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U.S. Salmon Markets

A Survey of Seafood Wholesalers

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INTRODUCTION

The recent commercial success in producing pen-raised salmon is this decade's most exciting and concerted development in the fisheries industry. Led by Norwegian farmed Atlantic salmon, pen-raised salmon now account for approximately 9% of the total world salmon supply and is projected to account for 23% in 1990. Pen-raised Atlantic salmon dominate their Pacific counterparts, accounting for 80% of the total world farmed salmon in 1987 (Herrmann 1989).

Norway continues to lead the world in pen-raised salmon production, producing 176 million pounds in 1988. By 1990, Norway is projected to produce 308 million pounds, with the U.K. and Canada following with 55 and 46 million pounds respectively (see below).

Table 1. World Aquaculture Production 1983-1990, 1,000 Pounds Live Weight.

	1983	1984	1985	1986	1987	1990 (est.)
Norway	34,743	49,163	63,173	100,696	103,617	308,646
Japan	3,886	11,131	14,176	17,637	28,660	41,888
U.K.	5,591	8,624	15,258	22,791	28,045	55,116
Canada	723	677	926	2,205	8,819	46,297
Ireland	567	849	1,592	3,307	4,872	22,267
Faeroe Islands	231	256	1,036	3,020	4,409	13,228
Washington	1,836	2,273	2,771	3,307	4,409	8,818
Chile	207	240	1,102	2,522	3,792	22,046
New Zealand	22	22	551	1,102	2,205	6,614
Iceland	110	236	201	271	1,764	11,023
France	88	110	132	441	441	441
Sweden	33	44	176	661	882	2,205
Total	48,037	73,957	103,344	158,082	177,907	450,453

Source: Herrmann, 1989.

For Norwegian Atlantic salmon, the United States is the second largest export market behind France. Exports have been increasing substantially every year except in 1987 when Norwegian salmon were hit with severe disease problems late in the year (see Figure 1). Imports of fresh salmon into the United States are shown in Figure 2. U.S. imports of fresh salmon are mainly farmed salmon with the exception of Canadian salmon being a mixture of farmed and wild. The largest imports were from Norway, followed by Canada and Chile. Imports from Norway are Atlantic salmon, and imports from Chile are coho salmon. With the influx of this new and increasing supply, analysts have become interested in the effects that an increased supply of farmed salmon will have on the U.S. salmon market.

This report summarizes a survey constructed by the authors and administered by the Alaska Sea Grant College Program. The survey was sent to U.S. seafood wholesalers in Boston, New York, Chicago, Los Angeles, San Francisco, and Seattle in 1988. The purpose of the survey was to solicit U.S. seafood wholesalers' opinions about various market aspects of handling pen-raised salmon, to help understand factors

Figure 1. Monthly Exports of Fresh Norwegian Pen-Raised Atlantic Salmon to the United States

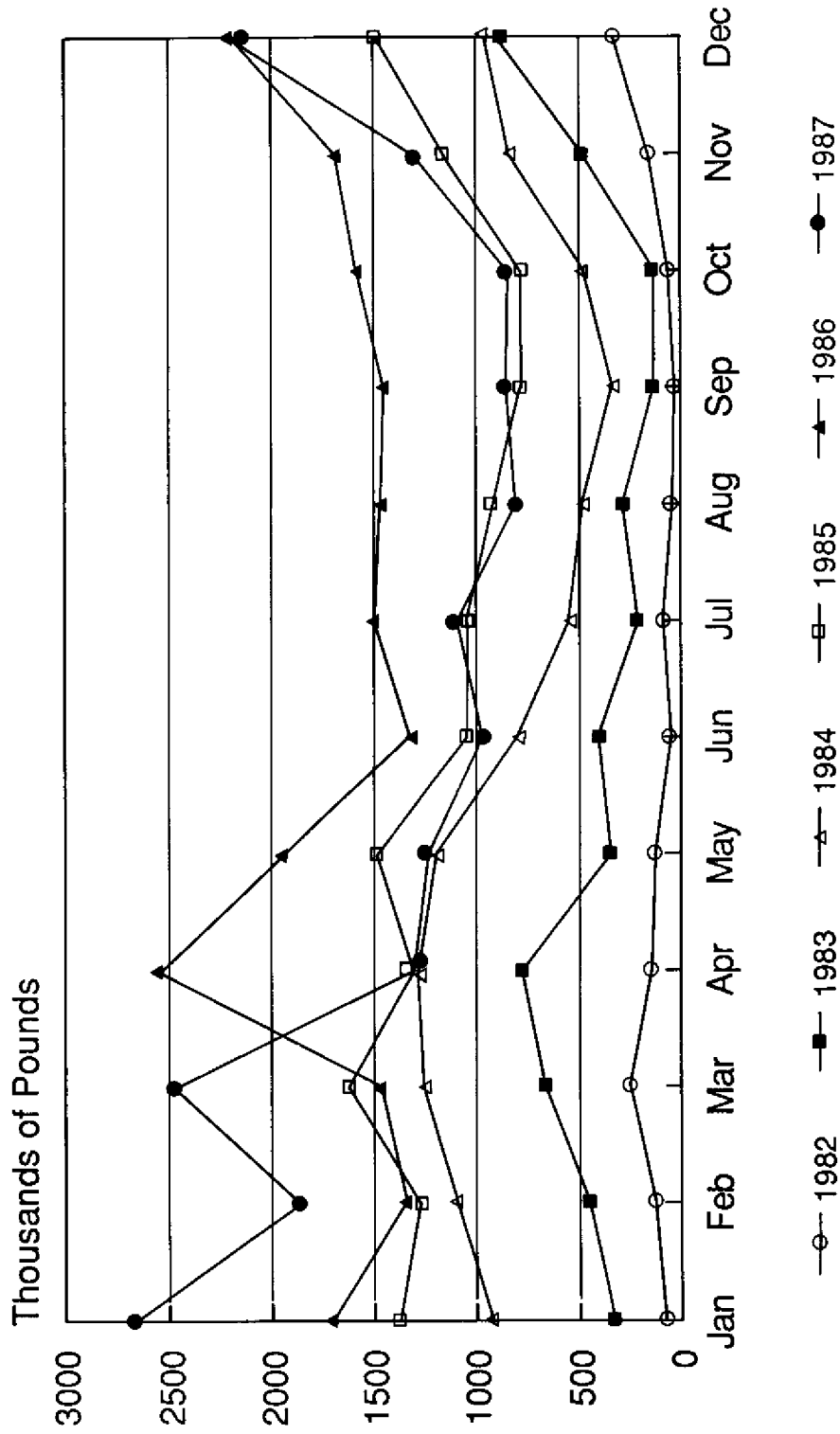
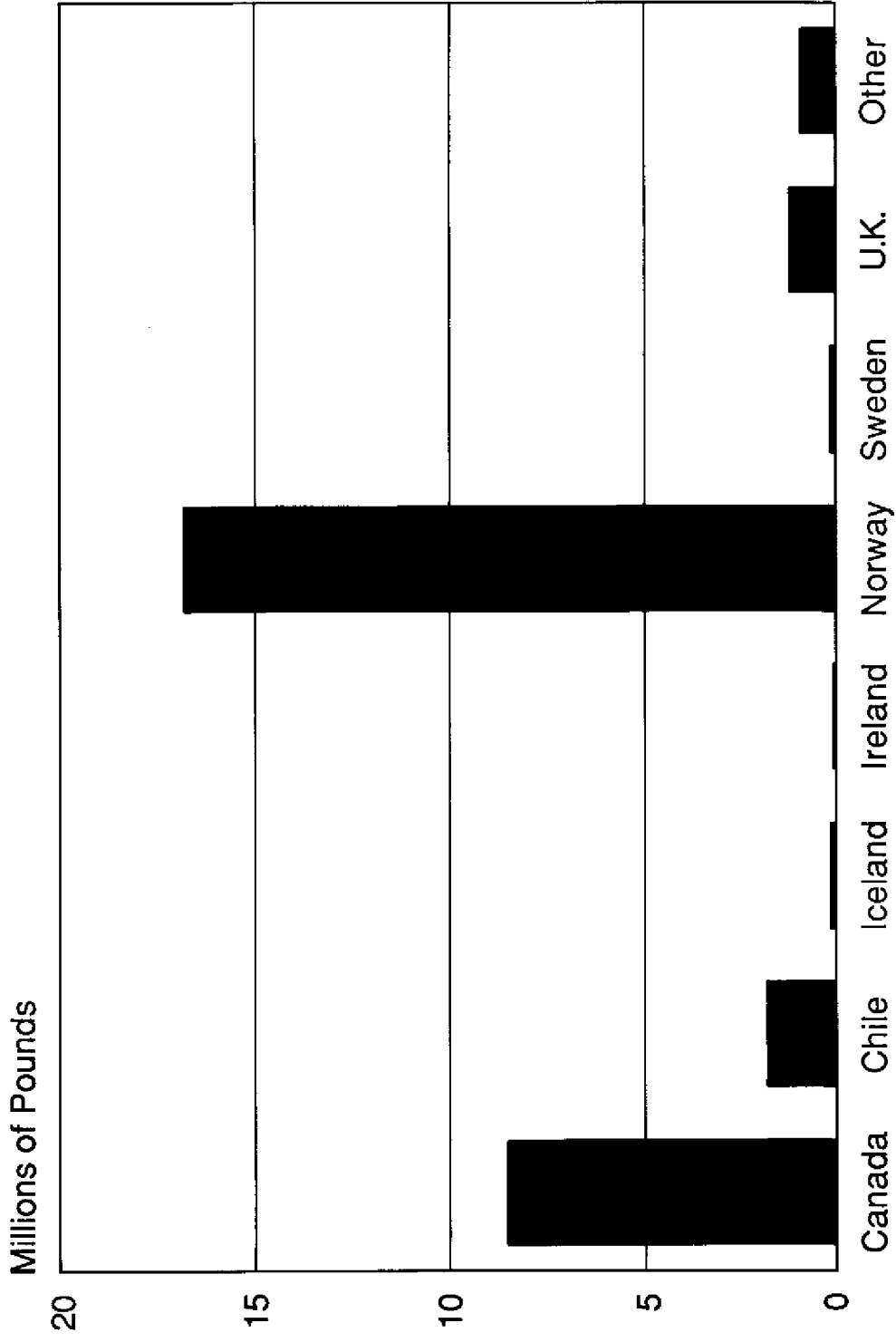


