#### MFR PAPER 1006

Frozen fish is principal form of seafood handled by midwestern wholesalers.

# Marketing Practices of Wholesalers Handling Fish in the Akron and Cleveland Areas

### LEONARD J. KONOPA

# ABSTRACT

The results of an exploratory survey among wholesalers in northeastern Ohio are reported. The forms of fish handled, sales trends, pricing policies, sources of supply, promotional techniques, product line preferences, and problems described by wholesalers are given.

# NATURE OF THE PROJECT

In the Fall of 1970, Kent State University received a grant from the National Science Foundation to analyze (a) the market for fish in the Midwest, and (b) the channels of distribution for fresh fish. An initial explanatory survey among retailers and wholesalers in a two-county area was conducted from April through August 1971.<sup>1</sup> The results of the wholesalers' survey are summarized in this article.

#### SURVEY METHODOLOGY

An initial list of fish and seafood wholesalers was obtained from the yellow pages of the *Akron and Vicinity Telephone Directory* (Summit County, Ohio) as well as the *Cleveland Metropolitan Area Telephone Directory*  (Cuyahoga County, Ohio). Names of other independent wholesalers in Summit and Cuyahoga Counties not contained in the yellow pages were found subsequently through interviews with retailers. Chain store warehouses that provided fish for their retail chain outlets were also added to the list. Finally, three establishments originally classified as retailers were transferred to the wholesaler category after interviews with their proprietors revealed their wholesale sales constituted more than 50 percent of their total sales volume. The names of 28 wholesalers were secured eventually in this manner.

A questionnaire concerning wholesalers' activities was constructed and pretested during the winter quarter, 1971. A copy of the questionnaire and a cover letter indicating the nature of the survey as well as the fact an interviewer would contact the recipient by telephone to arrange a mutually convenient time for a personal interview were mailed to each of the 28 wholesalers. The structured questionLeonard J. Konopa is a Professor of Marketing at the College of Business Administration, Kent State University, Kent, Ohio 44242.

naire was utilized in all of these personal interviews.

Usable replies were obtained from 25 distributors. Three refused to furnish data, saying the information was confidential. Fifteen of the 25 wholesalers who completed usable questionnaires were located in Cleveland, while ten wholesalers were from Akron.

# CLASSIFICATION OF RESPONDENTS

The wholesalers were categorized for the purpose of analysis as either major line or minor line distributors of fish. A major line wholesaler's sales of fish range from 20 to 100 percent of their total annual sales volume. Conversely, firms whose sales of fish represent less than 20 percent of their annual sales volume were classified as minor line wholesalers. Overall, 13 of the 25 wholesalers were major line wholesalers. Nine of the major line wholesalers were Cleveland firms, four Akron. The 12 minor line wholesalers were split evenly with six firms in Akron and six in Cleveland.

# FORMS OF FISH HANDLED BY WHOLESALERS

The different forms of fish were carefully defined in the questionnaire to reduce the likelihood of variances in wholesalers' responses arising from using identical terms in a different manner.

Data concerning the forms of fish handled by the wholesalers are presented in Table 1. Because the wholesalers in Summit County are located primarily in Akron and those in Cuyahoga County are based essentially in Cleveland, they are identified by the prefix "A" for Akron wholesalers

<sup>&</sup>lt;sup>1</sup>The complete study, "Survey of Wholesalers Handling Fish in Cuyahoga and Summit Counties, Ohio," is a result of research sponsored by NOAA Office of Sea Grant, Department of Commerce, under Grant No. 2-35364, Application of Computer Technology and Advanced Physical Distribution Techniques to Seafood Marketing. Copies are available from the author.

and "C" for Cleveland wholesalers in Table 1.

The tabulations in Table 1 show clearly that frozen fish is the most widely handled form of fish. All of the major line establishments stock frozen fish as do 11 of the 12 minor line wholesalers. The next most widely handled form of fish is canned fish, with approximately 70 percent of the wholesalers in each group stocking this product. Finally, the form of fish handled least widely is fresh fish. Fresh fish, moreover, is distinctly a product offering of the major line rather than minor line wholesalers, since 10 of 13 major distributors handled fresh fish while just one of the 12 minor line distributors carried fresh fish.

