

Efforts to introduce more diverse cooking methods, through recipes or other means, might aid in raising the level of fish and shellfish consumption in the South and North Central areas.

In indicating their preference for wrapping materials, more householders liked cellophane because they can see the product. For many people of course, a cello wrapped product is the only type available.

Information was also obtained with respect to the purchase of frozen fish or shellfish by mail order. There is a relatively small business of this type, conducted predominantly in the North Central Region of the United States. From the replies to the questionnaire, it is evident that this type of business operates satisfactorily in that area. However, there was no evidence of any great desire for the extension of it to other areas of the country.

These results are the major ones of interest to Southern producers and distributors which have been obtained in analysis to date. The returns will be subjected to further analysis, particularly with respect to differences in preferences between the rural and urban households and households with different levels of income. Additional detailed information is also expected to be obtained with respect to packaging.

What Determines Fish Prices?: An Approach to the Problem

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There are many factors which influence the prices of foods. While numerous studies of such factors as they relate to prices of agricultural commodities have been made, scientific approach to these economic phenomena as they pertain to fishery products is largely a virgin field¹. This paper presents the results of preliminary studies of the effects of certain economic factors on prices of certain fishery products.

In considering this subject investigation was made of the inter-relationship of the volume of landings of ocean perch (rosefish) at Gloucester, Massachusetts, and the prices received by the fishermen at that port. A tabulation was made of the landings and corresponding prices received by fishermen at the ex-vessel level for each day during the 1948 calendar year (Table 1). An examination of these figures indicates that there is no significant correlation between the daily landings and the prices received by fishermen. It might be expected that changes in the volume of daily landings would be reflected in some lead or lag in price changes, but no evidence of such a pattern is discernible. There is similarly a lack of evidence of any correlation between the total landings and prices of ocean perch in 1948 during one week of each month (Table 2).

¹ Of previous studies in this field may be mentioned Eunice M. Werner, "A Comparison of Controlled and Uncontrolled Fish Prices in New York City", *Fisheries Market News*, Vol. 6 No. 10; William C. Herrington, "Imported Fish: A Major New England Problem", *Commercial Fisheries Review*, Vol. 8, No. 2; and Harden F. Taylor, "Survey of Marine Fisheries of North Carolina", The University of North Carolina Press, 1951.

TABLE I
INTERRELATION OF LANDINGS AND EX-VESSEL PRICES OF OCEAN
PERCH (ROSEFISH) IN GLOUCESTER, 1948

Date 1948	Landings Thousands of Pounds	Prices ex- Vessel-in \$ per cwt.	Date 1948	Landings Thousands of Pounds	Prices ex- Vessel-in \$ per cwt.
January			18	233	5.00-5.25
8	13	6.00	19	786	4.50-4.75
9	326	5.50-6.50	22	1,135	4.25-4.90
12	440	6.25-7.75	23	426	4.60-4.75
13	44	6.00-7.35	24	730	4.25-4.55
14	126	7.05-7.10	25	366.5	4.00-4.25
15	32	6.90-8.00	26	565	4.00-4.20
16			29	1,297	3.75-4.05
19	470	6.25-6.80	30	1,062	3.75-4.05
20	333	6.25-7.00	31	694	3.75-4.05
21	507	6.25-6.90	April		
22	4	8.00	1	286	3.75-5.15
23			2	570	4.00-4.25
26	403	6.25-7.25	5	497	4.00-4.55
27	340	6.50-6.65	6	569	4.00-4.30
28	55	6.75	7	740	4.00-4.30
29	60	6.80	9	710	4.00-4.40
30	135	6.50	12	192	4.00-4.30
February			13	585	4.00-4.25
2	435	6.25-6.65	14	211	4.35-4.50
3	180	6.25	15	1,544	3.75-4.25
4	416	6.25-6.45	16	1,020	3.75-4.25
5	213	6.50-7.00	19	1,643	3.75
6	391	6.00-6.25	20	1,153	3.75-4.05
9	595	6.05-6.70	21	569	3.75-3.90
10	512	6.25-6.35	22	370	3.75-4.20
11	707	5.75-5.80	23	412	3.95-4.10
12	210	5.75	26	587	4.10-4.30
16	90	5.55	27	1,504	3.85-4.25
17	420	5.50-6.00	28	328	3.75-4.80
18	491	5.50	29	275	4.10
19	32	6.05-6.15	30	730	4.00-4.30
20	532	5.10-5.50	May		
24	963	5.00-6.00	3	1,507	3.75-4.15
25	78	5.30-5.50	4	1,343	3.75-3.85
26	160	5.25	5	1,807	3.75
27	652	5.00-5.30	6	1,157	3.75-4.05
March			7	1,102	3.75
1	1,250	4.50	10	845	3.75-4.15
2	530	4.75-5.05	11	550	3.75-4.20
3	20	5.00	12	513	3.75-4.30
5	637	4.50-5.15	13	1,284	3.75-3.90
8	598	4.50-5.40	14	1,840	3.75
9	54	5.30	17	2,249	3.50-3.75
10	207	5.00-5.50	18	1,175	3.75
11	390	5.00-5.30	19	560	3.75-3.80
12	420	5.00-5.10	20	1,277	3.75-4.15
15	1,055	5.00-5.25	21	712	3.80-4.20
16	353	5.00	24	1,704	3.75
17	245	5.00-5.30	25	1,242	3.75-3.95