Figure 2. United States Imports of Fresh Salmon in 1987



affecting their sales in the United States, and to predict how it might affect other U.S. products. In addition, questions were also asked to assess the future course for pen-raised salmon in the United States.

In 1985, Rogness and Lin conducted a similar survey (Rogness and Lin 1986). Because the market for farmed salmon has experienced dramatic expansions, the current survey was conducted to detect significant changes in seafood wholesalers' perceptions of the market for farmed salmon and its interaction with the wild salmon market.

The list of U.S. seafood wholesalers was taken from Who's Who in the Fish Industry 1988. Because it was not known whether a wholesaler listed in Who's Who in the Fish Industry 1988 is involved in the distribution of farmed salmon, two questionnaires were sent to each firm. One was to be filled out by firms that do distribute pen-raised salmon, and one was for firms that do not distribute pen-raised salmon. Of the 400 firms surveyed, 46 returned their questionnaires, or 12%. Of these firms, 25 handled farmed salmon, and 21 did not.

In this report, each question is listed and the results are summarized in percentages. Some of the questions were designed for identifying, through statistical procedures, the importance of various factors in affecting wholesalers' marketing decisions, such as the decision to handle or not handle farmed salmon. In this report, responses were simply tabulated but not analyzed statistically. In the first section, firms that do handle Pacific salmon are reported, and the second section reports on firms that do not handle Pacific salmon. Each question is followed with a brief discussion of the results. A conclusion follows the discussion of the questions.

SECTION I

SURVEY RESULTS FROM SEAFOOD WHOLESALERS WHO DISTRIBUTE PEN-RAISED SALMON

1. a. Where is your firm located? East or west of the Mississippi?

	<u>%</u>
West	64
East	32
Both	4

- b. Does your firm sell products both east and west of the Mississippi?

	<u>%</u>
Yes	60
No	40

2. Does your firm handle wild Pacific salmon?

	<u>%</u>
Yes	92
No	8

By identifying where the firms are located geographically, one can discover differences in perceptions of farmed salmon depending on the firms' locations. In the survey, 64% of the firms were located west of the Mississippi, and 60% of the firms sold fish across the entire country.

The second question was asked to find out how many of the firms handling farmed salmon were also handling wild Pacific salmon. Only eight percent of the firms handling the farmed salmon did not handle wild Pacific salmon. The same question was also answered by those who did not handle farmed salmon. As will be discussed later, firms' decisions in handling farmed salmon seemed to be affected by whether they were already involved in salmon distribution.

3. Please designate which type(s) of pen-raised salmon your firm has distributed, or currently distributes, by placing a check next to the appropriate product type(s).

Results of the survey by Rogness and Lin (hereafter, termed the 1985 survey) indicated that about 94% of firms involved in the distribution of farmed salmon handled Norwegian salmon. With an increased supply of farmed Pacific salmon from Canada and Chile, the number of firms involved in the distribution of farmed Pacific salmon from Canada and Chile has soared, according to the current survey. In 1987, Canada produced approximately 9 million pounds of farmed Pacific salmon while Norway produced 103 million pounds of farmed Atlantic salmon. For the same year,

the United States imported 16 million pounds of Norwegian farmed (both fresh and frozen) Atlantic salmon and 8.5 million pounds of Canadian fresh wild and farmed salmon. It should be mentioned that Norwegian farmed salmon is exported in both fresh and frozen forms while Canadian farmed salmon is exported in fresh form only. In 1990, Canada is projected to produce 46 million pounds of farmed salmon, most of which will be exported to the United States. Therefore, the number of firms involved in the distribution of Canadian farmed salmon should continue to increase. The same expectation holds true for the number of firms handling Chilean salmon.

