

TRENDS AND DEVELOPMENTS

Federal Purchases of Fishery Products

FRESH AND FROZEN FISH PURCHASES BY DEPARTMENT OF THE ARMY, DECEMBER 1951: A total of 2,225,362 pounds (valued at \$1,160,779) of fresh and frozen fishery products were purchased by the Army Quartermaster Corps during December 1951 for the military feeding of the U. S. Army, Navy, Marine Corps, and Air Force (see table). In spite of the Christmas holidays, these fresh and frozen fish purchases were higher than in November by 25.5 percent in quantity and 19.5 percent in value. Compared with December 1950, the month's purchases were higher by 62.8 percent in quantity and 100.7 percent in value.

Purchases of Fresh and Frozen Fishery Products by Department of the Army
(December and 12 Months 1950-51)

Q U A N T I T Y				V A L U E			
December		January-December		December		January-December	
1951	1950	1951	1950	1951	1950	1951	1950
lbs.	lbs.	lbs.	lbs.	\$	\$	\$	\$
2,225,362	1,367,195	31,843,701	17,883,546	1,160,779	578,321	13,771,350	7,399,162

Purchases for the entire year 1951 totaled 31,843,701 pounds (valued at \$13,771,350)—78.1 percent higher in quantity and 86.1 percent higher in value than the 17,883,546 pounds (valued at \$7,399,162) reported in 1950. The 1949 purchases amounted to 17,473,642 pounds (valued at \$5,862,011), and the 1948 purchases 14,058,349 pounds (valued at \$4,327,431).



Food Product Specialist Examination

The Civil Service Commission on January 28 announced unassembled competitive examinations for the position of Food Product Specialist, grades GS-7 through GS-14. Entrance salaries range from \$4,205 to \$9,600 per year. No closing date has been specified.

The Chicago Quartermaster Depot, U. S. Army, requires Food Product Specialists for work in the fields of food research and development. Fish products is one of the many optional fields listed. These specialists will conduct, plan, or direct developmental investigations on foods suitable for the Armed Forces, on laboratory, pilot plant, or plant scale.

Applicants must have successfully completed a full four-year course in an accredited college or university (or in a non-accredited institution as described in the announcement), leading to a bachelor's degree in chemistry, chemical engineering, biochemistry, microbiology, physics, or food technology; or at least four years of successful and progressive technical scientific experience of such a nature as to insure successful performance at the professional level.

The following are types of experience which will be accepted in combination with education to complete the four-year requirement: (1) subprofessional and subsequent higher grade laboratory work, production, or manufacturing involving technical duties, and similar types of work which provide a means of obtaining a working knowledge of the theory and application of the scientific principles of food technology; (2) experience in patent examining or in abstracting, editing, or translating technical reports or scientific or technological literature; (3) research experience in fish products, including the analysis of data and the preparation of reports; and (4) technical work of professional grade.

To apply for this examination, file Form 57, College Transcript (or photostat, or a list of all college courses completed), Card Form 5001-ABC, and Form 15. The forms are obtainable from the Secretary, Board of U. S. Civil Service Examiners, at any first- or second-class post office; the Regional Director, Seventh U. S. Civil Service Region, New Post Office Building, Chicago 7, Illinois; or from the Board of U. S. Civil Service Examiners, Chicago Quartermaster Depot, 1819 West Pershing Road, Chicago 9, Illinois. Applications are to be sent to the Board of U. S. Civil Service Examiners, Chicago Quartermaster Depot, U. S. Army, 1819 West Pershing Road, Chicago 9, Illinois.



Gulf Fishery Investigations

SECOND PHASE OF OCEANOGRAPHIC STUDIES OF GULF OF MEXICO BEGUN BY M/V ALASKA (Cruise I-2): The initial cruise of the second coverage of the Gulf of Mexico to study currents, determine spawning areas of various fishes, and to resolve distribution pattern of fish larvae and juveniles was completed by the M/V Alaska on January 29, 1952. The sailing date was January 8 from Galveston, Texas. The vessel is operated by the Gulf Fishery Investigations under the Service's Branch of Fishery Biology, with the Department of Oceanography of Texas A. & M. College cooperating on physical oceanography. The investigations deal with the biological and oceanographic phases of the Gulf of Mexico's problems as a key to the productive potential of that body of water. The central, southeastern and mid-eastern Gulf of Mexico, including the Yucatan and Florida Straits, was the area covered on this cruise.

Stations were occupied, at depths ranging from 14 to 1,900 fathoms. Hydrographic casts and half-meter net plankton tows were made at each station. When conditions permitted, bottom samples were obtained from alternate stations. Extensive fouling of recording meters prevented the use of the continuous plankton sampler during most of the cruise.