Date 1948	Landings Thousands of Pounds	Prices ex- Vessel-in \$ per cwt.	Date 1948	Landings Thousands of Pounds	Prices ex- Vessel-in \$ per cwt.
26	920	3.75	27	1,403	4.50-5.10
27	1,877	3.75	30	1,735	4.25-4.90
28	2,122	3.50-3.75	31	970	4.75-5.65
June			September		
1	1,941	3.00-3.25	1	1,090	4.75-5.70
2	1,600	3.25-3.50	2	222	5.50-5.85
3	1,125	3.25	3	518	5.45-5.70
4	1,733	3.00	7	734	5.50-6.10
7	1,825	3.00	8	984	5.25-5.70
8	270	3.30-3.45	9	705	5.00-5.70
9	2,217	3.00-3.25	10	2,153	4.25-4.75
10	2,408	3.00	13	2,530	4.25-4.50
11	851	3.00	14	827	4.75-5.00
14	938	3.25-3.45	15	515	5.25-5.55
16	25	16	840	5.60-5.75
July			17	326	5.55-5.85
7	23	3.75	20	979	5.50-6.00
8	432	3.75-4.10	21	996	5.25-5.90
9	753	3.50-3.75	22	875	5.25-5.50
12	1,356	3.25-3.50	23	495	5.25-5.50
13	450	3.25-3.50	24	1,214	5.00-5.25
14	1,507	3.00-3.75	27	1,038	5.00-5.50
15	1,150	3.25	28	570	5.25-5.40
16	1,415	3.25	29	420	5.50-5.55
19	2,177	3.00	30	868	5.25-5.75
20	1,125	3.25-3.40	October		
21	662	3.25-3.70	1	1,182	4.90-5.30
22	365	3.50-3.90	4	1,887	4.75-5.15
23	883	3.50-4.20	5	811	5.00-5.35
26	1,866	3.25-3.50	6	687	5.00-5.50
27	860	3.50-3.70	7	517	5.00-5.50
28	788	3.50-4.05	8	1,215	4.50-5.05
29	1,169	3.50-4.00	11	808	4.65-5.00
30	1,156	3.50-4.40	13	926	4.75-5.05
August			14	205	5.00-5.20
2	1,885	3.25-3.65	15	1,043	4.50-5.00
3	1,538	3.25-4.00	18	1,392	4.75-5.35
4	840	3.30-3.35	19	994	4.50-5.25
5	814	3.40	20	700	4.50-5.00
6	1,343	3.00-3.50	21	1,393	4.75-5.00
9	890	3.50-4.00	22	1,419	4.50-.....
10	662	4.00-4.30	25	1,903	4.00-4.50
11	998	3.75-4.15	26	815	4.00-4.50
12	680	4.00-4.50	27	1,095	4.50-4.65
13	1,139	3.85-4.55	28	745	4.00-4.80
16	2,180	3.50-4.00	29	597	4.50-4.65
17	889	3.75-4.35	November		
18	690	4.25-4.65	1	271	4.00-4.80
19	670	4.55-4.90	2	420	4.50-5.00
20	465	4.50-4.75	3	617	4.50-4.60
23	1,402	4.25-4.95	4	725	4.50-4.80
24	1,114	4.25-4.95	5	527	4.50-4.90
25	1,323	4.25-4.80	8	2,419	4.00-4.25
26	935	4.50-4.95	9	715	4.00-4.05