<u>Species and Origin</u>	<u>%</u>
Norwegian Atlantic	76
Scottish	28
Domestic Atlantic	48
Other Atlantic	16
Pan-sized coho	56
Canadian coho	48
Canadian chinook	76
Chilean coho	60
Other Pacific	36

About 50% of the firms handled farmed salmon (both Atlantic and Pacific) from domestic sources. This is a dramatic increase from the results of the 1985 survey. At that time, most of the domestic farmed salmon came from Puget Sound, Washington. An increased number of firms handle domestic Atlantic salmon, from 21% to 48% in comparison to the 1985 survey. Because the increase in domestic production is expected to be much slower than the increase in production elsewhere, the number of firms involved in handling domestic farmed salmon is expected to increase at a slower rate. The biggest increase was for the Chilean farmed coho, which were up from 2% to 60% from 1985 to 1988. Firms handling Scottish farmed Atlantic salmon remained about the same, being at a level of approximately 30%, according to the 1985 and current surveys.

4. What are the substitution relationships between farmed salmon and other seafoods? (Farmed coho does not include pan-sized fish.) Two seafood products are substitutes if your customers order more of one product when the other product becomes more expensive.

This question was designed to obtain the perceived substitution relationship between farmed salmon and various wild Pacific salmon and other fish. This is an important question because it provides information that can serve as a guide for demand analysis. A major finding is that fresh and frozen salmon are perceived to occupy distinct market niches. For both farmed Atlantic and farmed coho, there was a striking difference between fresh and frozen products. While it was deemed that a price increase (or decrease) in farmed salmon would lead to more (or fewer) purchases of many fresh wild species, the relationship was nowhere near as pronounced for the frozen counterparts. This finding is consistent with the results of the 1985 survey. If, indeed, the bulk of Alaska landings are processed into frozen or canned products, the influx of imported farmed Atlantic salmon may not have much impact on the price of wild Pacific salmon caught in Alaska, at least in the domestic market.

Results of the question concerning the relationship between farmed Atlantic and wild Pacific salmon suggest that farmed Atlantic salmon is a stronger substitute for high-valued Pacific salmon than low-valued salmon. Sixty-eight percent of the firms perceived that farmed Atlantic salmon and fresh chinook are strong substitutes, while about 50% of the firms perceived that fresh sockeye and coho are strong substitutes. Only 10% of the firms believed fresh pink and farmed Atlantic salmon are good substitutes. About 24% of the firms perceived halibut and farmed Atlantic salmon to be good substitutes, but none of the firms believed prawns and lobster are good substitutes for farmed Atlantic salmon.

<u>Wild</u>	a. Farmed Atlantic Degree of Substitution			b. Farmed Coho Degree of Substitution		
	<u>None</u> (%)	<u>Weak</u> (%)	<u>Strong</u> (%)	<u>None</u> (%)	<u>Weak</u> (%)	<u>Strong</u> (%)
<u>Chinook:</u>						
Fresh	14	18	68	15	40	45
Frozen	62	19	19	50	36	14
<u>Sockeye:</u>						
Fresh	24	29	48	20	27	53
Frozen	67	20	13	46	31	23
<u>Coho:</u>						
Fresh	10	40	50	13	6	81
Frozen	53	27	20	31	31	38
<u>Chum:</u>						
Fresh	41	41	18	33	33	33
Frozen	75	19	6	46	38	15
<u>Pink:</u>						
Fresh	70	20	10	53	41	6
Frozen	86	7	7	70	15	15
<u>Halibut</u>	64	12	24	67	7	27
<u>Prawns</u>	81	19	0	80	13	7
<u>Lobster</u>	94	6	0	100	0	0
Others (please specify)						

In the other category, Mahi, swordfish, seabass, and scallops were each mentioned once as strong substitutes. One respondent states that "Norwegian salmon has characteristics, market types, which no wild product could hope to duplicate in fresh state--period." Another firm suggested that the "size" of the Pacific salmon is very important in determining if it is a substitute for farmed Atlantic salmon. Therefore, the survey results suggest that researchers should include the price of fresh, high-valued, Pacific salmon in modelling the demand for farmed Atlantic salmon.

Wholesalers believed that farmed coho competes not only with high-valued wild salmon but also somewhat with chum salmon. Over 50% of the respondents picked fresh chinook, sockeye, coho, and chum to be substitutes for farmed coho salmon.

Roughly 50% picked frozen chinook, sockeye, coho, and chum to be substitutes, but the distinction between fresh and frozen products again registered. Not surprisingly, fresh coho was picked by 81% of the surveyed firms to be a strong substitute for farmed coho salmon.

5. a. Before you distributed farmed salmon, had your firm received requests from retailers or restaurants to purchase the following from you?

b. Before you distributed farmed salmon, had your firm received requests from fish farmers, brokers, or importers to sell the following to you?

Question 5 was asked to determine if requests for handling farmed salmon came from the demand or supply side of the market. It was found that most of the requests were supply driven, especially for farmed Pacific salmon. On the demand side, the biggest requests were for pen-raised Atlantic salmon, followed by coho. More than 70% of the firms had received requests for the purchase of pen-raised Atlantic salmon. It should be noted that pen-raised chinook is a much newer product and, hence, less known to the retailers. On the supply side, pen-raised coho was the most highly promoted product followed by Atlantics and chinook. Eighty-seven percent or more of the firms had received requests for pen-raised Atlantic, coho, or chinook salmon to be sold to them. Requests for pen-raised Atlantic salmon increased from 41% in the 1985 survey to 73% in 1988.

	Number of Requests (%) from Retailers or Restaurants			Number of Requests (%) from Farmers, Brokers, or Importers		
	<u>None</u>	<u>A Few</u>	<u>Many</u>	<u>None</u>	<u>A Few</u>	<u>Many</u>
Pen-raised Atlantic	27	55	18	8	63	29
Pen-raised coho	45	41	14	4	74	22
Pen-raised chinook	55	32	13	13	67	20

6. Please indicate the importance of the following factors in your decision to handle pen-raised Atlantic salmon.

	<u>Very Important</u> (%)	<u>Somewhat Important</u> (%)	<u>Not Important</u> (%)
Strong demand	71	25	4
Price is unfavorable	40	48	12
Advantages of farmed salmon in			
color	58	38	4
shelf life	70	26	4
consistent quality	96	4	0
Supplies available in desired			
quantities at desired times	83	17	0
Requests from farmers to			
handle farmed salmon	19	29	52
Other (please specify)			

This question was asked to determine the ranking in terms of importance for different factors affecting the firms' decision to handle pen-raised salmon. The most important factor was the consistent quality, followed by availability in supply and timing, demand, shelf life, and color. All of the listed factors were considered very important by a majority of the firms in their decision to handle pen-raised salmon except for requests from farmers to handle the product. Consistent quality, quantity, and timing in availability seem to be the greatest advantages of farmed salmon over its wild counterpart. Much of these two advantages stem from the fact that farmed salmon can be delivered outside the Pacific fishing season and are not subject to the large volume swings of the capture fishery during the fishing season. One firm remarked that the absence of wild salmon was a very important factor in its handling of pen-raised Atlantic salmon, emphasizing the importance of timing in availability.