Tows were made with a new high-speed plankton sampler while under way between stations. Tows were at an average depth of 25 feet during daylight hours and 10 feet at night. Samples thus obtained indicated plankton to be very sparsely distributed in the central Gulf. The presence of numerous post-larval and juvenile fishes in many of the samples gives every indication that the high-speed sampler will play an important role in future plankton collecting operations.

Trolling for pelagic fish with conventional feather and nylon jigs was carried out during daylight cruising. With the exception of seven large king mackerel (average weight 34 pounds, one being a 65-pound giant) taken in eight fathoms off the northeastern tip of Yucatan, and a like number of little tuna taken near Dry Tortugas, fish were conspicuously absent. Of note, however, was a 14 $\frac{1}{4}$ -inch specimen, tentatively identified as an Atlantic blackfin tuna, caught in the vicinity of Northern Shelves, Campeche Bank.

The presence of large numbers of Portuguese Men-of-War were observed throughout the cruise with great concentrations of this coelenterate in the southeastern and mid-eastern sections of the Gulf. Experienced Gulf fishermen aboard the Alaska stated that they had never seen such concentrations of the animal.

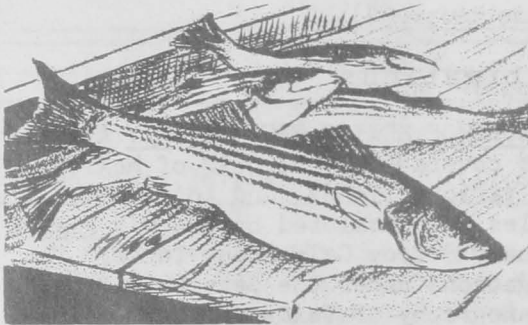
NOTE: ALSO SEE COMMERCIAL FISHERIES REVIEW, JUNE 1951, PP. 38-9.



Maryland Fisheries Production Increased from 1946 to 1950

"The Chesapeake Bay fisheries of Maryland appear to be in excellent condition judging from an analysis of the 1946-1950 catch records," a biologist of the Maryland Department of Research and Education at Solomons declared recently. "In fact, the total fisheries output for this period was 42.8 percent over the 1946 level."

A compilation of most recent available data on the State's fishery resources shows that prices for fish were relatively stable, ranging from 9.7 to 9.0 cents per pound for all species during the five-year period.



STRIPED BASS

only major species that failed to show stable or increased production was the gray sea trout. Catches of this species steadily dropped, resulting in a reduction of 84.4 percent.

"The outlook for the Atlantic Coast fisheries of Maryland is somewhat gloomy," stated the biologist. In contrast to the Bay landings, total production on the ocean side dropped from 6,343,675 pounds in 1946 and 7,016,307 pounds in 1947 to 4,193,283 pounds in 1950. This decline was due in some measure to marketing difficulties, but to a greater extent resulted from phenomenal decreases in certain individual species. Whiting, which reached a peak in 1947 of nearly 2,000,000 pounds, dropped to 6,700 pounds in the following year and made such a negligible contribution to the catch in 1949 and 1950 that no separate tabulation was made.

The biologist pointed out that most of the major fish species showed an upward trend in production. The total landings increased 4,929,929 pounds over the 1946 level. Two of the most commercially-important species demonstrated remarkable gains; striped bass or "rock" increased 94.6 percent over the 1946 level, while shad gained 101.2 percent. Alewives showed an increase of 69.5 percent, and white perch landings rose 74.3 percent. Although croakers suffered a slight recession, there was an overall increase of 3.5 percent above 1946. The



TAKING FISH FROM A POUND NET IN CHESAPEAKE BAY USING A DIP NET OPERATED BY THE POWER WINCH ABOARD VESSEL.

The production of gray sea trout from the coastal waters dropped half a million pounds during the five-year period covered by these statistics. Croaker landings dropped 300,000 pounds, and squirrel hake declined from nearly 370,000 pounds to less than 200 pounds. The declines in croakers and gray sea trout were reflected in both the trawl and pound-net catches. Since whiting and squirrel hake are more typically taken by trawls, the lower yields of these last two species resulted in a greater total reduction in the trawl fishery than in pound nets.



Wholesale and Retail Prices

WHOLESALE PRICES, DECEMBER 1951: Light supplies of fishery products in December 1951 (due to continued bad weather in many producing areas and curtailment of production during the Christmas holiday season) accounted for the higher prices which prevailed for these products during the month. Edible fishery products prices during that month rose 4.0 percent over November 1951 and 2.5 percent over December 1950. The edible fish and shellfish (fresh, frozen, and canned) wholesale index for December was 115.7 percent of the 1947 average (see table 1).

