

Managing Editor: Edward Edsberg

Contributing Editors: J. Pileggi & G. A. Alfano

Production Manager: Jean Zalesky

Production: Kate Arstine (Chief Composer)
and Mary Andrews



Three mainstays of fishing industry: skilled hands and nylon net. Average age of fishermen continues to rise as too few youths choose the sea. Nylon makes possible large nets and large catches. (Photo: Rex Gary Schmidt)

D. McKernan Sees Bright Future for Fishing Industry

Although its catch has been distanced by the world catch, the value of United States fishery products at both the fisherman's and consumer's level has never been higher, Donald L. McKernan said at the dedication of the new Gorton plant at Gloucester, Mass., on November 23.

On November 1, Mr. McKernan ended his 100-day directorship of the Bureau of Commercial Fisheries and assumed his new responsibilities as Special Assistant to the Secretary of State for Fish and Wildlife.

In 1965, he said, the value of the domestic catch of fishery products at the fishermen's level increased 18 percent, while the gross national product increased only 8 percent. This increase was not due to price inflation. Instead, he noted, fish prices adjusted for cost-of-living increases have not increased since 1962. Instead, the increase came from greater production of more valuable varieties of fish and new and desirable products for the kitchen.

The burgeoning populations of both the affluent and impoverished nations, greater harvests from the sea, and a stream of new fishery products will stimulate and insure the growth of the fishing industries of this nation and the world, Mr. McKernan said.

What about the demand for fishery products in the years ahead? Mr. McKernan referred to a BCF study based on a modest population growth in the United States, disposable income in the future, and expected per capita consumption of fish. During 1964, the study showed, the United States, with a population of 192 million, was consuming 12 billion pounds of fish in all forms. A population projection to 1970 shows 209 million people; to the year 2000, 340 million. The use of fishery products, domestic and imported, will most likely be about 15 billion pounds in 1970 and 28 billion in 2000--2½ times the 1964 use. And, Mr. McKernan added, if the fishing industry develops more high quality, convenient, and economical products, the yearly requirements in 2000 may be 38 billion pounds in the United States and

Greater Harvests and Industrial Wizardry

He said that most experts predict the multiplication of the world fish catch. He himself predicted that if the United States harvested efficiently the available living resources of the sea and learned to improve the farming of the sea's edge (aquaculture), the sea could easily produce at least 5 times, and maybe more, its present harvest. The sea could be a powerful force in alleviating food deficiency throughout the world.

Not only are fish abundant, he said, but it is practical to develop products that will increase their acceptability to the world's population. "Industrial wizardry" has only scratched the surface. For those who want fresh fish in the skin, this "wizardry" promises to preserve the delicate flavor and textures much longer than now possible--by irradiation, freeze drying, and by chemical freezing using liquid nitrogen and other chemicals.

The first fish protein concentrate has been produced in a variety of colors, tastes, and forms (from a coarse dried cake or colorless powder to a colorful and pungent sauce). All these concentrates, he asserted, are exceptionally nutritious, well preserved, and economical.

The Many Attributes of Fish

Mr. McKernan said that Americans are the most nutrition-conscious people in the world and that fish and shellfish are essential requirements for a well-planned family diet. These foods are suitable for all age groups--but uniquely suited to the very young and old, the most rapidly increasing segments of the population. They are excellent additions to the diets of people suffering from dietary deficiency diseases. And eminent medical authorities recommend increased use of fish to lower high blood-cholesterol levels.

He said he was not urging people to eat fish and shellfish only because of these nutritional and health values. These foods have more to recommend them: "convenience,

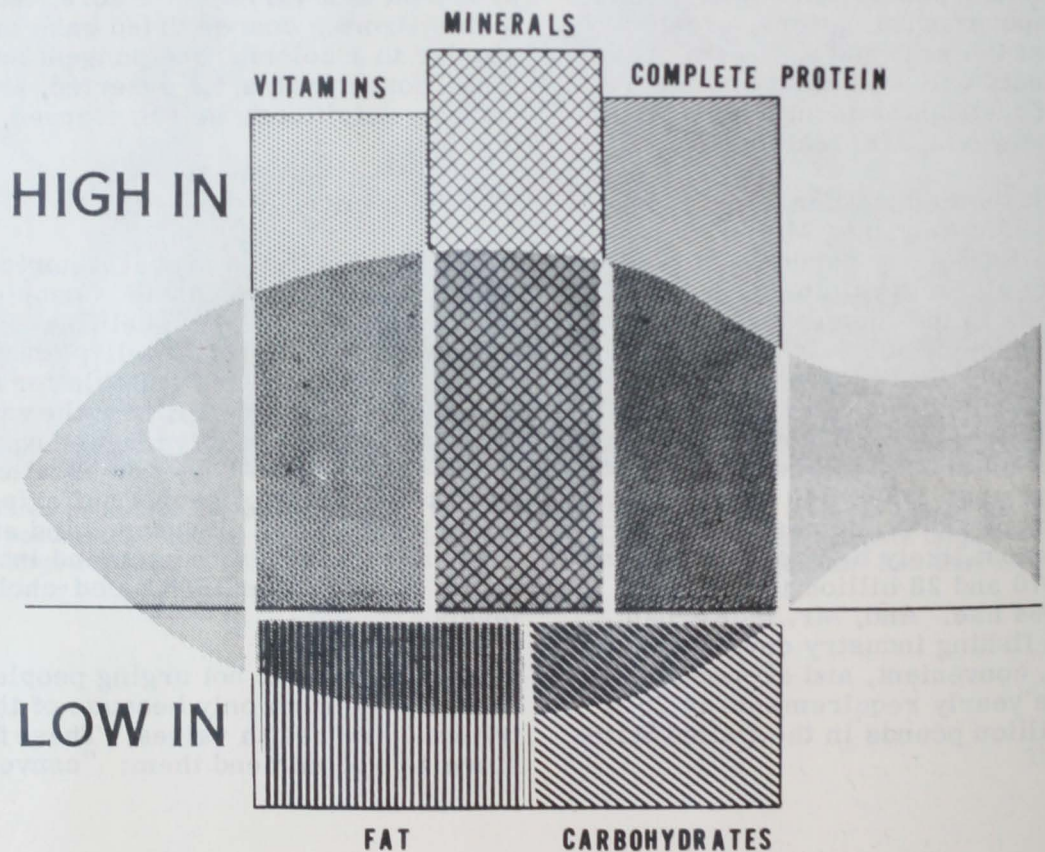
economy, variety, quality and, above all, fish and shellfish are just plain good eating."

Mr. McKernan pointed to studies showing growing demand in the United States and increasing world awareness of the great potential of the sea to produce food for "tomor-

row's children." "To me," he concluded, "the future looks bright for this industry, and I cannot help but predict that our children and their children will enjoy life and be healthier partly because of a plentiful supply of food from the sea."



The BENEFITS of FISH



UNITED STATES

EVENTS AND TRENDS

Industrial Fishery Products

IMPORTS SUSTAIN FISH MEAL AND SOLUBLES SUPPLY

Based on domestic production and imports, the available supply of fish meal in the United States for the first 8 months of 1966 was 435,953 short tons--1,327 tons (or 0.3 percent) less than the same period in 1965. Domestic production was 53,713 tons (or 28.7 percent) lower--but imports were 60,222 tons (or 13 percent) higher than in January-August 1965. Peru continued to lead with shipment of 186,903 tons.

duction of fish solubles decreased 17.1 percent, but imports of fish solubles increased 3.5 percent.