7. Please place a check by the value of your firm's total sales in 1987.

<u>%</u>	<u>Sales</u>
55	Less than \$5 million
8	\$5 to \$10 million
8	\$10 to \$15 million
8	\$15 to \$20 million
0	\$20 to \$25 million
21	Greater than \$25 million

8. a. How long has your manager been involved in the seafood business?

b. How long has your firm been involved in the seafood business?

a. <u>%</u>	<u>Years</u>	b. <u>%</u>	<u>Years</u>
36	0 to 10 years	36	0 to 10 years
36	11 to 20 years	16	11 to 20 years
12	21 to 30 years	8	21 to 30 years
8	31 to 40 years	8	31 to 40 years
8	41 years or more	32	41 years or more

Average 17 years

Average 30 years

By combining the responses to question 7 with others, one would hope to be able to detect, using statistical procedures, relationships between firm size and the handling of farmed salmon. Most of the firms surveyed had less than \$5 million worth of business, although very large firms accounted for 21% of those sampled.

As in question 7, results of question 8 can help determine factors affecting a firm's decision to handle farmed salmon. It was found that the managers had, on average, 17 years of experience in the seafood business, and the firms had been in the seafood business an average of 30 years.

9. Please indicate which species, farmed Atlantic or wild chinook (king), has the advantage in the following areas.

10. Please indicate which species, farmed Atlantic or wild coho, has the advantage in the following areas.

11. Please indicate which species, farmed Atlantic or wild sockeye (red), has the advantage in the following areas.

Questions 9 to 11 are important in determining advantages of wild versus farmed salmon that may lead to a preference for one product over the other. As in question 6, consistency of quality and supply of the farmed salmon seem to be its biggest advantage. Shelf life, delivery time, and appearance were also deemed advantages of farmed salmon. By far the biggest advantage of the wild chinook salmon was its price. It is important to note that Norwegian farmed Atlantic salmon prices may drop due to increased supply from enlargement in pen size and advances in technology, increasing competition, and the targeting on other segments of the seafood market (such as supermarkets). The wild chinook also enjoys the advantage of better taste, texture, and color. These advantages may dwindle as more work is done to improve the quality attributes of farmed salmon.

	<u>9</u>			<u>10</u>			<u>11</u>		
	<u>Atlant.</u> (%)	<u>King</u> (%)	<u>No.</u> <u>Diff.</u> (%)	<u>Atlant.</u> (%)	<u>Coho</u> (%)	<u>No.</u> <u>Diff.</u> (%)	<u>Atlant.</u> (%)	<u>Red</u> (%)	<u>No.</u> <u>Diff.</u> (%)
Competitive price	14	86	0	13	83	4	20	48	20
Consistent supply	88	0	12	96	0	4	92	0	8
Consistent quality	70	8	22	70	4	26	80	12	8
Shelf life	67	8	25	74	13	13	80	12	8
Taste	17	58	25	39	35	26	46	42	13
Color	25	54	21	35	39	26	40	52	8
Texture	33	46	21	43	39	17	38	48	14
Appearance	55	32	13	50	21	29	39	39	22
Delivery time	57	17	26	61	9	30	60	10	30
Minimum order size	13	26	48	11	21	68	20	15	65
Other (please specify)									

Results of questions 9 and 10 are similar. One major difference is that opinions of advantages in the taste, color, and texture enjoyed by farmed Atlantic or wild coho salmon were essentially equally split, while the majority of firms believed that wild chinook salmon has these advantages over farmed Atlantic salmon. The only major advantage that wild coho seems to have over farmed Atlantic salmon is in the price, as expected, where 83% of the firms said that the coho has the advantage.

While an overwhelming majority of seafood wholesalers believed that wild chinook and coho have a price advantage over farmed Atlantic salmon, fewer wholesalers thought wild sockeye has a price advantage over farmed Atlantic salmon. The sockeye salmon price is mainly driven by Japanese imports, which in 1987 amounted to 130 million pounds of sockeye salmon from the United States, accounting for 94% of the U.S. exports and half the U.S. landings. Sockeye also has the advantage in texture and, not surprisingly, color. Farmed Atlantic salmon holds advantages in all

other areas, with the exception of appearance and minimum order size, which are essentially even. In consistency of supply, no firm chose the wild sockeye to have the advantage.

One firm remarked that in questions 9-11, the packaging of farmed Atlantic salmon was superior to its wild Pacific counterparts. Another firm responded that the price fluctuations were too large to determine which product was more competitive in price. In summary, the chinook salmon is still preferred for its taste, color, and texture over the farmed Atlantic salmon. These advantages even out for the coho and sockeye salmon. Price is deemed more favorable for the wild Pacific salmon species. The greatest advantages of farmed Atlantic salmon were the consistency in supply, quality, delivery time, and shelf life. Two independent studies (Anderson 1988 and Lin et al. 1989) predict that the future price of farmed Atlantic salmon will decline. If this prediction materializes, the price advantage enjoyed by wild Pacific salmon will diminish.

12. In what year did your firm start handling these farmed species?

a.	Farmed Atlantic Salmon	b.	Farmed Pacific Salmon
<u>%</u>		<u>%</u>	
8	1981 or before	9	1981 or before
29	1982-1983	23	1982-1983
21	1984-1985	27	1984-1985
42	1986-1988	41	1986-1988

13. Please roughly estimate your annual percent change (using + for increase, - for decrease) in sales of fresh, pen-raised Atlantic salmon for the following years.

+ 5	Average % change from 1982 to 1983
+ 12	Average % change from 1983 to 1984
+ 20	Average % change from 1984 to 1985
+ 28	Average % change from 1985 to 1986
+ 38	Average % change from 1986 to 1987

The handling of farmed salmon is still relatively new, with more than 40% of the firms surveyed having started after 1985. As the number of firms involved in distributing farmed salmon has increased over time, the volume handled by each firm has also grown. During the period from 1982 to 1987, growth in volume handled by each firm has followed an upward trend. This trend is consistent with results of the 1985 survey. The largest growth in sales occurred in 1987, with an average 38% increase.

14. a. Which of the following statements best describes your firm's purchases of fresh, pen-raised Atlantic salmon?

%

- 36 We purchase it only when fresh Pacific salmon is not available.
 64 Our purchases of fresh, pen-raised Atlantic salmon are independent of the availability of fresh Pacific salmon.

b. We purchase fresh, pen-raised Atlantic salmon in place of Pacific salmon for the following markets.

%

- 41 Restaurants
 18 Supermarkets
 18 Seafood (only) markets
 6 Institutions (hospitals, etc.)
 29 All markets

The above question shows that only 36% of the firms surveyed are using farmed Atlantic salmon as a replacement for wild Pacific salmon only when wild Pacific salmon supplies are not available. Sixty-four percent purchased farmed salmon and Pacific salmon simultaneously.

Restaurant trade was the main component of the market for farmed Atlantic salmon. Seafood specialty shops and supermarkets were equally important in the distribution of farmed Atlantic salmon. If the future price of farmed Atlantic salmon declines as predicted, it is expected that supermarket trade will gain importance.

15. Of your total annual sales of fresh, pen-raised Atlantic salmon, please estimate the amount (%) allocated to different outlets. Please indicate, by placing a check, if the sales to these outlets have been increasing or decreasing in the last five years.