GROUP, SUBGROUP, AND ITEM SPECIFICATION	POINT OF PRICING UNIT	AVERAGE PRICES (\$)			INDEXES (1947 = 100)		
		Dec. 1951	Nov. 1951	Dec. 1950	Dec. 1951	Nov. 1951	Dec. 1950
ALL FISH AND SHELLFISH (Fresh, Frozen, and Canned)					115.7	111.2	112.9
<u>Fresh and Frozen Fishery Products:</u>					119.5	112.7	112.9
<u>Drawn, Dressed, or Whole Finfish:</u>					136.0	126.9	130.2
Haddock, large, offshore, drawn, fresh	Boston lb.	.17	.14	.14	172.5	145.3	142.4
Halibut, Western, 20/30 lbs., dressed, fresh or frozen	New York City "	.33	.33	.40	95.6	96.6	115.3
Salmon, king, lge. & med., dressed, fresh or frozen	" " "	.54	.54	.55	132.5	132.9	134.4
Whitefish, mostly Lake Superior, drawn (dressed), fresh	Chicago "	.45	.51	.51	130.6	145.9	146.0
Whitefish, mostly Lake Erie pound bet, round, fresh	New York City "	.56	.55	.61	126.6	123.5	137.9
Lake trout, domestic, mostly No. 1, drawn (dressed), fresh	Chicago "	.63	.57	.50	138.4	125.2	109.8
Yellow pike, mostly Michigan (Lakes Michigan & Huron), round, fresh ..	New York City "	.43	.49	.39	101.1	115.0	92.2
<u>Processed, Fresh (Fish and Shellfish):</u>					102.7	97.0	95.1
Filletts, haddock, small, skins on, 20-lb. tins	Boston lb.	.44	.39	.28	157.7	140.1	99.9
Shrimp, lge. (26-30 count), headless, fresh or frozen	New York City "	.51	.50	.55	74.1	72.0	79.7
Oysters, shucked, standards	Norfolk area gal.	5.53	5.19	4.88	136.2	127.7	120.0
<u>Processed, Frozen (Fish and Shellfish):</u>					104.4	102.6	97.4
Filletts: Flounder (yellowtail), skinless, 10-lb. bxs. ..	Boston lb.	.42	.42	.35	134.3	135.6	113.0
Haddock, small, 10-lb. cello-pack	" "	.31	.29	.22	138.9	130.1	100.7
Ocean perch (rosefish), 10-lb. cello-pack	Gloucester "	.26	.26	.26	130.0	130.0	131.9
Shrimp, lge. (26-30 count), 5-lb. bxs.	Chicago "	.51	.50	.53	73.2	72.3	75.9
<u>Canned Fishery Products:</u>					109.8	109.0	112.9
Salmon, pink, No. 1 tall (16 oz.), 48 cans per case	Seattle case	20.68	20.68	23.64	134.9	134.9	154.1
Tuna, light meat, solid pack, No. 2 tuna (7 oz.), 48 cans per case	Los Angeles "	13.00	13.00	14.75	84.6	84.6	96.0
Sardines (pilchards), California, tomato pack, No. 1 oval (15 oz.), 48 cans per case	" " "	8.59	7.20	6.25	96.0	80.5	69.9
Sardines, Maine, keyless oil, No. 2 drawn (3 1/2 oz.), 100 cans per case ..	New York City "	10.39	10.70	5.50	101.8	104.9	53.9

Haddock and other groundfish landings in December 1951 continued light. Fresh drawn large offshore haddock during the month jumped another 18.7 percent above the previous month and 21.1 percent above a year earlier. This increase was offset to a certain degree by lower prices for Western halibut and king salmon, both of which sold below November 1951 (by 1.0 and 0.3 percent, respectively)

and December 1950 (by 17.1 and 1.4 percent, respectively). Good supplies from Canada brought quotations for whitefish considerably below the previous year, while light supplies of lake trout and yellow pike accounted for price increases on these species. Drawn, dressed, or whole fin fish prices in December 1951 were 4.5 percent above the corresponding month in 1950 and 7.2 percent higher than in November 1951.

All processed fresh fish and shellfish items appearing in the index sold at prices considerably higher during December 1951 than the previous month. Compared with the same month in 1950, higher prices were reported for fresh haddock fillets (57.9 percent) and for shucked oysters (13.5 percent), while shrimp prices dropped 7.0 percent. Processed fresh fish and shellfish prices in general in December 1951 rose 8.0 percent above the same month a year earlier and 5.9 percent above the previous month.

The processed frozen fish and shellfish index for December 1951 rose 7.2 percent above the same month in 1950 and 1.8 percent above the previous month. From November to December, frozen flounder fillet prices dropped slightly and frozen ocean perch fillet prices remained unchanged but there was a substantial increase in frozen haddock fillet prices and a slight increase in frozen shrimp prices. As compared with the same month a year earlier, December 1951 prices declined 1.4 percent for ocean perch fillets and 3.6 percent for shrimp, but increased 18.8 percent for flounder fillets and 37.9 percent for haddock fillets.