FISH MEAL AND SOLUBLES PRODUCTION DOWN, OIL UP

During August 1966, 21 million pounds of marine animal oils and 28,084 tons of fish meal were produced. Compared with August 1965, this was a decrease of about 16.0 million pounds of oils and 13,991 tons of fish meal and scrap. Fish solubles production was 12,207 tons--a decrease of 5,783 tons from August 1965.

U. S. Supply of Fish Meal and Solubles, January-August 1966

Item	Jan.-Aug.		Total 1965
	1966	1965	
. . . (Short Tons) . . .			
Fish Meal and Scrap:			
Domestic production:			
Groundfish	7,368	8,591	10,696
Herring	7,747	10,049	12,932
Menhaden 1/	90,059	139,321	175,959
Tuna and mackerel	20,595	16,388	25,399
Unclassified	7,555	12,688	17,360
Total production 2/	133,324	187,037	242,346
Imports:			
Canada	31,729	28,987	43,830
Peru	186,903	201,358	209,801
Chile	61,951	5,128	5,651
NW of Africa	8,593	49	78
South Africa Rep.	6,040	2,900	5,100
Other countries	7,413	3,985	6,206
Total imports	302,629	242,407	270,666
Available fish meal supply	435,953	437,280	524,717
Fish Solubles 3/:			
Domestic production			
Groundfish	59,780	72,133	94,839
Imports:			
Canada	1,064	1,095	1,488
Mexico	279	152	227
Peru	1,941	1,504	2,598
Other countries	360	770	825
Total imports	3,644	3,521	5,138
Available fish solubles supply	63,424	75,654	99,977

U. S. Production of Fish Meal, Oil, and Solubles, August 1966 1/ with Comparisons

Product	Aug.		Jan.-Aug.		Total 1965
	1/1966	1965	1/1966	1965	
. (Short Tons)					
Fish Meal and Scrap:					
Groundfish	1,014	1,180	7,368	8,591	10,696
Herring	2,870	3,318	7,747	10,049	12,932
Menhaden 2/	19,516	33,391	90,059	139,321	175,959
Tuna and mackerel	3,056	2,573	20,595	16,388	25,399
Unclassified	1,628	1,613	7,555	12,688	17,360
Total 3/	28,084	42,075	133,324	187,037	242,346
Fish Solubles:					
Menhaden 2/	9,514	15,488	43,153	57,501	73,181
Unclassified	2,693	2,502	16,627	14,632	21,658
Total	12,207	17,990	59,780	72,133	94,839
. (1,000 Pounds)					
Oil, body:					
Groundfish	133	273	1,193	1,962	2,441
Herring	2,009	1,850	5,341	6,902	8,543
Menhaden 2/	17,713	34,503	98,147	142,463	175,202
Tuna and mackerel	703	634	3,240	2,798	4,793
Unclassified (inc. whale)	1,205	503	3,801	2,449	4,521
Total oil	21,763	37,763	111,722	156,574	195,500

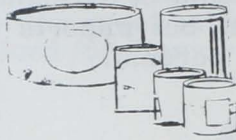
1/ Preliminary data.
 2/ Includes small quantity of other species.
 3/ Does not include small quantity of shellfish and marine animal meal and scrap because production data are not available monthly.
 Source: U. S. Department of the Interior, Bureau of Commercial Fisheries.



The United States supply of fish solubles during January-August 1966 amounted to 63,424 tons--a decrease of 16.2 percent compared with same 1965 period. Domestic pro-

Slight Rise in Can Shipments for Fishery Products, January-July 1966

In January-July, 1,800,821 base boxes of steel and aluminum were used to make cans shipped to fish and shellfish canning plants. This compares with 1,756,091 base boxes used during the same period in 1965.



Note: Statistics cover all commercial and captive plants known to be producing metal cans. A "base box" is an area of 31,360 square inches, equivalent to 112 sheets 14" x 20" size. Tonnage figures for steel (tinplate) cans are derived by using factor 23.7 base boxes per short ton of steel.

Source: U. S. Department of Commerce, Bureau of the Census.



Canned Fish Purchases Planned by Defense Supply Agency

A list of planned procurements of canned meat, poultry, and fishery products for fiscal 1967 (July 1, 1966-June 30, 1967) was published recently by the Defense Supply Agency, Defense Personnel Support Center (DPSC), Philadelphia, Pa. The fishery products included canned salmon and tuna.



According to the forecast, DPSC will purchase 3,889,200 cans of red or sockeye salmon (No. 1 tall cans) during fiscal 1967. Anticipated purchases of canned tuna are: 5,090,400 cans (12.5/13-oz.) and 5,560,800 cans (6.5/7-oz.).



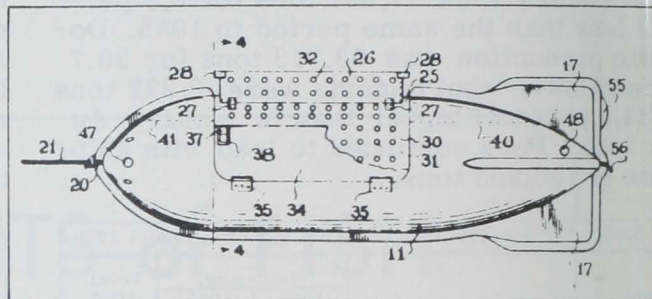
Inventions

METHOD FOR RAISING BASS AND FROGS PATENTED

Recently patented was a new method of fertilizing pond water with organic matter to increase diatoms and bacteria--and induce growth of daphnia and midges--so that 5 to 50 times more fish may be produced per acre per year than by any other method. (U. S. Patent No. 3,158,135 issued Howard J. Kimmerle, 5602 Long Beach Blvd., Long Beach, Calif.)

SUBMERGIBLE FLOATING BAIT TANK PATENTED

A submergible floating bait tank provides small-boat fishermen better means of keeping live bait. The inventor claims the main advantages of this tank over existing designs are that it can be towed faster than 20 knots to the fishing grounds. It travels submerged below surface turbulence, protecting and revitalizing the bait, and it floats handily near the gunwale during fishing. It is a streamlined shell of plastic with foam flotation



Submergible floating bait tank.

blocks. Perforations provide proper water circulation, certain perforations being covered by panels during speed runs. It is said to be easy and cheap to make. (U. S. Patent No. 3,036,400 issued William B. Anderson, 2089 Orange Ave., Costa Mesa, Calif.)



Transportation

SEC. UDALL SUPPORTS RAILWAY EXPRESS PETITION TO ICC TO REMOVE RULE

The Railway Express Agency (REA) has petitioned the Interstate Commerce Commission (ICC) to remove a rail-haul restriction from its many motor carrier certificates. These ICC certificates authorize REA to operate trucks over the highways beyond delivery limits--but they specify that these shipments must be immediately preceded or followed by rail removal.

Since 1940, there has been a reduction of passenger train service of the railroads that handle express traffic. As a result, REA had to obtain motor carrier operating authority in order to continue nationwide service. Passenger train service today is such that

RE cannot give complete nationwide service. Part of the move must be by rail.

Superior Secretary Stewart L. Udall supports the REA petition because the agency is the only nationwide carrier handling fresh fish packed in ice. It is also the only carrier providing re-icing service en route.

The petition is opposed by motor carriers and American Trucking Associations, who fear traffic loss.



1995 Great Lakes Commercial Fishery

U. S. and Canadian commercial fishermen caught about 98.6 million pounds of fish in the Great Lakes in 1965, according to BCF and Ontario Department of Lands and Forests. Landings in 8 Great Lakes states totaled 54.1 million pounds, or 600,000 pounds above 1964's record low. Ontario waters contributed 4.5 million pounds, up 9.5 million from 1964, due largely to marked rise in catch of yellow perch in Lake Erie.