# PERCENTAGE OF WHOLE-SALERS' SALES BY FORM OF OF FISH HANDLED

Two problems were encountered in collecting data concerning the proportion of each wholesaler's sales by form of fish handled. The first problem was the number of nonrespondents and/ or interviewees who were unable to break down their sales by form of fish handled. Among the major line wholesalers eight firms responded, while five refused to reply or did not know what proportion of their sales were derived from each variety of fish sold. The number of replies from the minor line wholesalers, however, was better, with nine of the 12 respondents providing this information.

The second problem was the wide dispersion in percentage of each firm's sales by form of fish handled as well as by the different forms of fish sold by each respondent. To provide a basis for comparison, a composite average percentage of sales by form of fish was calculated for the major and the minor line wholesalers. The composite percentage of sales pattern was obtained by totaling the percentage sales for each form of fish and dividing by total number of major or minor line respondents in their respective groups. The results are given in Table 2. Table 1.—Form of fish handled by Akron/Cleveland wholesalers.

			Form	of Fish Ha								
	Fr	esh		Fre	ozen		Canned					
Number Handling as Major or Minor Line <sup>1</sup>	Ocean Finfish	Ocean Shellfish	Fresh- water	Ocean Finfish	Ocean Shellfish	Fresh- water						
Major Line $(N = 13)$							alt strates					
A-1	X	X	х	×	X	X	_					
A-2	Х	X	×	Х	X	××	X					
A-3	×	X	X	Х	X	×	××					
A-4	X	Х	X	X	Х	X	X					
C-1				××	х	X	_					
C-2	X	Х	X	X	Х	× ×	Х					
C-3	_	_	_	X	X	×	× × × × ×					
C-4	X	х	X	× × ×	х	X	X					
C-5	××	Х	X	X	X	× × ×	X					
C-6		_	_	X	××	X	Х					
C-7	х	Х	х	X	X	X	X					
C-8	X	X	X	X	X	X						
C-9	X X <u>X</u> 10	х	X 10	X X <u>X</u> 13	X X X 13	X X <u>X</u> 13						
Subtotal	10	X X 10	10	13	13	13	9					
Minor Line ( $N = 12$ )												
A-5		_	_	X	Х	_						
A-6	_			××	××		х					
A-7	_		_	х	Х		X					
A-8		_		Х	х	-	X X X X					
A-9		_		_			Х					
A-10				X	х	х	X					
C-10	х	X	X	Х	х	х	X					
C-11		_		Х	Х	_						
C-12				X	Х		_					
C-13				×	×	X	X					
C-14	-	_		X	X	X						
C-15	_			X	X	X	X					
Subtotal	1		1	$\frac{X}{\frac{11}{24}}$	$\frac{X}{\frac{11}{24}}$	X X <u>X</u> 5 18	X X 8 7					
Grand total	11	11	$\frac{-}{1}$	24	24	18	17					

<sup>1</sup> Responding Akron (A) and Cleveland (C) wholesalers are categorized as either major line fish dealers (20 percent or more sales) or minor line, with less than 20 percent total annual sales volume in fish. Source: Survey Data.

These data indicate that major line wholesalers derive the greatest portion of their sales from whole or processed fish while the minor line wholesalers rely on prepared fish. It also shows that while both groups obtain most of their sales from frozen, rather than fresh fish, the minor line wholesalers' percentage is much higher than that of the major line wholesalers.

### MARKUP POLICY VARIATIONS

Wholesalers' markup policies are complicated by the fact that they may resell to perhaps five different types of buyers (i.e. household consumers, restaurants, institutions, retail food stores, and other wholesalers).

Major line wholesalers ordinarily specialize less than the minor line wholesalers on the basis of buying groups to whom they sell. Major line wholesalers, for example, typically sell to more groups of buyers than minor line wholesalers; their customers include household consumers, a group to which minor line wholesalers do not sell.

Household buyers of fish seldom purchased at the "wholesale" price since the markup on sales price to them was higher in all cases than the markup of fish sold to other types of buyers. Wholesalers' sales to other wholesalers typically had the lowest markup. The markup on products sold to restaurants and institutions showed that twothirds of the wholesalers marked up their products the same percentage to both groups, while one-third of those selling to both groups had a lesser markup on institutional sales than on restaurant sales. Among wholesalers who sold to both retail food stores and institutions, 55 percent had a lower markup on retail food store sales than on institutional sales. The remaining 45 percent had the same markup on sales to both groups.