Although the canned fishery products subgroup index continued to rise in December 1951 (0.7 percent above November 1951), it was entirely due to higher prices for canned California sardines. This season's California pack will be almost less than one-half of the 1950-51 pack of slightly over 5 million cases. Canned California sardine prices rose 19.3 percent from November to December 1951 and were 37.3 percent higher than in December 1950. During December 1951 some Maine packers reported sales of Maine sardines at prices somewhat below ceiling, which accounts for the drop of 3.0 percent for canned Maine sardines from November to December, but these prices are still 88.9 percent higher than in December 1950. Canned pink salmon and canned tuna prices did not change during December 1951, but compared with the same month in 1950 prices were lower by 12.5 percent for salmon and 11.9 percent for tuna. The canned fishery products index for December 1951 was 2.7 percent lower than for December 1950.

RETAIL PRICES, DECEMBER 1951: Slightly higher prices were paid by urban families of moderate income for all foods between mid-November and mid-December 1951, reports the Bureau of Labor Statistics of the Department of Labor. Although the adjusted retail price index for all fresh, frozen, and canned fish and shellfish in mid-December remained almost steady at 351.2 percent of the 1935-39 average, an increase in the fresh and frozen fish index was offset by a decline in the canned pink salmon index.



The retail index for all fish and shellfish in mid-December 1951 was 3.2 percent higher than during the same period a year earlier; for fresh and frozen fish 6.2 percent

higher. On the other hand, canned pink salmon in mid-December was 1.9 percent below the same month in 1950.

Table 2 - Adjusted Retail Price Indexes for Foods and Fishery Products, December 15, 1951, with Comparative Data

Item	Base	I N D E X E S		
		Dec. 15, 1951	Nov. 15, 1951	Dec. 15, 1950
All foods.....	1935-39 = 100	232.2	231.4	216.3
All fish and shellfish.... (fresh, frozen, and canned)	do	351.2	351.1	340.3
Fresh and frozen fish.....	1938-39 = 100	296.7	295.8	279.5
Canned salmon: pink.....	do	475.1	477.4	484.5



North Carolina and Mississippi School-Lunch Programs Use More Fish

Introduction: Nine million potential consumers of fishery products! That is a market the fishing industry cannot overlook. It is the approximate number of children eating lunches in school cafeterias in the United States.

How can the use of fish be increased in the lunchrooms of the nation's schools? One solution to the problem is the fish-cookery demonstrations conducted by the Branch of Commercial Fisheries of the U. S. Fish and Wildlife Service for school lunchroom managers. In the past three years the Branch's Educational and Market Development Section has conducted intensive demonstrational programs in a dozen states. As a result of these demonstrations more fish is being used in the schools.



FISH COOKERY DEMONSTRATION IN A NORTH CAROLINA SCHOOL, 1950.

North Carolina: The increase in the school's use of fish is determined by studies of their menus for comparative periods before and after the fish-cookery demonstrations. Such a survey has been completed in North Carolina. This survey was made to determine the results of 19 demonstrations presented there during the spring of 1950.^{1/}

The results of the demonstrations in North Carolina were found to be excellent. To provide data for the survey, 154 schools represented at demonstrations were selected at random. In these schools, an 80-percent increase was found in the frequency that fish appeared in their lunch menus. An even greater increase, 94 percent, was found in the amount of fish that they had used.^{2/} This bigger

^{1/} IN MAKING THE SURVEY, FEBRUARY 1950 WAS TAKEN AS A REPRESENTATIVE MONTH BEFORE THE DEMONSTRATIONS, AND FEBRUARY 1951 WAS USED AS A REPRESENTATIVE MONTH AFTER THE DEMONSTRATIONS.
^{2/} THE POUNDS OF FISH USED BY A SCHOOL FOR THE PERIOD BEFORE AND AFTER THE DEMONSTRATIONS WAS CALCULATED BY MULTIPLYING THE AVERAGE NUMBER OF LUNCHEONS SERVED DAILY BY THE STANDARD 2-OUNCE LUNCH PORTION AND THEN BY THE NUMBER OF TIMES FISH WAS SERVED. THE RESULTING FIGURE IN OUNCES WAS THEN CONVERTED INTO POUNDS FOR USE IN TABLE 1.

percentage increase on a poundage basis was caused by the greater use of fish in the larger schools of the State.

To eliminate the possibility that the use of fish would have increased in North Carolina schools without the demonstrations, a survey was also made of 51 schools whose school-lunch personnel were not represented at the demonstrations. In these schools, which were otherwise comparable to those represented at the demonstrations, only a small increase in fish use was found. This increase amounted to nine percent in the frequency that fish was used, and 12 percent in the pounds of fish used. Therefore the net value of the demonstrations in North Carolina was an increase in the school use of fish of 71 percent in the frequency and 82 percent on a poundage basis.