The 1965 U. S.-Canadian landings were worth \$10.8 million, up \$1.3 million over 1964 and the highest since 1961. U. S. catch was \$5.7 million, up \$300,000 from 1964; the Canadian catch rose \$1 million to \$5.1 million in 1965.

from 5.8 million pounds in 1964 to about 1.3 million last year, the lowest catch for this species since the 1930s.

Lake Erie waters provided the largest source of supply for Great Lakes commercial fishermen. The 1965 U. S.-Canadian catch totaled 48.6 million pounds. Yellow perch was the leader. The catch in U. S. waters was 3.2 million pounds; in Canadian, 18.6 million. U. S. landings of this species more than doubled the 1964 figure but were still far below most recent years. The Canadian increase of more than 10 million pounds over the poor 1964 season returned it to the 1961-63 level. A strong 1962 year class became available to the Erie fishery last year; it is expected to support an equal or larger 1966 production.

For the Lake Huron-Georgian Bay area, the commercial catch totaled 8.2 million pounds, or about 180,000 above 1964. An increase in U. S. production offset a moderate Canadian decline. Leading species were chubs, yellow perch, and whitefish; chubs accounted for one-third of the total catch in weight.

The Lake Superior catch was 11 million pounds; U. S. landings were nearly four-fifths of the total. This was smallest amount since early 1920s, due primarily to the drop in U. S. catch of lake herring to record low of 4.7 million pounds. The 1965 Canadian catch of lake herring was 1.6 million pounds, also down from other recent years. A brighter note was provided by the U. S. catch of chubs, which

States	1965	1964	Lake Basins	U. S. Waters		Canadian Waters	
				1965	1964	1965	1964
				(Thousands of Pounds)			
	54,156	53,559	Total:	54,156	53,559	44,467	34,990
Ontario	180	645	Ontario	217	267	2,647	2,015
Michigan	7	11	Erie	13,524	13,354	35,096	25,381
Michigan	19,748	19,761	St. Clair	-	-	886	946
Minnesota	1,613	2,079	Huron ^{1/2}	4,674	4,094	3,568	3,967
New York	442	446	Michigan	26,994	26,201	-	-
Wisconsin	11,528	11,230	Superior	8,748	9,642	2,270	2,681
Pennsylvania	514	817					
Wisconsin	20,124	18,570					

^{1/2}Canadian waters include Georgian Bay and North Channel.

Lake Michigan continued to have largest share of U. S. commercial catch--just under 55 percent. However, the alewife, a low-value species, comprised over half the catch--11 million of the 27 million total. Larger catches for human consumption were a more notable gain; they totaled close to 6.5 million pounds, or 3.1 million over 1964. However, there was a sharp drop in yellow perch,

exceeded 2 million pounds in 1965 for the first time. Most of this catch was the larger size smoked for the retail market.

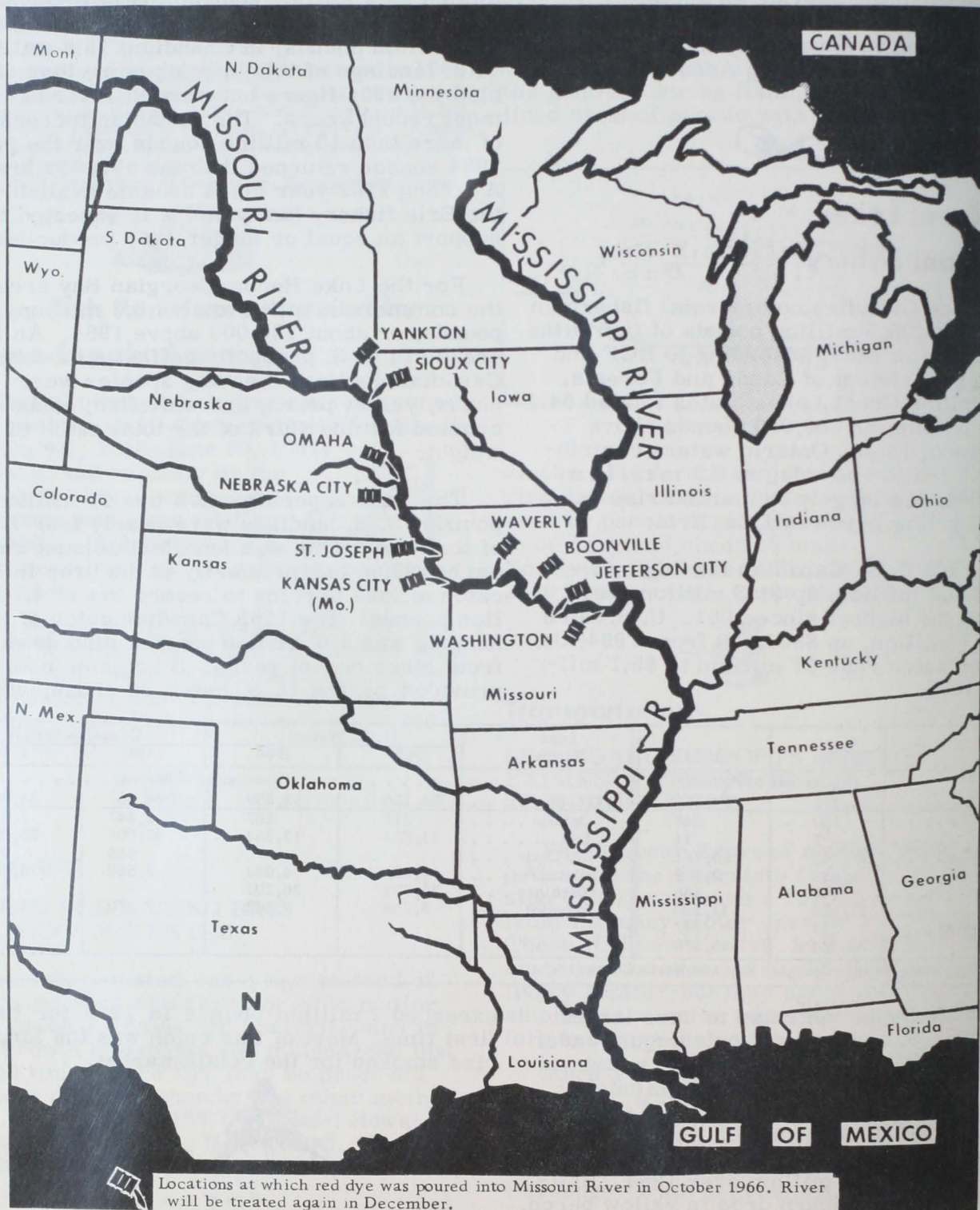


Red Dye Speckles 800 Miles of Missouri River

An 800-mile stretch of the Missouri River received a series of harmless, bright, red-dye "injections" last month by hydrologists of

Interior's Geological Survey. The injection will be repeated in December, when the river's flow rate is different.

The project is aimed primarily at obtaining useful information on the behavior of water-borne contaminants under varying stream



Locations at which red dye was poured into Missouri River in October 1966. River will be treated again in December.

flow conditions. Such information will be used by Federal and State agencies for engineering applications, especially the monitoring and control of pollution in the Missouri River.

A red dye "time-of-travel" study was carried out in cooperation with the Corps of Engineers, Weather Bureau, and State agencies in Missouri, Kansas, Iowa, Nebraska, and South Dakota.