All but one wholesaler employed the same percentage markup on fresh finfish and fresh shellfish. This is not to say that a wholesaler's markups were uniform among the different types of buyers. It means that there was no difference in the markup between fresh finfish and fresh shellfish in a given customer class for a particular wholesaler, with the exception of one distributor. Similarly, in nearly all instances the wholesalers also marked up their frozen finfish and frozen shellfish the same percentage within each customer class.

The similarity in markup reported on finfish and shellfish is an intriguing pricing policy since shellfish are higher value items which could presumably carry a proportionally higher markup than finfish. Two-thirds of the wholesalers handling both fresh as well as frozen fish marked up these products equally while one-third marked up fresh fish more than frozen fish. This, too, is interesting, considering the relative cost of handling fresh fish versus frozen fish. Lastly, nearly half of the distributors of canned fish marked up this item the same percentage as frozen fish, while the other half marked up canned fish less than frozen fish.

#### SOURCES OF SUPPLY

The sources of supply mentioned four or more times by the respondents are listed in Table 3. Not all sources are given in Table 3 since nine additional domestic sources and six foreign points of origin with fewer than four mentions have been omitted to conserve space. The sources listed, however, represent 80 percent of the total responses for domestic as well as foreign sources of supply.

Respondents identified their sources by city, state, region, province, or foreign country. Consequently, the sources in Table 3 are a mixture of geographic terms.

The contention that major line wholesalers draw their fish from more

Table 2.-Percentage of wholesalers' sales by form of fish handled.

CONTRACTOR OF STREET		Form of Fish									
Wholesalers		Whole or I	Processe	ed		Prep	ared	Canne			
	Fresh Finfish	Fresh Shellfish	Frozen Finfish	Frozen Shellfish	Fresh Finfish	Fresh Shellfish	Frozen Finfish	Frozen Shellfish			
Major Line $(N=3)$		1.18.20		3-13-52				and the second	19 19 19		
A-1	15%	5%	50%	18%	4%	1%	2%	5%	-		
A-2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
A-3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
A-4	43	9	21	10	-		4	10	3%		
C-1			30	40			30				
C-2	25	20	35	10		_	_	10	-		
C-3	_		18	6			8	3	65		
C-4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
C-5	42	28	6	3	5	2	5	4	5		
C-6			10	85		_			5		
C-7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
C-8	10	66	5	2			6	11			
C-9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
Composite % Sales <sup>1</sup>	17%	16%	22%	22%	1%	0%2	7%	5%	10%		
Minor Line $(N = 12)$											
A-5				12%			50%	38%	_		
A-6		_	37%	10			12	40	1%		
A-7		1. No (10. 1	37	8			12	40	2		
A-8			n.a.	n.a.			n.a.	n.a.	n.a.		
A-9									100		
A-10		_	7	6	_	_	75	10	2		
C-10	25%	15%	20	35			_	5	n.a.		
C-11		_	15	35		_	15	35			
C-12	_	_	_	82	-		10	8	_		
C-13	_		n.a.	n.a.			n.a.	n.a.	n.a.		
C-14	_					_	85	15			
C-15	-		-	n.a.	-	-	n.a.	n.a.	n.a.		
Composite % Sales <sup>1</sup>	3%	2%	13%	21%	-	_	29%	21%	11%		

n.a. = Not available.

<sup>1</sup> Composite or average percentage of sales is derived by totaling the percentage of sales in eash column and dividing by total number of respondents, i.e., eight for major line wholesalers and nine for minor line wholesalers.

<sup>2</sup> Actual figure is about one-third of one percent.

Source: Survey Data.

sources than minor line wholesalers is supported by the data in Table 3. Major line wholesalers identified an average of six domestic and four foreign suppliers whereas minor line wholesalers mentioned four domestic and two foreign sources per firm.

By rearranging the sources listed in Table 3, clear-cut geographic source patterns emerge. Domestically, New England's Boston and Gloucester are the basic sources of finfish. New York/ Long Island, Philadelphia, and Baltimore in the Middle Atlantic region supply finfish as well as shellfish. The Gulf Coast states of Florida, Louisiana, and Texas provide mostly shellfish. California and Washington on the West Coast are the primary sources for canned fish. Lake Erie as well as other wholesalers in the Akron/ Cleveland region represent freshwater fish sources.