Table 1 summarizes the findings of the survey in North Carolina. It can be seen that before the demonstrations the average school served fish only once per month, but that after the demonstrations they served fish 1.8 times per month.

Table 1 - Results of North Carolina School-Lunch Program Fish-Cookery Demonstrations

	Times Fish Were Used Per Month Per School			Average Amounts of Fish Used Per Month Per School		
	Demonstration		Percentage Change	Demonstration		Percentage Change
	Before	After		Before	After	
	No.	No.	%	Lbs.	Lbs.	%
For Schools:						
Represented	1.0	1.8	+80	35.8	69.3	+94
Not represented	1.1	1.2	+9	29.5	33.1	+12
Net Gain by Represented Schools	0.1	0.6	+71	6.3	36.2	+82

The North Carolina schools surveyed were only a portion of the total schools represented at Service demonstrations in that State. Represented at the 19 demonstrations held during the spring of 1950 were 271 schools, feeding nearly 100,000 students. Ten demonstrations of fish cookery were also presented for North Carolina school-lunch managers in 1949.^{3/} Altogether the Service demonstrations in North Carolina have had representatives from nearly 500 schools. These schools, with an enrollment of nearly 300,000 children, have approximately 150,000 children eating lunches daily in their lunchrooms.

Since the schools represented at the North Carolina fish-cookery demonstrations were located in every section of the State, an interesting comparison was possible regarding the effectiveness of the demonstrations on a geographical basis. It has often been contended that inland areas are poor places to promote the sale of fish. Analysis of the North Carolina demonstrations directly refuted this belief.

Strange as it may seem, Western North Carolina schools increased their use of fish more than schools in Eastern North Carolina. In Eastern North Carolina (an area which is near the Atlantic Coast), schools before the demonstrations were using fish on an average of once per month, but after the demonstrations their use of fish increased to 1.7 times per month--a 70-percent increase. In Western North Carolina (which includes the mountainous area), schools increased the use of fish from once a month before the demonstrations to twice a month after the demonstrations--a 100 percent increase.

Mississippi: During the fall of 1950 a similar fish-cookery demonstration program was conducted in the State of Mississippi. Represented at the 22 demonstrations given were nearly 450 Mississippi school-lunch managers and supervisors.

^{3/} DETAILS OF THIS WORK WERE REPORTED IN COMMERCIAL FISHERIES REVIEW, SEPTEMBER 1950.

These schools, which have an enrollment of nearly 150,000 students, feed an average of over 80,000 students daily.



FILLETS READY FOR OVEN-FRYING; FISH COOKERY DEMONSTRATION, NORTH CAROLINA, 1950.

In Mississippi, as in North Carolina, the schools increased their use of fish as a result of the demonstrations. This result was determined by a survey made in a similar manner as the one in North Carolina. The use of fish in the schools before the demonstrations (January and February 1950) was compared to their use of fish after the demonstrations (January and February 1951). The survey indicated that a 36-percent increase had occurred in the frequency with which fish was used as a result of the demonstrations. Schools which had not been represented at a demonstration showed no increase in the frequency with which they were using fish. The number of pounds of fish used by

the average Mississippi school represented at a demonstration increased 26 pounds per month.⁴

Table 2 summarizes the results obtained from the Service's fish-cookery demonstrations in Mississippi.

Table 2 - Results of Mississippi School-Lunch Program Fish-Cookery Demonstrations

	Times Fish Were Used Per Month Per School			Average Amounts of Fish Used Per Month Per School		
	Demonstration		Percentage Change	Demonstration		Percentage Change
	Before	After		Before	After	
	No.	No.	%	Lbs.	Lbs.	%
For Schools:						
Represented	2.5	3.4	+36	85.6	111.4	+30
Not Represented	2.3	2.3	0	49.8	52.0	+4
Net Gain by Represented Schools	0.2	1.1	+36	35.8	59.4	+26

Conclusions: The increase in the use of fish as a result of the demonstrations was greater in North Carolina on a percentage basis than in Mississippi. The reason for this is found in comparing the use of fish before the demonstrations in both States. Mississippi schools, since they were using more fish before the demonstrations naturally would not show such a large percentage gain but the gain in pounds of fish used was quite comparable. The worth of the demonstrations as a means of encouraging fish consumption, even where fish is already being used considerably, is shown by the results in Mississippi.

The success of fish-cookery demonstrations in North Carolina and Mississippi was due to several factors. It would not have been possible without the excellent cooperation which the Service received from the supervisors and staffs of the School-Lunch Programs in both States, and the Production and Marketing Administration of the U. S. Department of Agriculture.

⁴ CALCULATION OF THE NUMBER OF POUNDS OF FISH USED WAS MADE IN THE SAME MANNER AS FOR THE NORTH CAROLINA SCHOOLS (SEE FOOTNOTE 2).