More than a ton of the red dye, known as Rhodamine BA, was poured into the Missouri at 25 sites stretching from Yankton, South Dakota, to Washington, Missouri.

The project calls for samples to be taken around the clock at 24 sites in the 800-mile reach. In December, 1,460 pounds of dye will be injected into the river when its flow rates are reduced.



Shrimp Imports Hit New High

The United States imported record amounts of shrimp during the first six months of 1966. Mexico was by far the primary supplier.

Imports of all shrimp (fresh, frozen, canned and dried) from all countries were 79.1 million pounds, compared with 78.6 million pounds for first-half 1965.

Shrimp is second only to tuna in per-capita consumption in the United States. The average person ate about 1.25 pounds of shrimp last year. Slightly over half the supply was imported.



Record Season for Bluefin Tuna

Bluefin tuna are being captured in record numbers on the West Coast.

By mid-September, according to BCF estimates, the 1966 total landings and catches all at sea--nearly 17,000 short tons--had already exceeded the entire previous record year of 1962 by about 1,000 tons. Total bluefin landings for 1966 should fall between 11,000 and 17,500 tons.

There are several reasons for the banner season: Mass conversion of high-seas bait-boats to purse-seine fishing in 1960-1961 made possible increased catches of eastern Pacific bluefin tuna. New large-capacity vessels have expanded the fishery range 300 to 500 miles southward and farther offshore. Favorable weather in May and June this year contributed to a June catch of over 5,000 tons south of Punta Eugenia, Baja California, Mexico. Average 1945 to 1965 production there for the month was only 605 tons.



Wholesale Prices and Indexes for Edible Fish and Shellfish, September 1966

Prices for some fresh finfish items rose from August to September 1966. The wholesale index for edible fishery products (fresh, frozen, and canned) was 131.4 percent of the 1957-59 average, up 1.5 percent. Compared with September 1965, the overall index had increased 13.1 percent because of higher prices for nearly all items. Prices were substantially higher than a year earlier for many fresh and frozen fishery products and all canned fish products.

The subgroup index for drawn, dressed, or whole finfish went up 2.9 percent from August to September. Prices were higher at Chicago for Lake Superior fresh whitefish (12.2 percent) because of good demand during the Jewish Holidays; Boston prices for ex-vessel large haddock were up 4.2 percent. At New York City, prices for fresh salmon were up 2.6 percent; for Great Lakes round yellow pike, they dropped 1.7 percent from August; they remained unchanged for western fresh and frozen halibut. Compared with September 1965, this September's index was down only slightly. Prices were sharply higher than in September 1965 for whitefish (43.5 percent) and slightly higher for salmon (6.6 percent); lower prices for the subgroups remaining items produced were responsible for the 0.1-percent index drop from September 1965.

Higher Prices for Shucked Oysters

Higher prices from August to September for standard shucked oysters (wholesale price up \$1 a gallon) at Norfolk produced 5.1-

Wholesale Average Prices and Indexes for Edible Fish and Shellfish, September 1966

Group, Subgroup, and Item Specification	Point of Pricing	Unit	Avg. Prices 1/ (\$)		Indexes (1957-59=100)				
			Sept. 1966	Aug. 1966	Sept. 1966	Aug. 1966	July 1966	Sept. 1965	
			ALL FISH & SHELLFISH (Fresh, Frozen, & Canned)						131.4
<u>Fresh & Frozen Fishery Products:</u>						137.0	133.5	133.3	117.9
<u>Drawn, Dressed, or Whole Finfish:</u>						135.6	131.8	135.6	135.3
Haddock, lge., offshore, drawn, fresh	Boston	lb.	.15	.14	114.5	109.9	143.6	142.1	
Halibut, West., 20/80 lbs., drsd., fresh or froz.	New York	lb.	.48	.48	142.0	142.0	144.2	150.8	
Salmon, king, lge. & med., drsd., fresh or froz.	New York	lb.	1.00	.98	139.7	136.2	134.5	131.0	
Whitefish, L. Superior, drawn, fresh	Chicago	lb.	.83	.74	123.1	109.7	94.0	85.8	
Yellow pike, L. Michigan & Huron, rnd., fresh	New York	lb.	.88	.89	143.2	145.7	114.6	155.5	
<u>Processed, Fresh (Fish & Shellfish):</u>						137.6	130.9	130.1	107.3
Fillets, haddock, sml., skins on, 20-lb. tins	Boston	lb.	.45	.46	109.3	111.8	109.3	116.6	
Shrimp, lge. (26-30 count), headless, fresh	New York	lb.	1.11	1.11	130.1	130.1	128.9	93.7	
Oysters, shucked, standards	Norfolk	gal.	9.00	8.00	151.8	134.9	134.9	122.3	
<u>Processed, Frozen (Fish & Shellfish):</u>						132.0	131.5	128.0	105.3
Fillets: Flounder, skinless, 1-lb. pkg.	Boston	lb.	.42	.43	106.4	109.0	109.0	100.1	
Haddock, sml., skins on, 1-lb. pkg.	Boston	lb.	.41	.40	118.7	115.8	115.8	111.4	
Ocean perch, lge., skins on 1-lb. pkg.	Boston	lb.	.32	.33	112.2	114.0	114.0	108.7	
Shrimp, lge. (26-30 count), brown, 5-lb. pkg.	Chicago	lb.	1.20	1.20	142.3	142.3	136.3	101.4	
<u>Canned Fishery Products:</u>						122.0	122.9	123.8	113.7
Salmon, pink, No. 1 tall (16 oz.), 48 cans/cs.	Seattle	cs.	28.00	28.50	122.0	124.2	124.2	117.7	
Tuna, lt. meat, chunk, No. 1/2 tuna (6-1/2 oz.), 48 cans/cs.	Los Angeles	cs.	12.95	12.95	115.0	115.0	117.2	102.6	
Mackerel, jack, Calif., No.1 tall (15 oz.), 48 cans/cs.	Los Angeles	cs.	8.00	8.00	135.6	135.6	135.6	120.9	
Sardines, Maine, keyless oil, 1/4 drawn (3-3/4 oz.), 100 cans/cs.	New York	cs.	10.25	10.25	131.5	131.5	131.5	128.3	

1/ Represent average prices for one day (Monday or Tuesday) during week in which 15th of month occurs. Prices are published as indicators of movement, not necessarily absolute level. See daily Market News Service "Fishery Products Reports" for actual prices.

Source: U. S. Department of Labor, Bureau of Labor Statistics.

percent increase in subgroup index for processed fresh fish and shellfish. Prices were lower for fresh haddock fillets (2.2 percent) at Boston, but they were unchanged at New York City for South Atlantic fresh shrimp. Compared with September 1965, this September's index was up 28.2 percent because of sharply higher prices for fresh shrimp (38.8 percent) and shucked oysters (24.1 percent). Prices for fresh haddock fillets were down 6.3 percent from September 1965.

The processed frozen fish and shellfish subgroup index rose only slightly (0.4 percent) from August to September because of higher prices at Boston for small haddock fillets (2.5 percent). But prices for frozen flounder fillets were down 2.4 percent and 1.6 percent for ocean perch fillets. Septem-

ber 1966 prices for frozen shrimp at Chicago were unchanged. The September subgroup index was 25.4 percent above September 1965; prices were higher for all items sharply higher for frozen shrimp (40 percent).