Canada is by far the foreign source identified most often (60 percent of

the mentions) for fresh and frozen saltwater as well as freshwater finfish. Mexico is a major supplier of frozen shellfish while Norway provides primarily canned fish. Denmark and Japan are also significant sources of frozen finfish and shellfish.

## TRENDS IN WHOLESALE FISH SALES, 1966-1971

The sales trend for frozen fish from 1966 to 1971 is clearly upward for 22 of the 24 wholesalers who reported rising sales. The sales trend for fresh fish, however, increased for five wholesalers, but declined for six others. Several of the latter respondents emphasized that even though they were selling less fresh fish, their total revenue increased somewhat because the price per pound was substantially higher in 1971 and 1966. Canned fish

Table 3. — Sources of fish mentioned four or more times.

							Form	of Fish									
			Fr	esh			Frozen Canned										
		Ocean		Lake		Ocean			Lake								
Sources	Fin	fish,	She	llfish	Fin	fish	Fin	fish,	She	llfish	Fir	fish	and the state of the	Langella.	Sub	totals	Total
Domestic	Maj	Min	Maj	Min	Maj	Min	Maj	Min	Maj	Min	Maj	Min	Maj	Min	Maj	Min	
Boston	7	1	4				5	1	2	1			1		19	3	22
Florida	1		1	1			2		2	5					6	6	12
Texas			1						6	4					7	4	11
California													2	8	2	8	10
Gloucester	1						2	3		3					3	6	9
Baltimore	2		3				1		1				1		8		8
Cleve./Akron					2	1					1	2	1		4	3	7
Louisiana			1						3	2					4	2	6
Philadelphia				1			1	1	1	1	1				3	3	6
N.Y./Long Isl.	1	1	1					1		1			1		3	3	6
Lake Erie					2							3			2	3	5
Washington							1						1	3	2	3	5
Subtotal	12	2	11	2	4	1	12	6	15	17	2	5	7	11	<u>2</u> 63	44	<u>5</u> 107
Foreign Winnipeg					5	4					4	3			9	4	13
Canada (not ident.)	1		1		1		3	2			3	3			9	3	12
Nova Scotia	4				· ·		3	3 3	1		5				8	3	11
Mexico	4						3	3	3	4					3	3	7
Norway							1		3	4			4	5	2	5	7
Denmark							2						1	5	2	5	1
							1		2	1					4	4	4
Japan		-		-	6	1	11	6	7	5	7		-		20	20	4
Subtotal GRAND TOTAL	5	2	$\frac{1}{12}$	2	<u>6</u> 10	1/2	<u>11</u> 23	6	7 22	5 22	7	5 8	1 8	5	<u>38</u> 101	20 64	4 58 165
GRAND TOTAL	17	2	12	2	10	2	23	12	22	22	9	0	0	10	101	04	105

sales of two-thirds of the reporting firms either exceeded or returned to the plateau they had attained prior to the Fall 1970 mercury scare. Minor line wholesalers typically reported the same trends as the major line wholesalers.

# WHOLESALERS' EXPLANA-TIONS OF THEIR SALES TRENDS

The wholesalers' explanations of their sales trends were categorized as either supply or demand factors. On the demand side, for instance, wholesalers with greater fresh fish sales attributed the increase in sales to population growth, a rise in the income level of most families, greater recognition of fish's nutritional content, and the number of people who had become weight conscious. On the supply side, they attributed their company's rise in fresh fish sales to the fact there were fewer wholesalers handling fresh fish, as well as because restaurants were emphasizing fresh fish more as a menu item.

The demand for frozen fish was up, according to wholesalers, because it was easier to prepare than fresh fish, cheaper than most meat or fresh fish, or due to population growth, increased income, recognition of the nutritional value of fish, and the rise in the eating of fish to control weight. Among the supply factors, wholesalers emphasized that there was a better supply of frozen fish than fresh fish available, and the quality of frozen fish was equal to or better than fresh fish. They also attributed considerable growth to special promotional campaigns as well as to the emergence of drive-in restaurants that feature prepared frozen fish.

Only one respondent commented on the increase in canned sales. He attributed his sales increase to special promotional campaigns for canned fish. Any decline reported in the sale of fresh, frozen, or canned fish was generally blamed on the fear of pollution, the relaxation of Catholic dietary requirements, and/or increased prices. All of these factors influenced demand negatively.