Percent of sales (%)		Increase		No Change (%)	Decrease	
		Rapid (%)	Moderate (%)		Rapid (%)	Moderate (%)
56	Restaurants	40	60	0	0	0
10	Supermarkets	33	67	0	0	0
22	Seafood specialty shop	36	64	0	0	0
1	Institutions	0	75	25	0	0
11	Other (specify)	50	50	0	0	0

Sales in all outlets have been increasing, according to the respondents. Sales growth in restaurants, supermarkets, and specialty shops were roughly the same while a much smaller growth occurred in institutions. There is a clear indication that farmed Atlantic salmon is making headway into supermarkets. In the other category, wholesale distributors, caterers, other wholesalers, and hotels were listed.

16. a. Does your firm plan to increase distribution of fresh pen-raised Atlantic salmon?

	<u>%</u>
Yes	88
No	12

b. If yes, does your firm plan to (check one)

	<u>%</u>
60	Maintain current seasonal distribution patterns
40	Concentrate more distribution during winter and spring
0	Concentrate more distribution during summer and fall

A majority, 88% of the respondents, indicated that they plan to increase their handling of farmed Atlantic salmon. Forty percent of the firms plan to increase their distribution during the winter and spring, when fresh Pacific salmon is not available. None of the firms plans to increase sales during the Pacific salmon season, suggesting that firms will use farmed salmon to ensure a year-round supply of salmon. Since respondents believed that farmed and wild salmon are substitutes, additional supply of farmed salmon should be distributed during the closure of the salmon fishing season. This result is consistent with the result of an earlier question and that reported in the 1985 survey.

17. Is your firm involved in the fishing or processing of wild Pacific salmon?

	<u>%</u>
Yes	44
No	56

This question was used to determine if there is a difference, in their attitudes toward handling farmed salmon at the wholesale level, between firms involved or not involved in the fishing and processing of Pacific salmon.

SECTION II

SURVEY RESULTS FROM SEAFOOD WHOLESALERS WHO DO NOT DISTRIBUTE PEN-RAISED SALMON

1. a. Where is your firm located? East or west of the Mississippi?

	<u>%</u>
West	75
East	25
Both	0

- b. Does your firm sell products both east and west of the Mississippi?

	<u>%</u>
Yes	45
No	55

2. Does your firm handle wild Pacific salmon?

	<u>%</u>
Yes	50
No	50

The first question was used to determine if geographic factors affect the firms' decision to distribute or not to distribute farmed salmon (44% of the total firms responding to the survey did not sell farmed salmon). Seventy-five percent of the firms not involved in distributing farmed salmon are located west of the Mississippi while only 64% of the firms involved in distributing farmed salmon are located west of the Mississippi. Therefore, a higher percentage of firms located east of the Mississippi were distributing farmed salmon.

In the second question, only 50% of the firms not handling pen-raised salmon handle wild Pacific salmon, compared to 92% of the firms handling pen-raised salmon. Therefore, not having handled salmon previously might deter a firm from handling farmed salmon.

3. What are the substitution relationships between farmed salmon and other seafoods? (Farmed coho does not include pan-sized fish). Two seafood products are substitutes if your customers order more of one product when the other product becomes more expensive.

There was a dramatic differing of opinion on the substitution between farmed salmon and wild salmon among those who did and those who did not handle pen-raised salmon. Nearly 50% of the firms not handling pen-raised salmon did not consider farmed Atlantic salmon and wild salmon to be substitutes. Since managers of the firms

involved in farmed salmon distribution are expected to be more knowledgeable on this issue, this differing opinion could be a result of differing experience.

Among the firms not involved in farmed salmon trading, fresh chinook salmon was the only product deemed a strong substitute for farmed Atlantic salmon. Fresh coho was considered a substitute for farmed Atlantic salmon by 56% of the firms. No firms thought that pink salmon, prawns, or lobster were substitutes for farmed Atlantic salmon. However, it should be mentioned that freshness, again, seems to be an important quality attribute registered by seafood wholesalers which is an important determinant of the degree to which wild salmon will substitute for Atlantic salmon.

<u>Wild</u>	a. Farmed Atlantic Degree of Substitution			b. Farmed Coho Degree of Substitution		
	<u>None</u> (%)	<u>Weak</u> (%)	<u>Strong</u> (%)	<u>None</u> (%)	<u>Weak</u> (%)	<u>Strong</u> (%)
<u>Chinook:</u>						
Fresh	44	0	56	17	17	66
Frozen	67	22	11	42	29	29
<u>Sockeye:</u>						
Fresh	67	11	22	33	33	33
Frozen	100	0	0	50	33	17
<u>Coho:</u>						
Fresh	44	12	44	17	17	66
Frozen	56	33	11	29	29	42
<u>Chum:</u>						
Fresh	67	33	0	40	40	20
Frozen	80	20	0	57	29	14
<u>Pink:</u>						
Fresh	100	0	0	100	0	0
Frozen	100	0	0	86	14	0
<u>Halibut</u>	88	12	0	100	0	0
<u>Prawns</u>	100	0	0	100	0	0
<u>Lobster</u>	100	0	0	100	0	0
Others (please specify)						

For farmed coho, the answers were more similar to the firms which did handle farmed salmon. Farmed coho and other species of salmon, with the exception of pink, were considered to exhibit some degree of substitutability. Again, pink salmon, prawns, or halibut were not considered to be substitutes for pen-raised coho. The importance of freshness in determining the importance of the substitution relationship among seafood is again registered by the firms not handling farmed salmon.

4. a. Has your firm had requests from retailers or restaurants to purchase the following from you?

b. Has your firm had requests from fish farmers, brokers, or importers to sell the following to you?

One of the hypothesized reasons that firms may not handle pen-raised salmon is that they do not receive as many requests to do so. At least 60% of the firms not handling farmed salmon had not received requests for farmed salmon from the demand side of the market compared to 45% of the firms who handle farmed salmon. For Atlantic salmon, 71% of the firms not handling farmed salmon had not received demand requests whereas of those firms who handled pen-raised Atlantic salmon, only 27% had not received such requests. One reason for this difference could be due to the fact that such requests would naturally come to firms already handling wild Pacific salmon.

	Number of Requests (%) from Retailers or Restaurants			Number of Requests (%) from Farmers, Brokers, or Importers		
	None	A Few	Many	None	A Few	Many
Pen-raised Atlantic	71	21	7	54	33	13
Pen-raised coho	60	27	13	39	48	13
Pen-raised chinook	70	15	15	47	47	6

On the supply side, the result is similar. For Atlantic salmon, 54% of the firms not handling farmed salmon had not received supply requests. On the other hand, only 8% of the firms handling farmed salmon had not received such requests. Therefore, requests from the supply and demand sides for farmed salmon may be an important determinant in the wholesalers' decision to handle pen-raised salmon. Still, 61% of these firms had received supply requests to handle pen-raised coho but did not choose to do so. This might be explained by the firms' inexperience and, hence, hesitation in handling salmon products.