The September 1966 subgroup index for canned fishery products dropped 0.7 percent from August because of lower prices for canned pink salmon (down 1.8 percent). The new season pack of Alaska pink salmon (about 2 million cases) greatly exceeded 1965's pack. Prices for all other items were unchanged from August. Compared with September 1965 prices this September were higher for all items in the subgroup, and the index was 7.3 percent higher. (BCF Fishery Market News Service.)



SITES

Alaska

SALMON PACK HIGHEST SINCE 1949

Fishermen and processors will long remember the excellent Alaska salmon season. It started with a 12-year high: 95,000 case pack of sockeye from the Copper River area. Then the Bristol Bay sockeye run provided for a pack of nearly three-quarters of a million cases.

And then came the heavy runs of pink and chum salmon to Kodiak, Cook Inlet, and Prince William Sound. For short periods, fishermen in these areas were placed on daily limits--some as low as 500 fish per day. To relieve the pressure, Governor Egan invited Japanese factoryships to come into Cook Inlet and buy excess salmon from the fishermen. In all, the Japanese purchased 220,000 fish.

About the middle of August, southeastern Alaska began to feel the impact of a tremendous run of pinks and, to a lesser extent, chums. On September 4, the pack of pinks in southeastern Alaska totaled well over a million cases. With a week to go in southeastern Alaska--and a total Alaska pack of 332,000 cases to September 4--it looks like a million-case pack this year. One must go back to 1949 to find a better pack.

Based on comparative 1965 data, Alaska salmon catch will total an estimated 330 million pounds in 1966.

JUNEAU TO GET CARGO TERMINAL

The Alaska Steamship Company has acquired 7 acres in Juneau to develop as a modern cargo-delivery terminal. The company is scheduled to begin regrading and resurfacing the plot that will be used as a vanishing area. The new terminal will speed the handling of cargo to and from Juneau.



New York

POLLUTED HUDSON RIVER EXPELS LIVING THINGS

Surveys during the past 3 summers have shown that the Hudson River, polluted by industrial wastes and sewage, is becoming an "empty river." This was reported on October 4-5 to a biological conference in Tuxedo, New York, sponsored by the New York University Institute of Environmental Medicine and the New York State Department of Health.

State, Federal, and academic experts attended. Many of them agreed that the Government and the public were aroused enough to do something. The experts believe that the Hudson will never be returned to its former state, but in 10 years it may be clean enough so that other problems can be faced.

In past 30 years, many species of shellfish and other creatures have vanished from the Hudson. The salmon, abundant in colonial times, is gone. The giant sea sturgeon, which 100 years ago fishermen stacked like wood on the wharfs, has become rare.

There have been serious declines in invertebrate species living in the river. The last survey of river life, back in 1936, listed 24 predominant species of invertebrates--



New York Times map shows Hudson River pollution areas, according to Interior Department's Water Pollution Control Administration.

spineless animals like the copepods that are food for fish. The collection of the last 3 summers did not produce specimens from 8 of these species.

Before 1880, the annual oyster crop in the lower Hudson was 10-20 million pounds. Today, oysters and clams are virtually gone.

The waters of New York Harbor are so awful that even pests like the teredo (shipworm) cannot stand them. (The teredo bores into and devastates wooden pilings.)



Oregon

COLUMBIA RIVER FALL FISH RUNS EXCELLENT

"Every day is fish day now," said Herman P. Meierjurgan, chairman of the Oregon Fish Commission in late September, referring to fall salmon runs in the Columbia River. "It is a very satisfying feeling to be confronted with good numbers of fish everywhere we look."

The favorable catch and escapement of summer steelhead trout, fall chinook, and coho salmon were good. The escapement goals over Bonneville Dam set by management agencies for optimum production were exceeded.

Summer-run steelhead, mostly destined for the upper Columbia and Snake River systems, were A and B, or early and late, components; their escapement levels are 85,000 and 35,000 fish, respectively. Ninety-nine thousand A and 41,000 B steelhead have been counted over Bonneville Dam, exceeding combined goals by 20,000 fish. Commercial landings were down from the average of recent years, primarily because of restricted seasons. Sport fishing in the Columbia River has been generally good, although steelhead were just starting to move over Ice Harbor Dam in good numbers. Cooler water temperatures were luring them into the upper river and the range of Idaho anglers. Even though the run is slightly below average, the good spawning escapement portends favorable returns.

Chinook Escapement Goal Exceeded

The fall chinook escapement goal is 100,000-125,000 fish over Bonneville Dam. As of September 27, the count was 147,000, although this included a higher than usual proportion of jacks: 18 percent this year, compared with the normal 11 percent. Holding ponds have sufficient fish to exceed programmed egg-takes to fill all stations. The ponds are in the hatcheries of the Fish Commission, Washington Department of Fisheries, and Interior Department's Bureau of Sport Fisheries and Wildlife in the Bonneville pool area and below. Landings from the gill-net fishery in the Columbia River below Bonneville Dam in August and September were estimated at about 2.6 million pounds, slightly below the average of 2.7 million pounds taken during the past 10 years.

The Columbia River's commercial fishery is managed jointly by the Oregon Fish Commission and the Washington Department of Fisheries. The 2 agencies extended the late August season by 2 days to permit harvest of the apparent late fall chinook run. After a 23-day closure, they opened the September season when the escapement picture was favorable.

Sport fishing at the mouth of the Columbia has been particularly good this season. A preliminary estimate was somewhere near 59,000 fall chinook, a record rod-and-reel take.

A preliminary estimate of the troll chinook catch in late September from the Columbia River area, composed primarily of fall chinook of Columbia River origin, showed it as good as 1963, the best since 1956.

The fall chinook picture for the Columbia River is encouraging for this year. Established escapement levels have been exceeded, the hatcheries have sufficient fish for capacity egg-takes, sport catch was excellent, the river gill-net landings were about average, and the troll take better than average. The total run will be about 290,000, close to the average of the past 15 years.

Coho Status Most Encouraging

The coho picture was the most encouraging of all. Troll landings from the Columbia

River south to the California border, which included a large proportion of the Columbia River stocks, were over 5 million pounds by late September. These landings were somewhat lower than last year's but better than any other year since 1935.

The estimated sport catch of coho at the river's mouth has been second only to the 1919 record of 247,000 fish, and much greater than the ten-year average of 90,000.

The gill-net landings of coho probably exceeded 1.5 million pounds the first fishing week of September. The season's total may exceed 1964's 1.9 million pounds--the best since 1938.

Thirteen hatcheries on the lower Columbia River operated by state and Federal fishery agencies propagated coho. It was too early to expect coho in the hatchery ponds, but there should be no problem in reaching coho egg-laying goals for all hatcheries.

The Bonneville count was 62,000, with 11,000 a day still going over. Although most of these fish are destined for hatcheries in the Bonneville pool area, many will spawn in upper river tributaries in Idaho, Oregon, and Washington. With the significant restocking and transplanting efforts in the upper watershed by Idaho, Washington, Oregon, and Federal agencies, these record counts at Bonneville may be only the beginning.

This is the third consecutive year of outstanding coho gill-net catches from the Columbia River stocks. Aiding nature, man plays an increasing role in this fish explosion. Major developments in fish culture techniques, particularly the development of the

Oregon pellet by the Oregon State University Seafoods lab and the Fish Commission as the main diet for this species, have contributed immeasurably. About 6 million pounds will be fed into the Columbia River system in 1966. Successful rearing has resulted in increased returns. It has contributed to the sport and commercial fisheries in Oregon, both in ocean and river. Excellent returns are also expected to continue this year at other Oregon Fish Commission hatcheries on the coastal rivers of Alsea, Nehalem, Siletz, and Trask.