### PREFERENCES AS TO FRESH OR FROZEN FISH

Major line wholesalers are divided almost equally in their personal pref-

erence for handling fresh vs. frozen fish. Minor line wholesalers, however, unanimously prefer frozen fish. The major and minor line wholesalers who prefer frozen fish agree almost unanimously that other members of the channel of distribution (restaurants, institutions, retailers, and other wholesalers) prefer reselling frozen instead of fresh fish. Similarly, major line wholesalers who prefer handling fresh fish generally believe resellers within the structure of distribution want fresh fish in comparison with frozen fish. These data support the observations that: (a) the market for fish is segmented according to form of fish offered; (b) a majority of the wholesalers prefer handling frozen fish; and (c) the wholesalers tend to view their customers' preferences in terms of the form of fish they prefer handling.

### REASONS FOR PREFERENCE

Wholesalers who personally preferred frozen fish did so primarily because it was easier to handle, there was no direct labor processing cost, and there was less waste or spoilage involved. They were unanimous in their opinion that restaurants and institutions preferred frozen fish due to portion control, less spoilage, and ease of handling. Less waste or spoilage, ease of handling, and no direct labor processing cost were also the key reasons why these wholesalers thought retailers as well as other wholesalers preferred frozen fish. These reasons clearly point to convenience and, presumably, lower cost.

Rather than emphasize the convenience or implicit lower cost to the firm handling the product, wholesalers who prefer fresh fish typically mention such consumer or buyer oriented characteristics as the fact fresh fish tastes better, looks better, and discriminating consumers deserve fresh fish. Some wholesalers also mention that there is a higher profit with fresh than frozen fish. It should be pointed out, though, that few major line wholesalers handling both fresh and frozen fish reported that they actually mark up fresh fish more than frozen fish. Markups differed by type of customer (restaurants cf. retail food stores), but within a given customer's category (i.e. retail food store) a particular distributor's markup on fresh and frozen fish is more likely to be the same than different.

#### BRANDING

A product represents not only a physical entity, but it also encompasses such elements as the package, label, and brand name associated with it.

Processors' brands are the brand names given to products for promotional purposes by their manufacturers or basic processors. When a reseller (wholesaler or retailer) attaches his brand name to the product. private brands, house brands, or reseller brands emerge.

Perishable fresh wet fish, of course, is unlike many other perishables when it comes to branding and the establishment of recognized brand names since it is purchased by consumers at the restaurant, institutional, and retail level by species rather than by processor's or reseller's brand name.

All major and minor line wholesalers with frozen fish sold a branded product. The branding policies of the major and minor line wholesalers differed, however; 12 of the 13 major wholesalers handled frozen line products branded by their processors. The thirteenth firm sold both processors' brands and frozen fish carrying his own firm's brand name. Among the minor line wholesalers, five handled processors' brands, while six featured their own brands along with processors' brands. Minor line wholesalers, consequently, were more likely to offer their own brand of frozen fish than major line distributors.

The brand pattern of canned fish is similar to that of frozen fish products in that none of the canned fish was sold unbranded. In addition, all major line wholesalers with canned fish sold processors' brands. Although most minor line wholesalers also sold only processors' brands, two minor line distributors offered both their own brands plus those of processors, while one firm concentrated solely on its own brand name of canned fish.

A substantial majority of wholesalers believe that customers prefer processors' brands to wholesalers' brands on fish. Similarly, no wholesaler thought additional branding would increase sales. This latter opinion is especially revealing because it contradicts the suggestion that fresh fish ought to be branded and promoted more aggressively by brand name.

### PROMOTIONAL METHODS UTILIZED BY WHOLESALERS

The promotional methods used by wholesalers are categorized into four basic groups in Table 4. Total responses exceed the number of wholesalers surveyed because some wholesalers employed several promotional techniques.

Despite the fact sales promotional tools are accessible to all businesses.

23 percent of the major line wholesalers either took a dim view of promotion or did not recognize some of their sales activity as promotional in nature since they reported they engaged in "no promotion." A tally of the responses in Table 4 of major line wholesalers who engage in promotion shows 53 percent of the responses are positive inducements to resellers, 33 percent are essentially sales push techniques, while the remainder are direct mail advertisements to retailers

Table 4 .--- Wholesale fish promotional methods.