Date 1948	Landings Thousands of Pounds	Prices ex- Vessel-in \$ per cwt.	Date 1948	Landings Thousands of Pounds	Prices ex- Vessel-in \$ per cwt.
10	1,122	4.00	6	840	4.25-5.50
12	890	4.00-4.30	7	1,221	4.25-4.50
15	711	4.00-4.15	8	440	4.25-4.40
16	395	4.00-4.10	9	429	4.25-4.66
17	530	4.00-4.30	10	333	4.25
18	183	4.45-5.05	13	712	4.00-4.75
19	396	4.25	14	730	4.00-4.10
22	847	4.00-4.30	15	465	4.25-4.50
23	1,167	3.75-4.00	16	183	4.00-4.50
24	1,265	4.00	17	515	4.00-4.35
26	1,185	4.00	20	1,121	4.25-5.55
29	880	4.00-4.10	21	597	4.25-4.60
30	325	4.00-4.50	22	218	3.20-4.30
December			23	9	5.00
2	315	4.15-4.50	24	177	4.00-4.25
3	190	4.00-4.55			

In order to minimize the fluctuations due solely to the changes of daily catch and prices, the data were then grouped to show landings and prices on Mondays throughout 1948, and averages of landings and prices on Mondays were computed for each month (Table 3). Data for Mondays were chosen for this study since the landings on other days were quite often so divergent as to preclude any correlation. By using the Monday landings and prices, averaged by months, a correlation pattern began to appear. A tabulation follows, based on the data in Table 3A, showing the relationship of these landings to prices, with the ranks in ascending order according to volume, and descending order according to price.

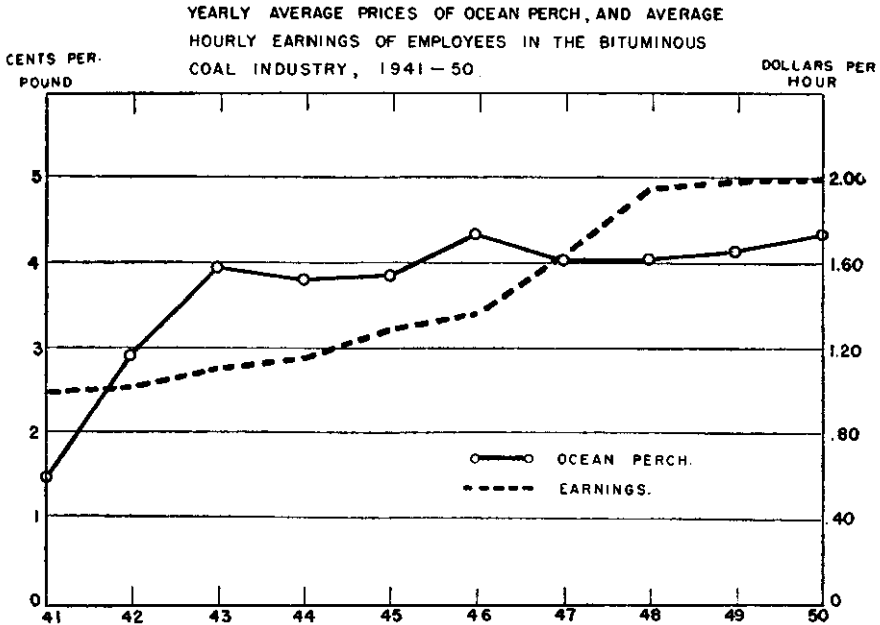
From the foregoing data it may be seen that there is, generally speaking, some relationship between averages of Monday landings and prices of ocean perch. Within certain limits, the catch goes up as the price goes down, and vice versa. In other words, there is a tendency for volume of catch and the price of the catch to vary inversely. However, a definite and reliable correlation is not indicated.