5. Please indicate the importance of the following factors in your decision not to handle pen-raised Atlantic salmon.

This question was designed to parallel question 6 for the firms handling farm raised salmon and to determine if there were any perceived advantages to the pen-raised versus wild salmon species that affected the decision not to handle the species. Thirty-eight percent said that the reason they did not handle farmed salmon was that they did not handle salmon at all. But 50% said that there was no demand for farmed salmon. This compares to 96% of the firms handling pen-raised salmon who said that there was a demand and 71% who said the demand was strong. Another important figure is that 67% of these firms not handling farmed salmon indicated that pen-raised salmon was not readily available. This seems to suggest a potential area for market expansion of farmed salmon.

Fifty percent of these firms indicated that the preference for wild Pacific salmon was very important in not purchasing farmed salmon and 40% indicated that pressure from fishing groups was important in their decision not to handle the product. Therefore, the tie to fishing or processing of Pacific salmon could be a factor in the

decision not to handle farmed salmon. Thirty-three percent said they wanted to handle U.S. products only. This resistance to handling farmed salmon could be alleviated with increased U.S. farm production.

	<u>Very Important</u> (%)	<u>Somewhat Important</u> (%)	<u>Not Important</u> (%)
Don't handle salmon	38	0	62
No demand	50	17	33
Prefer Pacific salmon	55	18	27
Not available	11	56	33
Price is too high	40	30	30
Bad reputation of farmed salmon	27	9	64
Handle only frozen salmon	27	27	45
Disadvantages of farmed salmon in color	22	33	44
shelf life	40	0	60
consistent quality	22	11	67
Supplies not consistent in desired quantities	22	22	56
desired times	12	38	50
Prefer to buy a U.S. product	11	22	78
Pressure from fishing groups not to handle farmed salmon	20	20	60
Other(please specify)			

6. Please place a check by the value of your firm's total sales in 1987.

<u>%</u>	<u>Sales</u>
37	Less than \$5 million
25	\$5 to \$10 million
6	\$10 to \$15 million
19	\$15 to \$20 million
0	\$20 to \$25 million
13	Greater than \$25 million

7. Is there a good chance your firm will handle one of the following farmed salmon types in the next three years?

	<u>% Yes</u>
Domestic farmed Atlantic	53
Foreign farmed Atlantic	75
Domestic farmed Pacific	35
Foreign farmed Pacific	65

The distribution of survey respondents in terms of the size of firm is fairly similar to the group of firms who did handle farmed salmon. Therefore, it appears that the size of firm has little effect in the decision for handling or not handling farmed salmon.

Those not involved in distributing farmed salmon indicated a definite interest in handling it in the future, especially farmed salmon from foreign sources. Seventy-five percent of the firms indicated an interest in handling farmed Atlantic salmon, and 65% of the firms desired to handle foreign farmed Pacific salmon. The intention to handle domestic pen-raised salmon was much lower, perhaps due to limited availability. This would suggest a potential for the United States to expand its production of farmed salmon because of the market developing for the pen-raised product. The farmed Atlantic salmon seems to be preferred over the farmed coho, which is welcome news to salmon farmers in Maine and Puget Sound where farmed Atlantic salmon have had a high success rate.

8. a. How long has your manager been involved in the seafood business?
 b. How long has your firm been involved in the seafood business?

a. %	<u>Years</u>	b. %	<u>Years</u>
45	0 to 10 years	55	0 to 10 years
45	11 to 20 years	10	11 to 20 years
5	21 to 30 years	15	21 to 30 years
0	31 to 40 years	5	31 to 40 years
5	41 years or more	15	41 years or more
Average 15 years		Average 21 years	

The managers of the firms not handling farm-raised salmon were generally younger, with 90% in the seafood business for 20 or fewer years, compared to 72% of the managers who did handle pen-raised salmon. The difference is even larger when considering the age of the firms: The age of firms not handling pen-raised salmon averaged 21 years while those handling farmed salmon averaged 30 years. The more established firms may be in a better position to assume the initial risks of handling a new product.

9. Is your firm involved in the fishing or processing of wild Pacific salmon?

	<u>%</u>
Yes	28
No	72

Seventy-two percent of the firms not handling farmed salmon were not involved in the fishing or processing of Pacific salmon, while 56% of the firms handling pen-raised salmon were not involved. The question was originally asked to determine if the ties to the Pacific salmon processing or fishing industry would inhibit a firm from handling farmed salmon.

10. Please indicate which species, farmed Atlantic or wild chinook (king), has the advantage in the following areas.

11. Please indicate which species, farmed Atlantic or wild coho, has the advantage in the following areas.

12. Please indicate which species, farmed Atlantic or wild sockeye (red), has the advantage in the following areas.

There are some differences in responses between firms handling and not handling pen-raised salmon, as expected. For those firms not involved in handling farmed salmon, the majority believed that there was no difference in price competition. On the other hand, an overwhelming majority of those handling farmed salmon said that wild chinook was more price competitive. Other major differences were in the taste, color, and appearance: None of the firms not handling pen-raised salmon thought farmed Atlantic salmon had the advantage over wild chinook salmon, whereas about one-third of the firms handling farmed Atlantic salmon thought it did.

	<u>10</u>			<u>11</u>			<u>12</u>		
	<u>Atlant.</u> (%)	<u>King</u> (%)	<u>No.</u> <u>Diff.</u> (%)	<u>Atlant.</u> (%)	<u>Coho</u> (%)	<u>No.</u> <u>Diff.</u> (%)	<u>Atlant.</u> (%)	<u>Red</u> (%)	<u>No.</u> <u>Diff.</u> (%)
Competitive price	22	22	56	30	60	10	56	0	44
Consistent supply	78	0	22	70	10	20	78	0	22
Consistent quality	78	11	11	80	10	10	80	10	10
Shelf life	50	13	37	45	22	33	40	30	30
Taste	0	67	33	0	80	20	10	70	20
Color	0	88	12	0	88	12	0	89	11
Texture	0	89	11	0	90	10	0	90	10
Appearance	38	50	12	30	40	30	22	45	33
Delivery time	56	0	44	56	0	44	44	0	56
Minimum order size	75	0	25	60	10	30	56	0	44
Other (please specify)									

Because coho is less expensive than chinook and Atlantic salmon, similar opinions in the comparison of price advantage between farmed Atlantic and wild coho was voiced by the two groups of firms. However, taste, color, texture, and also appearance of farmed Atlantic and wild coho salmon were deemed equal by those handling pen-raised Atlantic salmon, but none of the firms not handling pen-raised Atlantic salmon gave the advantage to pen-raised Atlantic salmon. This supports the hypothesis that firms not involved in the distribution of farmed salmon may not have a good understanding of the product. One firm stated that while farmed Atlantic salmon was available more often than coho, coho's favorable price outweighed this advantage.

Again, there were major differences of opinion expressed by the two types of firms surveyed. Over 50% of the firms not handling farmed salmon considered farmed Atlantic to have a price advantage, while only 20% of those handling farmed salmon said so. On the other hand, farmed Atlantic scored higher with those handling farmed salmon in areas such as shelf life, taste, color, texture, and appearance.