Commonwealth of Puerto Rico

SHRIMP TRAWLERS MAY ALSO HAVE MARKETS FOR FISH

When the 84-foot, steel freezer shrimp trawler Amazon recently landed in Puerto Rico with 21,000 pounds of shrimp and 6,000 pounds of fish, it may have shown the potential of Puerto Rico and adjacent islands as markets for incidental catches of fish by shrimp trawlers. Of the catch landed, croaker and sea trout made up 80 percent, and 25 other species comprised the remainder.

The Amazon was launched in March and its owner said then that it would operate off the northeast coast of South America for shrimp. But it has freezing capacity, and so it can utilize finfish taken along with the shrimp. This is unusual in a field where the conventional shrimp trawlers discard the fish.



FOAM DEVELOPED TO RAISE SUNKEN SHIPS

Sunken ships as large as destroyers can be raised by injecting foam into them. A 500-ton barge was raised from 80 feet of water as part of a study for the U. S. Navy's Bureau of Ships by a research corporation which developed the system.

Divers first effect repairs to keep the foam from escaping and then the foam is injected. A limit of 375 feet for depth was given.

The method costs about 60 percent of that for usual salvage methods. (Undersea Technology)

BUREAU OF COMMERCIAL FISHERIES PROGRAMS

Alaska Fisheries Explorations and Gear Development

COMMANDO SURVEYS BOTTOMFISH

The charter vessel M/V Commando returned to Juneau, Alaska, on September 1, 1966, after a 7-week exploratory bottomfish survey off southeastern Alaska between Cape Spencer and Coronation Island. (Cruise 66-2.)

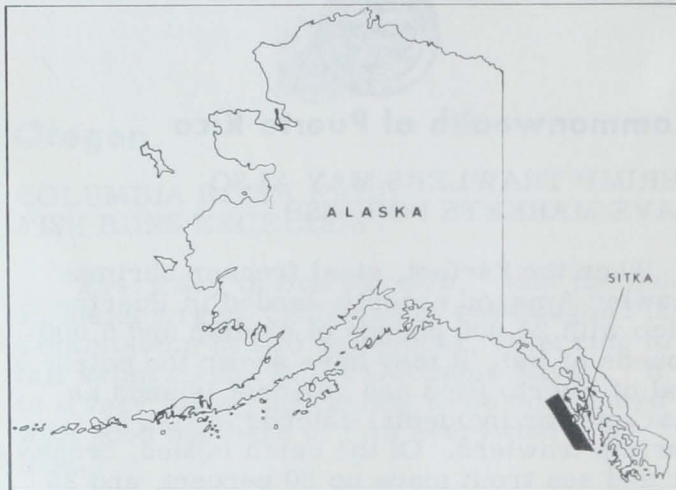


Fig. 1 - General area of operation, Cruise 66-2.

Primary objectives: (1) to locate trawlable fishing grounds and (2) obtain data on commercial concentrations of bottomfish. Secondary objectives: (1) to obtain information on suitability of fishing rough bottom with conventional otter trawls equipped with modified roller gear and (2) gain more information on bathymetric and geographic distribution of demersal fish stocks common to waters of southeastern Alaska.

Sampling gear was conventional 400-mesh eastern otter trawls equipped with roller gear. Echo-sounding transects were made to locate trawlable fishing grounds. Areas that appeared reasonably level were sampled, regardless of the bottom's consistency. Soundings ranged between 60 and 250-fathom isobaths, but were generally concentrated in waters lying over the edge of the Continental Shelf.

Forty-one of the 53 drags attempted were successful in avoiding solid hang-ups or trawl damage. While areas of soft bottom were noted, predominately hard bottom existed for much of the area surveyed. This was shown

by echo-recorder and attested by deep-scoured and dented steel otter boards and bobbins.

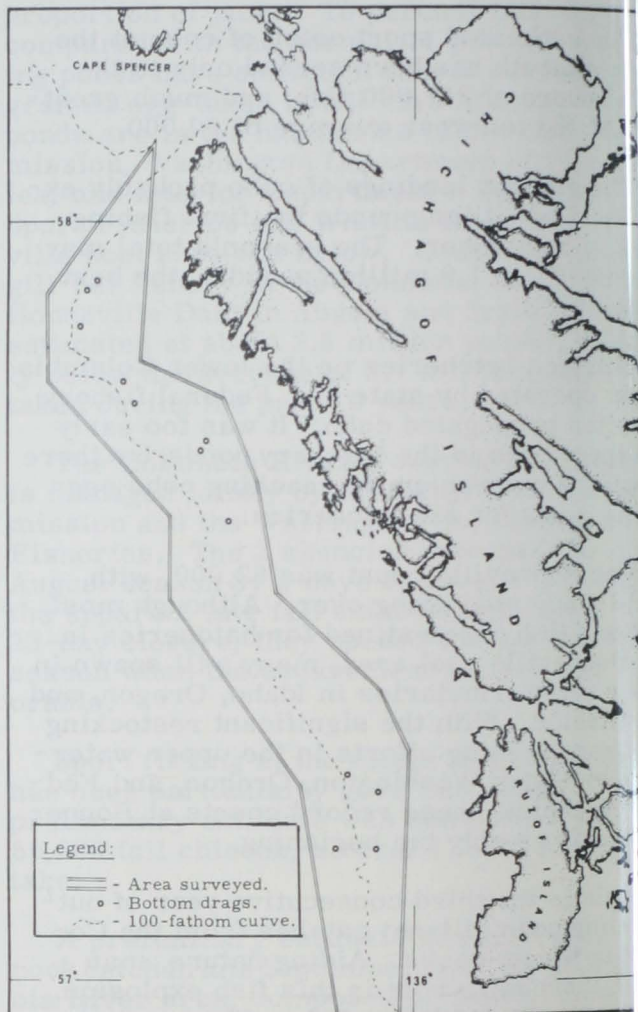


Fig. 2 - Northern area of operation.

Rockfish were the dominant group collected. The largest catch for a single species (Haul No. 48--10,500 pounds) occurred due west of Coronation Island in 120 fathoms of water, where 9,000 pounds of sharpchin rockfish were taken.

Listed in order of decreasing abundance, and collected in quantities of 100 or more pounds for any single tow, were: Pacific ocean perch (*Sebastes alutus*), sharpchin rockfish (*S. zacentrus*), Alaska pollock (*Theagra chalcogrammus*), turbot (*Atheresthes stomias*), black cod (*Anoplopoma fimbria*), silvergray rockfish (*S. brevispinis*), yellow-tail rockfish (*S. flavidus*), striptail rockfish (*S. saxicola*), rex sole (*Glyptocephalus zach*).

rougheye rockfish (*S. aleutianus*), idiot
rockfish (*Sebastolobus alascanus*).

