafood inspection, but costs may pose a burden. The market appears to exist for local farm-raised seafood. Retailers and wholesalers support the idea of a generic advertising campaign, but who should pay for it remains a problem. Trends in supply and demand for farm-raised products suggest that this is a growing market. Trends in supply and demand for wild-caught species suggest that this market is relatively stable.

Market potential for aquaculture products is promising in the Delmarva region, but a major obstacle that must be overcome for it to flourish is consumers' safety concerns. An inspection program, coupled with nutritional labels, would go a long way to ensure consumers that seafood is safe. Inspection and labeling programs must strive to keep the costs, that will be directly passed on to the wholesalers, retailers, and consumers to a minimum, in order to maintain support without a negative impact on the seafood industry.

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Table 8: Popularity of Certain Forms of Crawfish/Crayfish

	Market Channel		
Form	Wholesale	Retail	Consumer
		Number	
Live Whole	10	10	63
Boiled/Steamed	5	11	143
Fresh Tail Meat	4	2	63
Prepared Entrees	1	1	121
Frozen Tail Meat	4	7	55

Source: Delmarva Seafood Retail, Wholesale, and Consumer Surveys