Obviously, there are factors other than volume of catch which influence the price of ocean perch at various times, as exemplified in the case of the catch and prices at Gloucester, Massachusetts. Certainly, volume of catch alone is not the sole determinant of the prices paid. This is evidenced by the fact that the catch of ocean perch dropped from 178,152,000 pounds in 1946 to 146,587,000 pounds in 1947 (17.7%), while the price decreased from \$4.35 to \$4.04 per cwt., instead of increasing, as would be expected if it were assumed that volume was the sole factor affecting price. On the other hand, the volume of catch rose from 146,587,000 pounds in 1947 to 238,096,000 pounds in 1948 (62.4%) (see Table 7), but instead of the expected decrease in prices, prices actually increased, although only from \$4.04 to \$4.05 per cwt. (see Table 4). However, when these price data are adjusted to take out the effects of inflation, there is a decrease from \$0.025 for 1947 to \$0.024 for

TABLE 2
INTERRELATION OF LANDINGS OF OCEAN PERCH (ROSEFISH)
IN GLOUCESTER AND THE PRICES IN GLOUCESTER
(ONE WEEK EACH MONTH—1948)

1948 Week beginning	Catch—000 lbs.	Prices ex-vessel \$ per cwt.	Ratios
January 26			
Total	993		
Average (per day)	199	6.67	3.35
February 2			
Total	1,635		
Average	327	6.38	1.95
March 8			
Total	1,669		
Average	334	5.14	1.54
April 26			
Total	3,424		
Average	685	4.15	.61
May 10			
Total	5,032		
Average	1,006	3.90	.39
June 7			
Total	7,571		
Average	1,514	3.10	.20
July 12			
Total	5,878		
Average	1,176	3.32	.28
August 2			
Total	6,420		
Average	1,284	3.41	.27
September 13			
Total	5,038		
Average	1,008	5.21	.52
October 18			
Total	5,898		
Average	1,180	4.81	.41
November 1			
Total	2,560		
Average	512	4.61	.90
December 6			
Total	3,263		
Average	651	4.45	.68
Year			
Average	823	4.60	.56

FIGURE 1



1948. Thus, while the data on monthly averages of Monday landings and prices reveal some inverse relationship between landings and prices, this correlation generally is not highly significant.

At this point, it was considered that some light might be thrown on the subject by selecting a species of fish in which the volume of catch has remained fairly constant from year to year, and noting the price reactions for each year. Oysters were selected for this purpose, since during the 7-year period from 1942-1948, the volume of the catch ranged only from 73,139,000 pounds to 80,038,000 pounds (Table 5). The range from low to high production in this period amounted to only 6,899,000 pounds, or less than 10 per cent, and, of course, the variation from year to year was even less than 10 per cent. Accordingly, if the assumption is valid that prices go up when volume goes down and vice-versa, it would be expected that little, if any, change in oyster prices would be seen. At least the conclusion that only about a 10 per cent fluctuation would have occurred in prices during the period seems justified. However, the data show practically a continuous rise in oyster prices, going from an average price of 15.7 cents per pound in 1942 to 36.5 cents in 1948. This represents an increase of 132 per cent in the price of oysters from 1942 to 1948, while the volume of production remained relatively stable.

On the basis of these figures, it is again obvious that factors other than volume of catch play an important part in determining the price of fish. As an approach to the solution, consideration was given to the varying supplies of money which consumers had available from wage payments or other sources, as expressed in the national per-capita income. As an example, suppose that the fishermen caught a normal volume of fish during a certain year, but some-