It is quite clear that those not involved in farmed salmon distribution tended to provide a lower evaluation of farmed Atlantic salmon in areas such as shelf life, taste, color, texture, and appearance. However, more firms not involved in the farmed-salmon business indicated that farmed salmon had a price advantage edge or that there was no price differential between farmed and wild salmon. It should be mentioned that prices of wild salmon tend to fluctuate more than the price of farmed salmon, making it difficult to make a global price comparison. Consistency in supply and quality were identified by the majority of respondents as the main advantages enjoyed by farmed salmon over its wild counterpart. It appears that market promotion aiming at areas such as shelf life, color, texture, and appearance will generate more interest in carrying farmed salmon and hence expand its market.

CONCLUSION

A recent concern of the salmon industry has been the substantial growth of pen-raised salmon worldwide. The United States and Europe have been the main markets targeted by farmed salmon producers. Also, Japanese imports of farmed salmon have shown rapid growth recently. Therefore, farmed salmon has been presented to the domestic and foreign consumers who were served exclusively by the wild salmon only a few years ago.

As the future production of farmed salmon is projected to continue its phenomenal growth, fishermen in capture fisheries are concerned to what extent the domestic and foreign markets and the value of fishing licenses will be affected by increased farm production. Existing and potential salmon farmers are concerned about the extent to which future revenues from salmon farming will be affected. These concerns can be addressed by conducting demand analyses of the markets for farmed and wild salmon. A main purpose of the survey is to identify the major substitutes for farmed and wild salmon--a key component in demand analysis. The results suggest that farmed Atlantic salmon and fresh, high-valued species of Pacific salmon are substitutes.

The survey also included questions concerning (1) seafood wholesalers' perceptions of the differences in quality attributes between farmed and wild salmon, (2) factors affecting firms' decisions to handle or not to handle farmed salmon, and (3) various business and economic aspects of the firms surveyed. The results of the survey should be informative to the producers of farmed and wild salmon and can be useful in the development of marketing strategies.

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APPENDIX

Survey of Seafood Wholesalers Who Distribute Pen-Raised Salmon

1. a. Where is your firm located? east _____ west _____ of the Mississippi River
- b. Does your firm sell products both east and west of the Mississippi?
yes _____ no _____

2. Does your firm handle wild Pacific salmon? yes _____ no _____

3. Please designate which type(s) of pen-raised salmon your firm has distributed or currently distributes, by placing a check next to the appropriate product type(s):

- | | |
|---|--|
| <input type="checkbox"/> Norwegian Atlantic | <input type="checkbox"/> Scottish Atlantic |
| <input type="checkbox"/> Domestic Atlantic | <input type="checkbox"/> Other Atlantic |
| <input type="checkbox"/> Pan-Size Coho | <input type="checkbox"/> Canadian Coho |
| <input type="checkbox"/> Canadian Chinook | <input type="checkbox"/> Chilean Coho |
| <input type="checkbox"/> Other Pacific | |

4. What are the substitution relationships between farmed salmon and other seafoods? (Farmed Coho does not include the pan-size fish). Two seafood products are substitutes if your customers order more of one product when the other product becomes more expensive.

	<u>Farmed Atlantic</u> <u>Degree of Substitution</u>			<u>Farmed Coho</u> <u>Degree of Substitution</u>		
	<u>None</u>	<u>Weak</u>	<u>Strong</u>	<u>None</u>	<u>Weak</u>	<u>Strong</u>
<u>Wild</u>						
<u>Chinook:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Sockeye:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Coho:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Chum:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Pink:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Halibut</u>	_____	_____	_____	_____	_____	_____
<u>Prawns</u>	_____	_____	_____	_____	_____	_____
<u>Lobster</u>	_____	_____	_____	_____	_____	_____
<u>Others (please specify)</u>						
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

5. a. Before you distributed farmed salmon, had your firm received requests from retailers or restaurants to purchase the following from you?

	Number of Requests		
	<u>None</u>	<u>A Few</u>	<u>Many</u>
Pen-Raised Atlantic Salmon	_____	_____	_____
Pen-Raised Coho	_____	_____	_____
Pen-Raised Chinook	_____	_____	_____

- b. Before you distributed farmed salmon, had your firm received requests from fish farmers, brokers, or importers to sell the following to you?

	Number of Requests		
	<u>None</u>	<u>A Few</u>	<u>Many</u>
Pen-Raised Atlantic Salmon	_____	_____	_____
Pen-Raised Coho	_____	_____	_____
Pen-Raised Chinook	_____	_____	_____

6. Please indicate the importance of the following factors in your decision to handle pen-raised Atlantic salmon:

	<u>Very Important</u>	<u>Somewhat Important</u>	<u>Not Important</u>
Strong demand	_____	_____	_____
Price is favorable	_____	_____	_____
Advantages of farmed salmon in the following respects:			
Color	_____	_____	_____
Shelf life	_____	_____	_____
Consistent quality	_____	_____	_____
Supplies available in desired quantities at desired times	_____	_____	_____
Requests from farmers to handle farmed salmon	_____	_____	_____
Other (please specify):			
_____	_____	_____	_____
_____	_____	_____	_____

7. Please place a check by the range of values in which your firm's total sales in 1987 belong:

_____ less than \$5 million	_____ \$5 to 10 million
_____ \$10 to 15 million	_____ \$15 to 20 million
_____ \$20 to 25 million	_____ greater than \$25 million

8. How long has your manager been involved in the seafood business? _____ years.
 How long has your firm been involved in the seafood business? _____ years.

9. Please indicate which species has the advantage in the following areas:

	<u>Farmed Atlantic</u>	<u>Wild Chinook</u>	<u>No Difference</u>
Competitive price	_____	_____	_____
Consistent supply	_____	_____	_____
Consistent quality	_____	_____	_____
Shelf life	_____	_____	_____
Taste	_____	_____	_____
Color	_____	_____	_____
Texture	_____	_____	_____
Appearance	_____	_____	_____
Delivery time	_____	_____	_____
Minimum order size	_____	_____	_____
Other (please specify):	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

10. Please indicate which species has the advantage in the following areas:

	<u>Farmed Atlantic</u>	<u>Wild Coho</u>	<u>No Difference</u>
Competitive price	_____	_____	_____
Consistent supply	_____	_____	_____
Consistent quality	_____	_____	_____
Shelf life	_____	_____	_____
Taste	_____	_____	_____
Color	_____	_____	_____
Texture	_____	_____	_____
Appearance	_____	_____	_____
Delivery time	_____	_____	_____
Minimum order size	_____	_____	_____
Other (please specify):	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

11. Please indicate which species has the advantage in the following areas:

	<u>Farmed Atlantic</u>	<u>Wild Sockeye</u>	<u>No Difference</u>
Competitive price	_____	_____	_____
Consistent supply	_____	_____	_____
Consistent quality	_____	_____	_____
Shelf life	_____	_____	_____
Taste	_____	_____	_____
Color	_____	_____	_____
Texture	_____	_____	_____
Appearance	_____	_____	_____
Delivery time	_____	_____	_____
Minimum order size	_____	_____	_____
Other (please specify):	_____	_____	_____

12. In what year did your firm start handling:

farmed Atlantic salmon _____
 farmed Pacific salmon _____

13. Please roughly estimate your annual percent change (using + for increase, - for decrease) in sales of fresh, pen-raised Atlantic salmon for the following years:

_____ % change from 1982 to 1983
 _____ % change from 1983 to 1984
 _____ % change from 1984 to 1985
 _____ % change from 1985 to 1986
 _____ % change from 1986 to 1987

14. Which of the following statements best describes your firm's purchases of fresh, pen-raised Atlantic salmon?

_____ We purchase it only when fresh Pacific salmon is not available.
 _____ Our purchases of fresh, pen-raised Atlantic salmon are independent of the availability of fresh Pacific salmon.
 _____ We purchase it in place of Pacific salmon for the following markets:
 _____ Restaurants _____ Seafood (only) markets
 _____ Supermarkets _____ Institutions (hospitals, etc.)
 _____ All markets

15. Of your total annual sales of fresh pen-raised Atlantic salmon, please estimate the amount (%) allocated to different outlets. Please indicate, by placing a check, if the sales to these outlets have been increasing or decreasing in the last five years.