The receptiveness of the lunchroom personnel to information on fish cookery is another reason that the demonstrations were successful. Lunchroom cooks and managers WANT to learn how to cook fish by some other method than deep frying. They WANT to know about fish buying--what fish are available, where they can buy, and the cost. They WANT to know how to serve fish appetizingly so the children eating in the lunchrooms will like it. The reason they are so interested is simple-- they know fish is economical and nutritious. But to serve fish in their schools they need to know more than that. The fish-cookery demonstrations help them obtain the information needed to successfully use fish in school lunches.

Adequate delivery is one problem which the schools find is preventing them from using more fish. Dealers in fishery products, sometimes not realizing the amount of fish which schools will buy, often make little effort to sell fish to their local schools. The Service's marketing specialists in North Carolina and Mississippi were able, in many cases, to help work out solutions to this problem which enabled schools to obtain fish.

Although primarily for school-lunch personnel, the attendance at the demonstrations in both North Carolina and Mississippi included institutional cooks and dieticians, public-utility home economists, home-demonstration agents, and restaurant managers. As a result of seeing the Service fish-cookery demonstrations, the home economists of two Mississippi utility companies have begun using fishery products extensively in their demonstrations for homemakers. Many thousands of Mississippi homemakers are thus learning more about fish as an indirect result of the Service's work in the State.

NOTE: AS INDICATED IN THIS ARTICLE, THE GENERAL PROGRAM OF THE FISHERY EDUCATIONAL AND MARKET DEVELOPMENT SECTION OF THE SERVICE'S BRANCH OF COMMERCIAL FISHERIES HAS BEEN CONDUCTED IN OTHER STATES. FOR MORE INFORMATION ON THIS PROGRAM SEE COMMERCIAL FISHERIES REVIEW, APRIL 1951, PP. 32-6; SEPTEMBER 1950, PP. 23-6; JULY 1950, P. 17; APRIL 1950, PP. 49-51.

IN NORTH CAROLINA THE FIELD WORK ON WHICH THE ABOVE INFORMATION IS BASED WAS DONE BY ROBERT P. SEIFERT, FISHERY MARKETING SPECIALIST, AND THE DEMONSTRATIONS WERE MADE BY MISS JEAN BURTIS, HOME ECONOMIST, EDUCATIONAL AND MARKET DEVELOPMENT SECTION, BRANCH OF COMMERCIAL FISHERIES.

IN MISSISSIPPI THE FIELD WORK ON WHICH THE ABOVE INFORMATION IS BASED WAS DONE BY CLIFFORD B. LOWDEN, FISHERY MARKETING SPECIALIST, AND THE DEMONSTRATIONS WERE MADE BY MRS. DOROTHY ROBEY.



THE FOOD VALUE OF FISH AND SHELLFISH

Do you know . . .

That numerous experiments have shown that the nutritive value of fishery products is equal or superior to that of the beef used for comparison . . .

KING CRAB RECIPES

The meat of king crab is white and sweet. It is composed of long, somewhat coarse fibers which, rather surprisingly, are tender. The edible portions of king crab consist almost entirely of large, firm leg sections, the outside surfaces of which are a beautiful bright coral color. These sections are so attractive that, when available whole, they should be used to provide eye-appeal for the finished dish. When accompanied by shredded meat, the leg sections may be reserved for use as a garnish.

King crab is a giant species of edible crab caught in the Bering Sea. On the prewar market it was commonly eaten by many people in this country as a canned product. In fact, the major portion of the canned crab eaten in the United States between 1935 and 1939 was king crab packed mainly by the Japanese. The meat of the king crab is newly available to the American consumer as frozen crab meat produced by American fishermen fishing off Alaska.



WASHING FRESH-CAUGHT KING CRABS (PARALITHODES CAMTSCHATICA) ON THE DECK OF A FACTORY SHIP OPERATING IN THE BERING SEA.



KING CRAB LEGS BROILED ON HALF SHELL.

Today's frozen king crab is first cooked and then the legs are frozen with the shell of the meat removed and frozen as blocks of solid meat. After freezing, the blocks are cut into 6-ounce cubes, wrapped, and packaged for retail distribution. The frozen king-crab meat is also available in non-standardized institution-size packages.

An advantage of the crab legs which are frozen with the shell is that these legs are so large they can be split and the meat broiled in the half-shell as is done with small lobster tails. It is also possible to remove the meat from the split shells, dice, combine it with other ingredients, and then return the filling to the brightly colored shells for reheating and serving.

Frozen king crab should be thawed in the refrigerator allowing four to six hours. After thawing, king-crab meat can be used in most crab-meat recipes. A few of the recipes recommended by the Fish and Wildlife Service follow:

King Crab Stew

2 6-OUNCE PACKAGES FROZEN KING-CRAB MEAT
1/2 CUP CRACKERS, FINELY CRUSHED
1 PINT CHICKEN STOCK
1 PINT MILK
1 PINT THIN CREAM
1/4 TEASPOON SALT
DASH CAYENNE
2 TABLESPOONS BUTTER OR MARGARINE

Thaw crab meat and remove any cartilage; chop. Combine crab meat and crackers. Add next 5 ingredients. Heat but do not boil. Add butter and serve immediately. Serves 6.