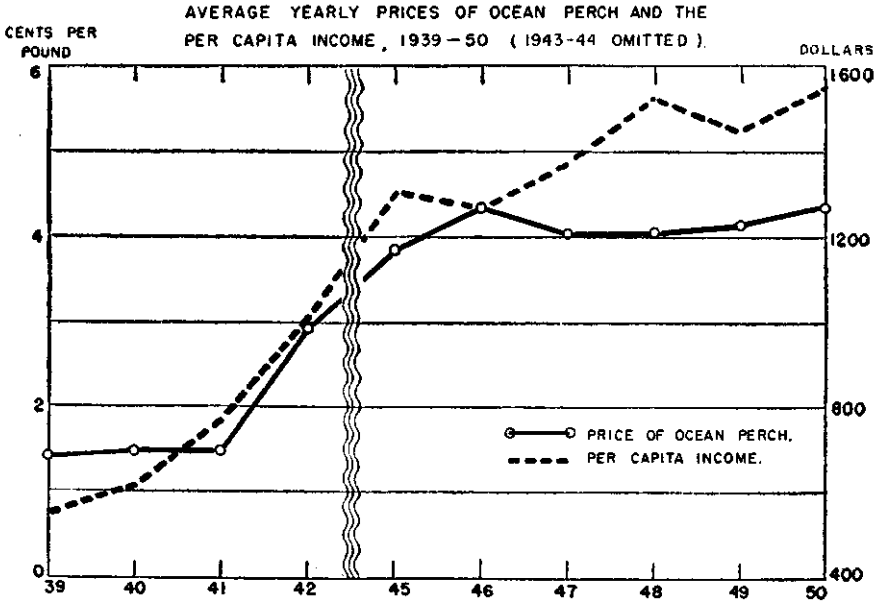
TABLE 3

INTERRELATION OF LANDINGS AND EX-VESSEL PRICES OF OCEAN PERCH (ROSEFISH) ON MONDAYS¹, AT GLOUCESTER, 1948

Date	Landings	Prices	Rank ¹		Date	Landings	Prices	Rank ¹	
	Thousands of pounds	Dollars per cwt.	Landings	Prices		Thousands of pounds	Dollars per cwt.	Landings	Prices
January					July				
12	440	7.00			12	1,356	3.38		
19	470	6.52			19	2,177	3.00		
26	403	6.75			26	1,866	3.37		
Avg.	438	6.92	1	1	Avg.	1,800	3.25	12	11
February					August				
2	435	6.45			2	1,885	3.45		
9	595	6.38			9	890	3.75		
16	495	5.52			16	2,180	3.75		
23	963	5.75			23	1,402	4.60		
Avg.	622	6.02	2	2	30	1,735	4.58		
March					Avg.	1,618	4.03	11	9
1	1,259	4.50			Sept.				
8	598	4.95			7	734	5.80		
15	1,055	5.12			13	2,530	4.38		
22	1,135	4.57			20	979	5.75		
29	1,297	3.90			27	1,038	5.25		
Avg.	1,067	4.61	6	6	Avg.	1,320	5.30	7	3
April					October				
5	497	4.40			4	1,887	4.95		
12	192	4.15			11	808	4.83		
19	1,643	3.75			18	1,392	5.05		
26	587	4.20			25	1,903	4.25		
Avg.	730	4.12	3	8	Avg.	1,498	4.77	8	4
May					November				
3	1,507	3.95			1	271	4.40		
10	845	3.95			8	2,419	4.12		
17	2,249	3.68			15	711	4.08		
24	1,704	3.75			22	847	4.15		
Avg.	1,576	3.83	10	10	29	880	4.05		
June					Avg.	1,026	4.16	5	7
1	1,941	3.12			December				
7	1,825	3.00			6	840	4.87		
14	938	3.60			13	712	4.38		
Avg.	1,568	3.24	9	12	20	1,121	4.90		
					Avg.	891	4.72	4	5
					Grand				
					Tot.	55,627	214.55		
					Grand				
					Avg.	1,184	4.56	6.7	6.7

¹ Landings in order of ascending rank and prices in order of descending rank.
 * Note: Where Mondays fall on holidays, data for the following day are used.

FIGURE 2



thing occurred which appreciably reduced the consumers' supply of money. Theoretically, a drop in fish prices would result. The extent of the drop probably would depend upon the available supply of less expensive substitutes for fish. Similarly, when the consumers' supply of money increased, even with a large volume of fish catch, there would be a tendency for fishermen to realize higher prices for their catch. To appraise this theoretical assumption, the interrelationship between the price of ocean perch and the average hourly earnings of employees in the bituminous coal industry was studied for the period 1941 to 1950, inclusive (Table 6) (Figure 1). While there was an upward trend in both of sets of data, the coefficient of correlation is only .54, which is not significant.