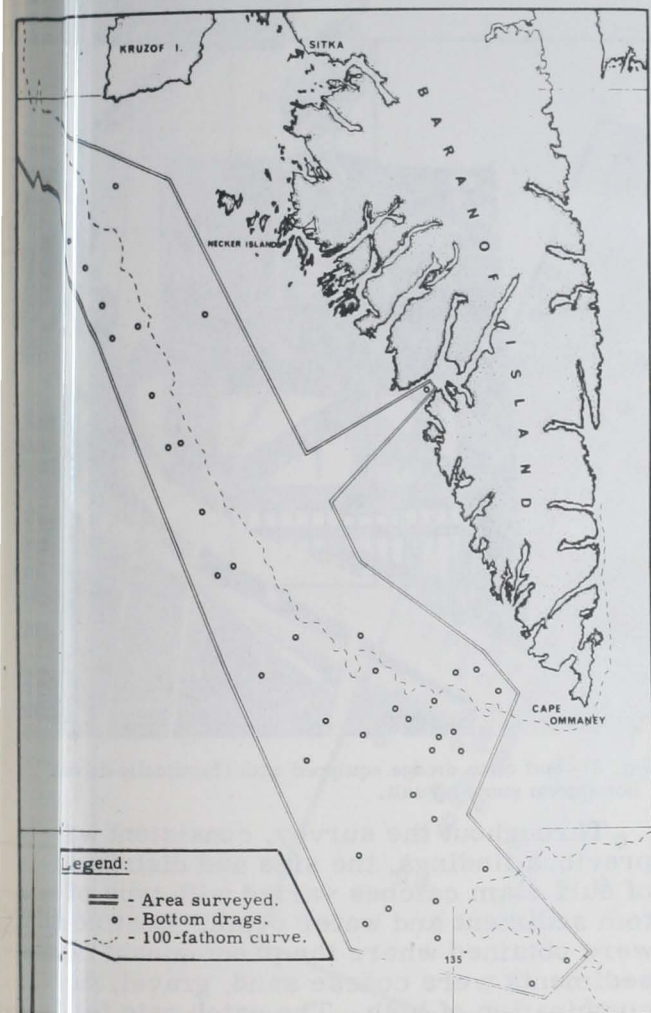


Fig. 3 - Southern area of operation.

Great Lakes Fisheries Investigations

KAHO CONFIRMS PRESENCE OF INDUSTRIAL FISH IN LAKE HURON

Trawl fishing by the research vessel Kaho in a recent survey of the Saginaw Bay area of Lake Huron confirmed the presence of industrial fish. The 25-day exploratory cruise ended Sept. 15. A previous cruise (#34, which ended Aug. 11) had revealed alewife and carp populations large enough to support an industrial type fishery for the production of fish meal, pet food, and mink food. The average catch throughout Saginaw Bay was 300 pounds per half-hour drag and, in the southern end of the Bay, over 580 pounds. Catch rates of 250 or more pounds with the small sampling net used are considered commercially significant even for the low-value species taken. Occurrence of these fish stocks in Lake Huron may encourage the emerging Lake Michigan industrial fishery to expand its operations.

For more information, contact: Base Director, Exploratory Fishing Base, BCF, 5 Research Drive, Ann Arbor, Mich. 48103.



Inland Fisheries Explorations and Gear Development

HIODON EXPLORES OAHE RESERVOIR

An August exploratory and gear testing cruise in the Oahe Reservoir, on the Missouri River in South and North Dakota, produced only fair results. Drags were made for the purpose of comparing catches made by the trawls used, to collect biological data, and to explore new trawling areas. Also, 12 repetitive drags were made in a small bay over a 19-hour period to determine changes in catch. The average catch per drag for the entire cruise was 95 pounds. The central reservoir section produced 150 pounds per drag, and the upper and lower extremes produced only 55 pounds per drag. Percentage composition of the catch by weight was: carp--65; Buffalofish--8; carpsucker--8; drum--2; channel catfish--2; Northern pike, sauger, walleye, and perch combined made up the rest. This catch composition compares with those of previous cruises this year and last.



Caribbean and Tropical Atlantic Fisheries Exploration

The George M. Bowers continued testing efficiency of the electrical shrimp trawl in the Texas shrimping area. Daytime catches with the electrical trawl are about equal to nighttime catches with the standard trawl.



For more information, contact: Base Director, Exploratory Fishing and Gear Research Base, Bureau of Commercial Fisheries, P. O. Box 1668, Juneau, Alaska 99801, Phone: 586-7233.

For more information, contact: Base Director, Exploratory Fishing Base, BCF, 5 Research Drive, Ann Arbor, Mich. 48103.



North Atlantic Fisheries Explorations and Gear Development

DELAWARE COMPLETES CLAM SURVEY

The exploratory fishing vessel M/V Delaware completed a 29-day surf clam survey cruise on September 2. (Cruise 66-6, Aug. 5-Sept. 2.) Survey work was continued in Area IV (see figure 1) off the coast of Maryland and Delaware. Catches of surf clams varied from none to 18.3 bushels per 4-minute survey tow, and from none to 13.3 bushels per 20-minute (simulated commercial) tow. An electrically-driven submersible pump was tested and utilized along with the conventional hydraulic jet dredge used for previous surf clam survey cruises.

518 survey tows were made in Area IV; 484 of these were standard tows and 34 were simulated commercial tows. Also 174 other tows were made to compare the efficiency of the submersible pump dredge with the standard hydraulic jet dredge. A specially designed 48-inch (blade width) clam jet dredge equipped with a 65 hp. electrically-driven submersible pump was used during the entire cruise (figure 2).

The same procedure of previous surveys was used. Stations were located at 1-mile intervals along 1-mile spaced grid lines. The 48-inch, hydraulic jet dredge, operating with either the submersible pump or the deck-mounted pump, was towed 4 minutes at each survey site and for 20 minutes at simulated commercial tow sites.

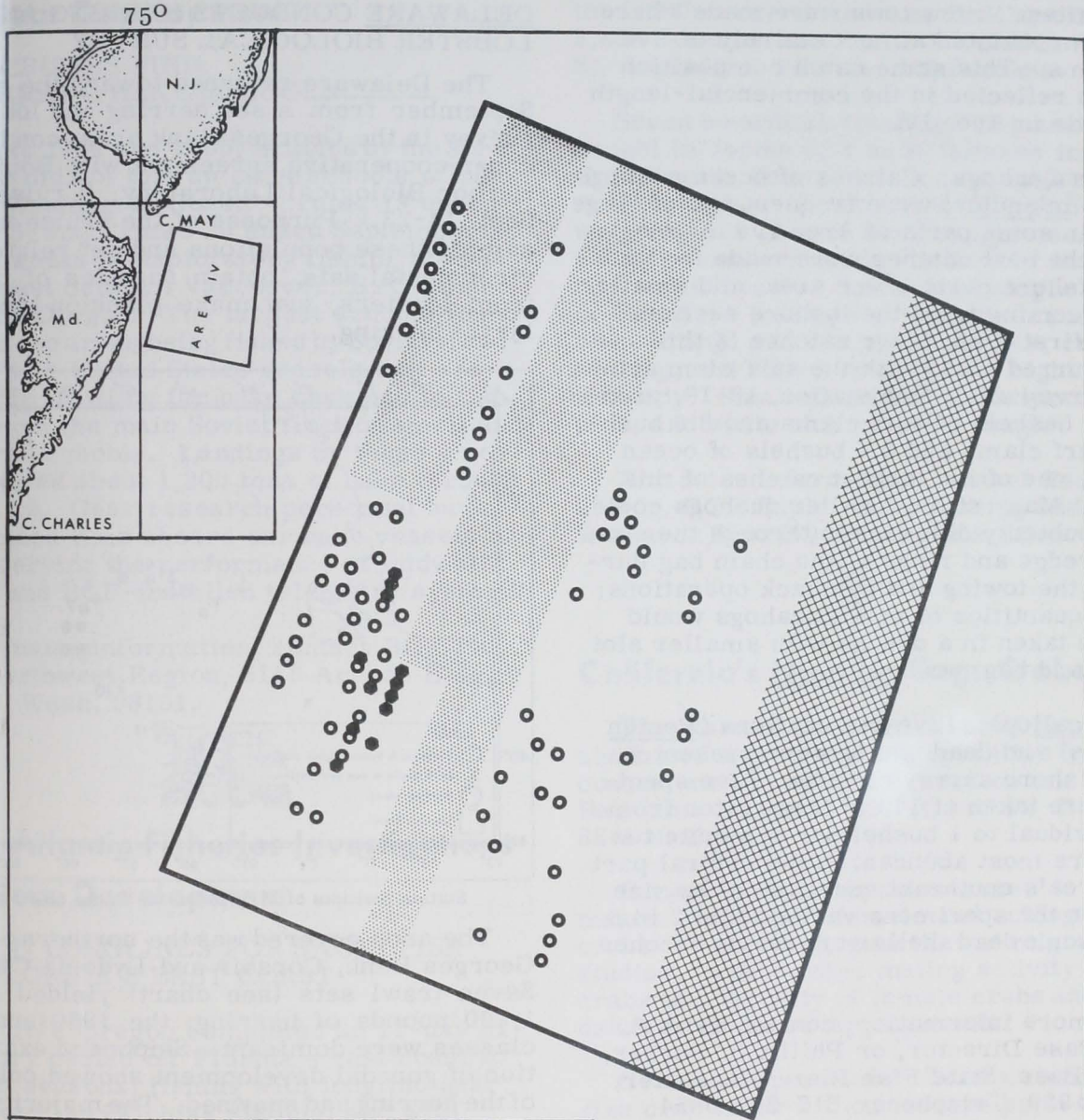
Results: Of the 484 four-minute survey tows completed, 74 (about 15 percent) produced catches that equaled or exceeded 1 bushel of surf clams. This is the highest ratio of good tows that were experienced to date. The largest catch for any standard 4-minute tow was 18.3 bushels. Many tows (252) produced catches of nearly 1 bushel; 157 tows produced no surf clams. Simulated commercial tows were made at 34 stations in one section of Area IV; 12 of these produced catches of 4 or more bushels.