Promotional Means	Wholesaler Groups and Number of Times Mentioned						
	Major Line	Minor	Total				
Inducements to Resellers							
Offer a weekly special	3	2	5				
Special price discount Displays, ads, and	3	6	9				
allowances Introductory offers.	5	4	9				
dinners		2	2				
Pressure on Salesmen and Resellers							
Sales contests	1	1	2				
Sales commissions	1	1	2				
Telephone sales	5	1	6				
Other Advertising Forms							
Bulletins/flyers to							
retailers	2	1	3				
Yellow pages	1		1				
No Promotion	3	5	8				

Source: Survey Data

or ads in the yellow pages. Nearly all wholesalers are listed in the yellow pages. They evidently did not consider this a means of stimulating sales, or they overlooked it.

Table 4 further shows that 74 percent of the responses of minor line wholesalers are positive inducements to resellers, 21 percent are sales push methods and 5 percent are advertisements to retailers. Among the firms reporting promotional techniques, the minor line wholesalers mentioned positive inducements to resellers more often than major line firms (74 percent vs. 53 percent), and sales push techniques less often (21 percent vs. 33 percent).

Table 5.-Median pound orders and modal credit terms by customer class.

Whole- saler Groups	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Customer Class											
	Resta	urants	Instit	ution	Reta	ilers	Other Wholesalers						
	Median Order Ib	Credit Terms	Median Order Ib	Credit Terms	Median Order Ib	Credit Terms	Median Order Ib	Gredit Terms					
Major Line	50	30-day	62	30-day	175	7-day	850	30-day					
Minor Line	48	30-day	63	30-day	250	cash	-	-					

Source: Survey Data

# MEDIAN SIZE ORDERS AND MODAL CREDIT TERMS

The typical size orders filled by wholesalers are given in Table 5 in terms of median dollar value. Median dollar value is used instead of the average dollar value because an extremely high or low dollar value will pull the average size order substantially upward or downward especially when the averages are based on a small number of observations. Unlike median size orders that are midpoints in an ascending sequence, the credit terms are expressed as modal values, that is, the credit terms that appear most frequently by customer class.

Looking at Table 5 from left to right, we see that the median size orders sold to restaurants as well as institutions by major line and minor line wholesalers are similar at 50 lb (cf. 48 lb) to restaurants and almost identical at 63 lb to institutions. Their 30-day modal credit terms are also identical to both customer classes. The median size orders of retailers differed substantially between the major line and minor line distributors. Contrary to what one might expect, the median size order of the minor line wholesalers at 250 lb exceeded that of major line wholesalers at 175 lb. Minor line wholesalers, nonetheless, tended to emphasize cash terms, whereas major line organizations offered seven days modal credit terms.

None of the minor line distributors sold to other wholesalers. For the major

line wholesalers who did so, the median order was 850 lb with 30 days modal credit terms.

# MARKET AREA SERVED AND DELIVERY TIME

Approximately one-half of the major line and one-third of the minor line wholesalers are local market distributors. That is, they ordinarily sell to customers within the greater Cleveland or Akron metropolitan areas. Another one-third of the minor line wholesalers operate within a radius of 60 to 70 miles from their establishment, whereas the second group of major line wholesalers (30 percent) cover an area 60 to 100 miles away. The last one-third of the minor line wholesalers serves customers 90 to 120 miles distant. Their group three counterpart among the major line wholesalers (15 percent) market fish throughout Ohio. One major line distributor sells to customers nationally.

These data show that a higher proportion of major line wholesalers are local market distributors and those selling beyond local markets serve larger market areas than the minor line wholesalers.

The time required to deliver orders to restaurants and institutions ranges from 4 to 48 hours for major and minor wholesalers. For orders delivered by major line wholesalers to retailers and other wholesalers, delivery time ranges from ½ day to 7 days. Minor line wholesalers' delivery time to retailers ranges from 1 to 3 days. The modal delivery time is 24 hours to nearly all classes of customers by both groups of wholesalers. The suggestion that a 24-hour order/delivery service might increase sales has little relevance, consequently, since most resellers in the area surveyed already have such service.

# FISH FABRICATING BY WHOLESALERS

Nearly 80 percent of the major line wholesalers add value to their products by changing their form in one manner or another, while minor line wholesalers, with the exception of one firm, sell their products without further fabrication or manufacturing.

The shortage and cost of qualified labor alluded to earlier, especially for major line wholesalers, is clearly related to their processing and/or preparation of fish. In fact several indicated that this is why they have stopped handling fish that requires processing. If this trend were to continue, primary coastal wholesalers and manufacturers would obviously find themselves doing more processing.