Next, a correlation was made of the price of ocean perch and the national per capita income (adjusted for inflation) by dividing the price of ocean perch by the consumers' price index for the period 1941 to 1950 (Table 4). The data resulted in a coefficient of correlation of .47, which again is not significant. When the unadjusted data on per capita income and the price of ocean perch for the years 1941 to 1950 inclusive were studied, the coefficient of correlation was .90, which is a high degree of correlation (Table 7). An even more significant correlation of .965 resulted when the years 1943 and 1944 were dropped and 1939 and 1940 substituted (Table 8 and Figure 2). In 1943 and 1944 price controls were in effect on ocean perch, and, therefore, some distortion of the figures was likely, due to the failure of ocean perch prices to rise to the same extent as probably would have occurred in a free market.

In a similar study of the behavior of oyster prices in relation to per capita income, a correlation coefficient of .85 was computed for the period 1941-1948, inclusive (Table 5 and Figure 3) and .87 for the period 1939-1948 inclusive (Table 9). These correlation coefficients also are highly significant.

TABLE 3A

Average Monday landings by months Ascending order		Average Monday prices by months Descending order	Deviations of rank of prices from rank of landings
Rank	1000s of pounds		
1	438	1	0
2	622	2	0
3	730	8	+5
4	891	5	+1
5	1026	7	+2
6	1067	6	0
7	1320	3	-4
8	1498	4	-4
9	1568	12	+3
10	1576	10	0
11	1618	9	-2
12	1800	11	-1
Average	1184	\$4.56	

The data were rearranged to show the rank of prices in exact order:

Average Monday prices by months Ascending order		Average Monday landings by months Descending order	Deviations of rank of prices from rank of landings
Rank	Price per cwt.		
1	\$6.92	1	0
2	6.02	2	0
3	5.30	7	+4
4	4.77	8	+4
5	4.72	4	-1
6	4.61	6	0
7	4.16	5	-2
8	4.12	3	-5
9	4.03	11	+2
10	3.83	10	0
11	3.25	12	+1
12	3.24	9	-3
Average	4.56	1184 (lbs.)	

Next, cod and haddock were studied. A correlation was made between haddock prices for the years 1939 to 1950 (omitting 1943, 1944 and 1945), deflated by the wholesale food price index and the disposable personal income, deflated by the consumers' price index. This correlation results in a coefficient of correlation of .52, which indicates some relationship but which is not high enough to be significant (Table 10, D). Another correlation was made between cod prices for the years 1939 to 1950 (omitting 1943, 1944 and 1945) and the disposable personal income, both deflated by the consumers' price index. The result of the correlation with respect to cod is .84 (Table 10, C). However, it was ascertained that a highly significant correlation resulted when both cod and haddock prices were correlated with disposable personal income, both unadjusted, for the same period, 1939 to 1950, omitting

the years from 1943 to 1945, inclusive, since price controls were in effect during 1943 and 1944, and part of 1945. A correlation coefficient of .96 was obtained for both cod and haddock (Table 10, A and B). These high correlations showed that cod and haddock prices varied significantly with the amounts of disposable personal income available to the public in the years studied.

FIGURE 3

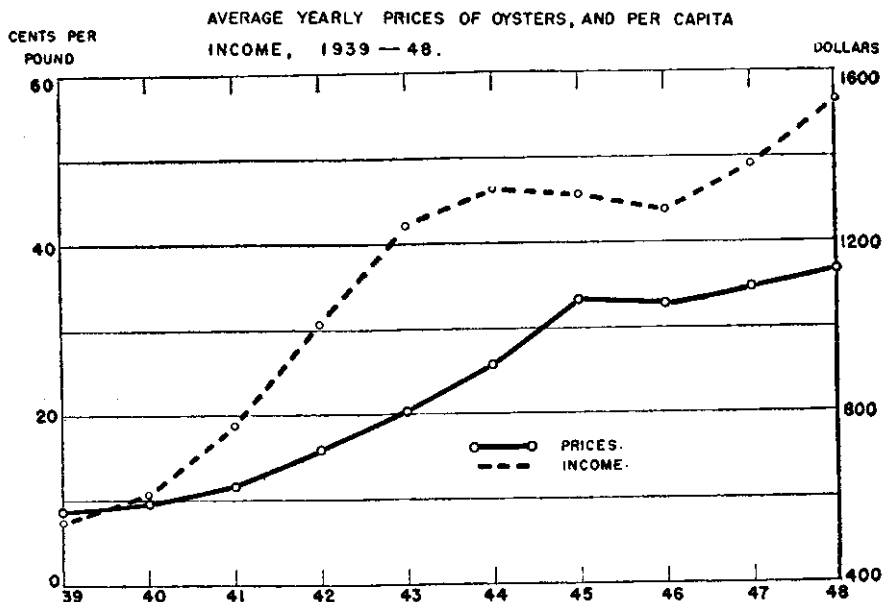


TABLE 4

INTERRELATION OF EX-VESSEL PRICES OF OCEAN PERCH (ROSEFISH)
AND NATIONAL PER CAPITA INCOME, 1941-1950, PRICES
FACTUAL AND ADJUSTED FOR INFLATION