King Crab Newburg

2 6-OUNCE PACKAGES FROZEN KING-CRAB MEAT
3 TABLESPOONS BUTTER OR OTHER FAT
1-1/2 TABLESPOONS FLOUR
1/2 TEASPOON SALT
3/4 CUP CREAM
3 EGG YOLKS
3 TABLESPOONS SHERRY
TOAST CUPS, PATTY SHELLS, OR TOAST POINTS
PAPRIKA

Thaw crab meat and remove any cartilage; flake. Heat crab meat slowly in butter for about 5 minutes. Blend in flour and salt; add cream gradually and cook until thick, stirring constantly. Beat egg yolks and sherry together. Stir a little of the hot sauce into the egg mixture and add to remaining sauce, stirring constantly. Heat but do not boil. Serve in toast cups, patty shells, or on toast points. Garnish with paprika. Serves 6.

Molded King Crab Salad

2 6-OUNCE PACKAGES FROZEN KING-CRAB MEAT
1 CUP CELERY, CHOPPED
1/4 CUP FRENCH DRESSING
1 PACKAGE LEMON GELATIN
1-1/2 CUPS HOT WATER
1/2 CUP LEMON JUICE
1/2 TEASPOON SALT
SALAD GREENS
1/2 CUP MAYONNAISE OR SALAD DRESSING

Thaw crab meat and remove any cartilage. Marinate crab meat and celery in French dressing. Dissolve gelatin in hot water. Add lemon juice and salt. Place about 1/3 of the gelatin in a ring mold; chill until almost congealed. Arrange crab meat and celery attractively over the gelatin base and cover with remaining gelatin. Chill until firm. Unmold on round platter and garnish with salad greens. Fill center with mayonnaise. Serves 6.

Crab Meat Salad

2 6-OUNCE PACKAGES FROZEN KING-CRAB MEAT
1 CUP CELERY, CHOPPED
2 TABLESPOONS SWEET PICKLE, CHOPPED
2 TABLESPOONS ONION, CHOPPED
2 HARD-COOKED EGGS, CHOPPED
DASH PEPPER
1/2 TEASPOON SALT
1 CUP MAYONNAISE OR SALAD DRESSING
LETTUCE

Thaw crab meat and remove any cartilage. Combine all ingredients except lettuce; chill. Serve on lettuce and garnish. Serves 6.

King Crab Salad in Puff Shells

1 6-OUNCE PACKAGE FROZEN KING-CRAB MEAT
1/2 CUP CELERY, CHOPPED
1 TEASPOON LEMON JUICE
1 TEASPOON ONION, GRATED
1 TABLESPOON SWEET PICKLE, CHOPPED
1/4 TEASPOON CELERY SALT
1/2 TEASPOON SALT
DASH PEPPER
1/4 CUP MAYONNAISE OR SALAD DRESSING
36 SMALL PUFF SHELLS

Thaw crab meat and remove any cartilage; flake. Combine all ingredients except puff shells; chill. Cut the tops from puff shells and fill with the crab salad. Replace tops and garnish. Makes 36.

Puff Shells

1/2 CUP FLOUR
1/8 TEASPOON SALT
1/4 CUP BUTTER OR MARGARINE
1/2 CUP BOILING WATER
2 EGGS

Sift flour and measure. Add salt and sift again. Combine butter and boiling water in saucepan; place over low heat. When butter melts add flour all at one time and stir vigorously until mixture forms a ball and leaves the sides of the pan. Remove from heat. Add unbeaten eggs one at a time, beating thoroughly after each addition; continue beating until a thick dough is formed. Drop by teaspoonfuls onto a greased baking sheet. Bake in a hot oven, 400° F. for 20 to 30 minutes or until brown. Makes approximately 36 one-inch puff shells.

NOTE: ONE 6-OUNCE PACKAGE EQUALS APPROXIMATELY 1 CUP.

King Crab in Eggs

2 6-OUNCE PACKAGES FROZEN KING-CRAB MEAT
 1 TABLESPOON CHILI SAUCE
 1 TEASPOON PIMIENTO, CHOPPED
 1 TEASPOON GREEN PEPPER, CHOPPED
 1 TEASPOON ONION, GRATED
 1 CUP MAYONNAISE OR SALAD DRESSING
 1 DOZEN HARD-COOKED EGGS
 5 TOMATOES
 1 HEAD LETTUCE
 PARSLEY

Thaw crab meat and remove any cartilage; flake. Add seasonings and mayonnaise. Chill. Cut eggs in half lengthwise and remove yolks. Fill egg whites with crab mixture and serve on tomato slices on a bed of lettuce. Garnish with grated egg yolk and sprigs of parsley. Makes 24 stuffed eggs.