By form of fish purchased, two-thirds of the minor line wholesalers and oneseventh of the major line wholesalers emphasize prepared fish in their product mix, whereas only four-sevenths of the major line wholesalers purchase predominantly processed fish. Only two firms in this group put most of it in prepared form for resale. Whole fish, on the other hand, is the major form of fish procured by two-sevenths of the major line firms. All of these firms primarily process their whole fish rather than process and prepare it.

#### SPOILAGE

Overall, 10 of the 11 wholesalers handling fresh fish indicated they had a spoilage problem. To overcome the problem, they handled fresh fish on a rapid turnover basis, frequently iced and delivered it, froze any surplus in danger of spoiling, or de-emphasized fresh fish by offering more frozen fish to their customers. When asked how suppliers could aid in preventing spoilage, six of the ten respondents said suppliers were already doing all they could. The other four, however, thought suppliers ought to ice the fish fully, utilize better packaging, and ship more frequently.

Despite the fact wholesalers asserted in the forepart of the questionnaire there were no problems in handling frozen fish, eight of the 24 with frozen fish reported there were spoilage problems. To handle frozen fish effectively they not only had to install special freezers in their plant and on their trucks to eliminate thawing, but they also had to rotate inventory carefully to control dehydration. Four firms suggested that suppliers control their goods in transit more carefully to eliminate thawing. Two others thought code dating would help in rotating their inventory.

# OTHER PROBLEMS (NONSPOILAGE)

Five of the 11 wholesalers offering fresh fish identified other (nonspoilage) problems in handling fresh fish. Two mentioned the high cost of direct labor in processing fish, but offered no suggestions to resolve the problem. Three wholesalers were concerned about inadequate supply as well as the transportation and poor quality of fresh fish. One respondent thought the supply should be increased by offering more inducements to fishermen. Compulsory inspection and grading was suggested as a means of improving quality, while faster movement of fresh fish to inland distributors was proposed to overcome the transportation problem.

Eight of the 24 wholesalers selling frozen fish noted other (nonspoilage) problems. Six of the eight mentioned breakage and/or poor quality. One thought packaging was poor, while another said retailers handled frozen fish incorrectly, thereby letting it thaw. To control breakage and/or



Cyril Loger (left) and Albert Machamer (right), members of the research team at Kent State University, talk with Wayne A. Sheffler (center), institutional food manager.

poor quality, the wholesalers suggested: a) processor's improve their quality control program; b) those handling the product in transit do so more carefully; and c) quality standards and compulsory grading of foreign and domestic fish be adopted. Better, stronger packages would obviously resolve the packaging problem. To prevent thawing of frozen fish in open refrigerator cases in retail stores, the frozen fish should be stocked in the bottom of the case.

### UNDERUTILIZED SPECIES

Because popular species of fish are either depleted or shielded from depletion by international harvesting quotas, lesser known species must be utilized if the sea is to provide additional protein for people. In order to determine the marketability of such fish, a list of 13 underutilized species was shown to the wholesalers. The list was drawn up with the aid of the persons associated with Market Research and Services Division, National Marine Fisheries Service. Wholesalers were asked: 1) if they recognized each species; 2) whether or not they could sell it profitably; and 3) their reasons for not handling the fish.

Silver hake, pollock, and mackerel were familiar to all respondents. Sea herring, northern shrimp, and butterfish, in turn were also familiar to all but a few respondents. The least familiar species were Pacific cod, white hake, skate, dogfish, tanner crab, calico scallops, and ocean quahog. If the nonrespondents were such due to lack of recognition of the species, approximately 50 percent of the wholesalers were unfamiliar with the latter species.

Silver hake and mackerel are the two species that over 50 percent of the respondents report they can sell profitably. Lack of consumer demand is the prime reason given by wholesalers for not handling the underutilized species. The unfavorable characteristics of some of the species is reported as the second reason, although far below the prime reason (lack of demand), according to number of times mentoned. While wholesalers are willing to handle a species if profitable, they appear reluctant to popularize the underutilized species and thus make them profitable.

MFR Paper 1006. From Marine Fisheries Review, Vol. 35, No. 9, 1973. Copies of this reprint, in limited numbers, are available from D83, Technical Information Division, Environmental Science Information Center, NOAA, Washington, DC 20235.