Year	National Per Capita Income	Average Price of Ocean Perch (Per cwt.)	Consumers Price Index All Items (1935-39 = 100)	Average Price of Ocean Perch (Divided by Consumers' Price Index) (Per cwt.)
1941	\$ 779	\$1.49	105.2	\$0.014
1942	1,018	2.93	116.5	.025
1943	1,243	3.97	123.6	.032
1944	1,331	3.81	125.5	.030
1945	1,309	3.84	128.4	.030
1946	1,277	4.35	139.3	.031
1947	1,380	4.04	159.2	.025
1948	1,525	4.05	171.2	.024
1949	1,453	4.14	169.1	.024
1950	1,556	4.35	170.6	.025

TABLE 5
INTERRELATION OF PRICES OF OYSTERS AND NATIONAL PER CAPITA INCOME
1941-1948

Year	National Income (Billions)	Population (Thousands)	National Per Capita Income	Oysters		
				Catch (Thous. of lbs.)	Value (Thous. of \$)	Average Price per lb.
1941	\$103.8	133,203	\$ 779	88,956	\$10,108	\$.114
1942	137.1	134,665	1,018	75,414	11,805	.157
1943	169.7	136,497	1,243	73,139	14,751	.202
1944	183.8	138,083	1,331	74,656	19,288	.258
1945	182.7	139,586	1,309	75,655	25,147	.332
1946	180.3	141,235	1,277	80,038	26,080	.326
1947	198.7	144,024	1,380	79,895	27,568	.345
1948	223.5	146,571	1,525	78,369	28,619	.365

TABLE 6
INTERRELATION OF EX-VESSEL—PRICES OF OCEAN PERCH (ROSEFISH) AND
AVERAGE HOURLY EARNINGS IN THE BITUMINOUS COAL INDUSTRY 1941-1950

Year	Hourly Wages	Price Cwt. Ocean Perch
1941	\$.993	\$1.49
1942	1.059	2.93
1943	1.139	3.97
1944	1.186	3.81
1945	1.240	3.84
1946	1.401	4.35
1947	1.636	4.04
1948	1.898	4.05
1949	1.941	4.14
1950	2.000	4.35

TABLE 7
INTERRELATION OF EX-VESSEL PRICES OF OCEAN PERCH (ROSEFISH)
AND NATIONAL PER CAPITA INCOME, 1941-1950

Year	National Income (Billions)	Population (Thousands)	National Per Capita Income	Perch		
				Catch (Thous. of lbs.)	Value (Thous. of \$)	Average Price per cwt.
1941	\$103.8	133,203	\$ 779	85,206	\$ 1,272	\$1.49
1942	137.1	134,665	1,018	128,107	3,755	2.93
1943	169.7	136,497	1,243	114,744	4,557	3.97
1944	183.8	138,083	1,331	120,216	4,582	3.81
1945	182.7	139,586	1,309	131,834	5,066	3.84
1946	180.3	141,235	1,277	178,152	7,749	4.35
1947	198.7	144,024	1,380	146,587	5,925	4.04
1948	223.5	146,571	1,525	238,096	9,647	4.05
1949	216.8	149,215	1,453	237,000	9,819	4.14
1950	236.2	151,772	1,556	208,000	9,047	4.35

TABLE 8
INTERRELATION OF EX-VESSEL PRICES OF OCEAN PERCH (ROSEFISH) AND
NATIONAL PER CAPITA INCOME, CERTAIN YEARS, 1939-1950