King Crab Broiled on the Half Shell

5 POUNDS FROZEN KING-CRAB LEGS
 1/4 CUP BUTTER OR MARGARINE, MELTED
 2 TABLESPOONS LEMON JUICE
 1 TEASPOON GRATED ONION
 1/2 TEASPOON SALT
 DASH PEPPER
 PAPRIKA

Split the crab legs in two lengthwise while still frozen. Combine the next 5 ingredients and mix well. Sprinkle or brush mixture over cut surfaces and place crab legs in preheated broiler about 2 inches from the source of heat. Broil for 10 minutes or until heated through and slightly browned on the surface. Garnish with paprika. Serves 6.

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Fishery Products Marketing Outlook for 1952 and Review for 1951

Prospects for 1952: Little change in the level of consumption of all fishery products is expected for 1952 in the United States. Cold storage stocks of fish and shellfish at the beginning of the year were record-large in size for that date, and probably will be adequate for anticipated domestic needs until spring, when commercial production expands seasonally. On the other hand, as a result of several reduced 1951 packs, canned fish supplies are expected to be lower than a year earlier, at least until the 1952 packs start moving to market in volume after mid-year. Retail prices of fishery products probably will not change much from the 1951 level, particularly if meat supplies are no larger than are currently anticipated.

The United States foreign trade in fishery products is likely to follow the pattern of the past few years. Imports, especially of frozen fish fillets, are expected to continue large. Exports, on the other hand, may be somewhat smaller than in 1951.

Review of 1951: U. S. civilian per-capita consumption of fishery products in 1951 continued at practically the same rate (almost 11.5 pounds, edible weight) as in the preceding 3 years. The commercial catch of edible fish and shellfish was more than 10 percent smaller than in 1950, with the decline occurring principally in the fish used for canning, but consumption was maintained by drawing on the stocks of major canned items carried over from the very large 1950 packs.

The commercial catch of edible fishery products for sale in the fresh and frozen form was somewhat larger than in 1950. Commercial freezings of all fish and shellfish in the United States and Alaska totaled 325.5 million pounds, more than 13.3 percent greater than in the preceding year. Cold-storage stocks of all fresh and frozen fishery commodities at the end of 1951 amounted to 168.8 million pounds--11 million pounds more than a year earlier and the largest on record for that date. Retail prices of fresh and frozen fishery commodities in 1951 averaged 7 percent above a year earlier.

Production of canned fishery products in 1951 was about one-fifth smaller than in the preceding year. The pack of canned salmon was up 7 percent, mainly due to a larger pack of pink salmon. On the other hand, the pack of tuna was more than 5 percent below the record 1950 output, and the packs of canned California and Maine sardines were down more than 45 percent and 60 percent, respectively. The lower output of canned tuna was directly attributable to the packers' response to market demand. Although still good, the demand for canned tuna apparently was not good enough to absorb the relatively large domestic and imported supplies without some decline in prices from the level which prevailed during the latter part of 1950. The small packs of both California and Maine sardines resulted entirely from poor catches.

Military purchases of fishery products were much larger than in 1950, with most of the increase in fresh and frozen commodities. Procurement of fresh and frozen products in 1951, although still a relatively small part of the total supply, was about 70 percent larger than a year earlier; canned fish procurement was about 15 percent greater. Purchases of fresh and frozen fishery products during the third and early part of the fourth quarter of the year was especially large because the military agencies found it difficult to carry out their purchase program for meat and, as a result, bought additional quantities of fishery products as an alternative protein food.

Imports of frozen groundfish (cod, haddock, hake, pollock, cusk and ocean perch) fillets (one of the most important import items among fishery products) totaled 87.0 million pounds in 1951, about 31 percent greater than a year earlier. Exports of canned fishery products from the United States were much larger than in 1950.

This analysis appeared in a report prepared by the Bureau of Agricultural Economics, U. S. Department of Agriculture, in cooperation with the U. S. Fish and Wildlife Service, and published in the former agency's January-March 1952 issue of The National Food Situation.



FREEZING AND CANNING KING CRAB

The techniques used in the preparation and handling of king crab are of primary importance in maintaining the quality of the canned or frozen product. King-crab meat must be processed with utmost care to insure the maximum retention of color, flavor, and texture. A high quality product can be obtained only if careful attention is given to initial phases of handling the king crab, such as holding the live crab, butchering, cooking, cooling, removing the meat, and cleaning. Recommendations are based on observations of experimental and commercial packs.

Additional factors pertaining to packaging of meat for freezing and to heat processing are discussed in "Freezing and Canning King Crab."

--Fishery Leaflet 374