Percent of Sales	Increase		No	Decrease	
	Rapid	Moderate	Change	Rapid	Moderate
_____ Restaurants	_____	_____	_____	_____	_____
_____ Supermarkets	_____	_____	_____	_____	_____
_____ Seafood specialty shops	_____	_____	_____	_____	_____
_____ Institutions (hospitals, etc.)	_____	_____	_____	_____	_____
_____ Other (specify)	_____	_____	_____	_____	_____
Total 100%					

16. a. Does your firm plan to increase distribution of fresh, pen-raised Atlantic salmon?
 yes _____ no _____

b. If yes, does your firm plan to (check one):

_____ maintain current seasonal distribution patterns?
 _____ concentrate more distribution during winter and spring?
 _____ concentrate more distribution during summer and fall?

17. Is your firm involved in the fishing or processing of wild Pacific salmon?
 yes _____ no _____

**Survey of Seafood Wholesalers
Who Do Not Distribute Pen-Raised Salmon**

1. a. Where is your firm located? east _____ west _____ of the Mississippi River.
- b. Does your firm sell products both east and west of the Mississippi?
yes _____ no _____
2. Does your firm handle Pacific salmon? yes _____ no _____
3. What are the substitution relationships between farmed salmon and other seafoods? (The farmed coho does not include the pan-size fish). Two seafood products are substitutes if your customers order more of one product when the other product becomes more expensive.

	<u>Farmed Atlantic</u> <u>Degree of Substitution</u>			<u>Farmed Coho</u> <u>Degree of Substitution</u>		
	<u>None</u>	<u>Weak</u>	<u>Strong</u>	<u>None</u>	<u>Weak</u>	<u>Strong</u>
<u>Wild</u>						
<u>Chinook:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Sockeye:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Coho:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Chum:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Pink:</u>						
Fresh	_____	_____	_____	_____	_____	_____
Frozen	_____	_____	_____	_____	_____	_____
<u>Halibut</u>	_____	_____	_____	_____	_____	_____
<u>Prawns</u>	_____	_____	_____	_____	_____	_____
<u>Lobster</u>	_____	_____	_____	_____	_____	_____
<u>Others (please specify)</u>	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

4. a. Has your firm had requests from retailers or restaurants to purchase the following from you?

	<u>Number of Requests</u>		
	<u>None</u>	<u>A Few</u>	<u>Many</u>
Pen-Raised Atlantic Salmon	_____	_____	_____
Pen-Raised Coho	_____	_____	_____
Pen-Raised Chinook	_____	_____	_____

b. Has your firm had requests from fish farmers, brokers, or importers to sell the following to you?

	Number of Requests		
	<u>None</u>	<u>A Few</u>	<u>Many</u>
Pen-Raised Atlantic Salmon	_____	_____	_____
Pen-Raised Coho	_____	_____	_____
Pen-Raised Chinook	_____	_____	_____

5. Please indicate the importance of the following factors in your decision not to handle pen-raised Atlantic salmon:

	<u>Very Important</u>	<u>Somewhat Important</u>	<u>Not Important</u>
Don't handle salmon	_____	_____	_____
No demand	_____	_____	_____
Prefer Pacific salmon	_____	_____	_____
Not available	_____	_____	_____
Price is too high	_____	_____	_____
Bad reputation of farmed salmon	_____	_____	_____
Handle only frozen salmon	_____	_____	_____
Disadvantages of farmed salmon:			
Color	_____	_____	_____
Shelf life	_____	_____	_____
Consistent quality	_____	_____	_____
Supplies not consistent in:			
Desired quantities	_____	_____	_____
Desired times	_____	_____	_____
Prefer to buy a U.S. product	_____	_____	_____
Pressure from fishing groups not to handle farmed salmon	_____	_____	_____
Other (please specify):	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6. Please place a check by the range of values in which your firm's total sales belong:

_____ less than \$5 million	_____ \$5 to 10 million
_____ \$10 to 15 million	_____ \$15 to 20 million
_____ \$20 to 25 million	_____ greater than \$25 million

7. Is there a good chance that your firm will handle one of the following farmed salmon types in the next three years?

	<u>No</u>	<u>Yes</u>
Domestic farmed Atlantic	_____	_____
Foreign farmed Atlantic	_____	_____
Domestic farmed Pacific	_____	_____
Foreign farmed Pacific	_____	_____

8. How long has your manager been involved in the seafood business? _____ years.
 How long has your firm been involved in the seafood business? _____ years.

9. Is your firm involved in the fishing or processing of wild Pacific salmon?
 _____ yes _____ no

10. Please indicate which species has the advantage in the following areas:

	<u>Farmed Atlantic</u>	<u>Wild Chinook</u>	<u>No Difference</u>
Competitive price	_____	_____	_____
Consistent supply	_____	_____	_____
Consistent quality	_____	_____	_____
Shelf life	_____	_____	_____
Taste	_____	_____	_____
Color	_____	_____	_____
Texture	_____	_____	_____
Appearance	_____	_____	_____
Delivery time	_____	_____	_____
Minimum order size	_____	_____	_____
Other (please specify):	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

11. Please indicate which species has the advantage in the following areas:

	<u>Farmed Atlantic</u>	<u>Wild Coho</u>	<u>No Difference</u>
Competitive price	_____	_____	_____
Consistent supply	_____	_____	_____
Consistent quality	_____	_____	_____
Shelf life	_____	_____	_____
Taste	_____	_____	_____
Color	_____	_____	_____
Texture	_____	_____	_____
Appearance	_____	_____	_____
Delivery time	_____	_____	_____
Minimum order size	_____	_____	_____
Other (please specify):	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

12. Please indicate which species has the advantage in the following areas:

	<u>Farmed Atlantic</u>	<u>Wild Sockeye</u>	<u>No Difference</u>
Competitive price	_____	_____	_____
Consistent supply	_____	_____	_____
Consistent quality	_____	_____	_____
Shelf life	_____	_____	_____
Taste	_____	_____	_____
Color	_____	_____	_____
Texture	_____	_____	_____
Appearance	_____	_____	_____
Delivery time	_____	_____	_____
Minimum order size	_____	_____	_____
Other (please specify):	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