Year	National Per Capita Income	Average Price of Ocean Perch Per Cwt.
1939	\$ 554.00	\$1.41
1940	616.00	1.49
1941	779.00	1.49
1942	1,018.00	2.93
1945	1,309.00	3.84
1946	1,277.00	4.35
1947	1,380.00	4.04
1948	1,525.00	4.05
1949	1,453.00	4.14
1950	1,556.00	4.35

TABLE 9
INTERRELATION OF PRICES OF OYSTERS AND NATIONAL PER CAPITA
INCOME, 1939-1948

Year	National Per Capita Income	Average Price of Oysters Per Pound
1939	\$ 554.00	\$.088
1940	616.00	.095
1941	779.00	.114
1942	1,018.00	.157
1943	1,243.00	.202
1944	1,331.00	.258
1945	1,309.00	.332
1946	1,277.00	.326
1947	1,380.00	.345
1948	1,525.00	.365

TABLE 10
INTERRELATION OF EX-VESSEL PRICES OF CODFISH AND HADDOCK AND
DISPOSABLE PERSONAL INCOME, 1939-1950

A		
Year	Codfish Price Per Pound (Cents)	Disposable Personal Income (Billion Dollars)
1939	2.2	70
1940	2.9	76
1941	3.0	92
1942	5.2	117
1946	6.5	159
1947	5.7	169
1948	6.3	188
1949	6.6	187
1950	6.9	200
Average —	5.0	139.8

Year	B	
	Haddock Price Per Pound (Cents)	Disposable Personal Income (Billion Dollars)
1939	2.5	70
1940	3.3	76
1941	3.3	92
1942	6.0	117
1946	8.4	159
1947	6.9	169
1948	8.0	188
1949	7.8	187
1950	8.5	200
Average —	6.1	139.8

Year	C	
	Codfish Prices Deflated By Consumers' Price Index (Cents)	Disposable Personal Income Deflated by Consumers' Price Index (Billion Dollars)
1939	2.2	70
1940	2.9	76
1941	2.8	87
1942	4.5	100
1946	4.7	114
1947	3.6	106
1948	3.7	110
1949	3.9	111
1950	4.0	117
Average —	3.6	99

Year	D	
	Haddock Prices Deflated By Wholesale Food Index (Cents)	Disposal Personal Income Deflated by Consumers' Price Index (Billion Dollars)
1939	2.3	70
1940	3.0	76
1941	2.8	87
1942	4.2	100
1946	4.1	114
1947	2.9	106
1948	3.0	110
1949	3.3	111
1950	3.4	117
Average —	3.2	99

In summary, these preliminary studies showed that, for the commodities and periods reviewed:

There was little or no correlation between

- (1) Daily landings and prices of ocean perch at Gloucester, Massachusetts, during 1948.
- (2) Weekly landings and prices of ocean perch at Gloucester, Massachusetts, during 1948.
- (3) Annual domestic production and prices of oysters during the years 1942-1948, inclusive.

There was limited correlation between

- (1) Monday landings and prices of ocean perch (averaged by months) at Gloucester, Massachusetts, during 1948.
- (2) Average annual prices of ocean perch at Gloucester, Massachusetts, and average hourly earnings in the bituminous coal industry for the years 1941-1950 inclusive.
- (3) Average annual prices of ocean perch at Gloucester, Massachusetts, and national per-capita income (adjusted for inflation) for the years 1941-1950 inclusive.
- (4) Average annual prices of haddock (deflated by the wholesale food price index) and the disposable personal income (deflated by the consumers' price index) for the years 1939-1950, omitting 1943, 1944 and 1945.

There was a high degree of correlation between

- (1) Average annual prices of ocean perch at Gloucester, Massachusetts, and the unadjusted national per capita income for the years 1941-1950, inclusive; and for the years 1939-1950, omitting 1943 and 1944.
- (2) Average annual prices of oysters and unadjusted national per capita income for the years 1941-1948, inclusive; and 1939-1948, inclusive.
- (3) Average annual prices of cod and the disposable personal income (both deflated by the consumers' price index) for the years 1939-1943, inclusive; and 1946-1950, inclusive.
- (4) Average annual price of cod and disposable personal income (both unadjusted) for the years 1939-1950, omitting 1943, 1944, and 1945.
- (5) Average annual prices of haddock and disposable personal income (both unadjusted) for the years 1939-1950, omitting 1943, 1944, and 1945.