Fig. 2 - Surf clam dredge equipped with electrically-driven 65 horsepower pumping unit.

Throughout the survey, consistent with previous findings, the size and distribution of surf clam catches varied with type of bottom sediment and water depth. Best results were obtained where the predominant bottom sediments were coarse sand, gravel, or a combination of both. The catch rate fell off considerably in the most shallow inshore waters, less than 12 fathoms--apparently because of unfavorable bottom sediments--and in the deeper offshore waters, although for the first time during survey work, occasional good catches were made at depths of 23 fathoms to 25 fathoms. Generally, the best catches were taken inshore where depths varied between 15 and 18 fathoms, and offshore where the depths varied between 18 and 21 fathoms (see figure 2).

Size of Surf Clams: The 5- to 7-inch size group, which is within the most valuable size range for commercial utilization, was predominant in surf clam catches. In some tows medium-size clams of 3 to 5 inches were taken in large numbers. The selectivity of the dredge reduced the number below this range to almost zero. The average size of clams taken in the smaller catches was generally larger than that from the larger catches.



Legend:

- - M/V Delaware. Cruise 66-6.
- ⊠ - Unsurveyed.
- ▣ - Surveyed by Mabel Susan 1963.
- - Stations producing one or more bushels per four minute tow.
- - Stations producing four or more bushels per twenty minute tow.

Fig. 1 - Surf clam Area IV and producing stations during M/V Delaware Cruise 66-6.

Surf clam shells and other shellfish species common to the area were taken at most survey sites. A few tows were made where the catch consisted almost entirely of live surf clams. This same catch composition was also reflected in the commercial-length tows made in Area IV.

Ocean Quahogs: Catches of ocean quahogs (*Arctica islandica*) were frequent and of large volume in some parts of Area IV. As expected, the best catches were made in the more offshore parts of the area, and smaller catches coming from the inshore section. For the first time, large catches of this species occurred along with the surf clam at the same survey site. One station, 18-19, produced 3.1 bushels of surf clams and 8.6 bushels of surf clams and 8.6 bushels of ocean quahogs, one of the largest catches of this species. Many of the smaller quahogs could, and undoubtedly did, escape through the slots of the dredge and rings of the chain bag during both the towing and haulback operations; greater quantities of small quahogs would likely be taken in a dredge with smaller slot spacing and bag meshes.

Sea Scallops: Live sea scallops (*Pecten irradians*) and dead shells were present in many offshore survey catches. Live specimens were taken at 145 of these sites from one individual to 1 bushel per 4-minute tow. They were most abundant in the central part of the area's southeast quadrant. The size range for the specimens varied from 2 to 6 inches; some dead shells were nearly 8 inches long.

For more information, contact Keith A. Smith, Base Director, or Phillip S. Parker, EF&GR Base, State Fish Pier, Gloucester, Mass. 01930, Telephone: 617-283-6554.

* * * * *

The *Rorqual* tested midwater trawls for one week in Rhode Island's Point Judith area in a joint venture of BCF's Gloucester Exploratory Fishing Base and Rhode Island's Department of Natural Resources. PL 88-309 funds were used.

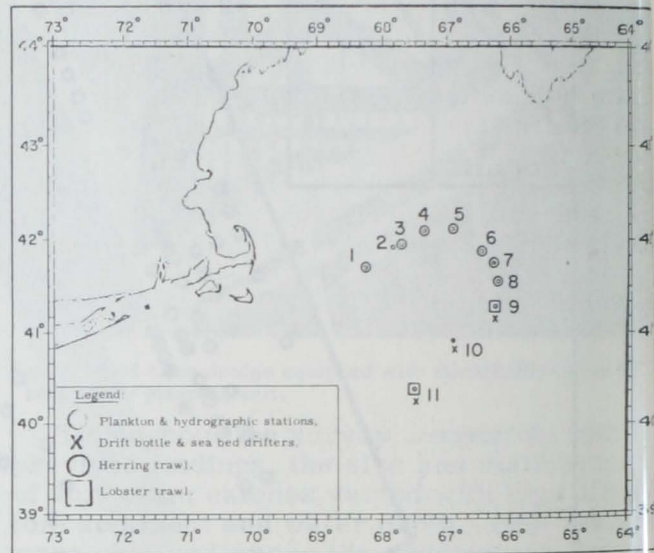
The *Rorqual* now is based at Boothbay Harbor Biological Laboratory, Maine.



North Atlantic Fishery Investigations

DELAWARE CONDUCTS HERRING AND LOBSTER BIOLOGICAL SURVEY

The *Delaware* returned toward the end of September from a sea herring and lobster survey in the Georges Bank area, conducted under cooperative agreement with Boothbay Harbor Biological Laboratory. (Cruise 66-7, Sept. 14-23.) Purposes of the cruise were to sample these populations and get related environmental data, obtain samples of blood from lobsters, and make plankton tows for larval herring.



Station positions of M/V Delaware Cruise 66-7.

The area covered was the northern part of Georges Bank, Corsair and Lydonia Canyons. Seven trawl sets (see chart) yielded about 1,200 pounds of herring; the 1960 and 1961 classes were dominant. Shipboard examination of gonadal development showed only few of the herring had spawned. The majority were in the late stage V of gonadal development.

8 trawl sets made at 2 stations in waters 45 to 150 fathoms yielded 7 lobsters: 2 females and 5 males. Mean weight was 3 pounds, and the range in weight was $1\frac{1}{2}$ - $7\frac{1}{2}$ pounds.

The plankton operation obtained no larval herring.

For more information, contact BCF Biological Laboratory, W. Boothbay Harbor, Maine 04575.

The *Delaware*'s October cruise (industrial fish exploration) will be reported in the December issue.



North Pacific Explorations and Gear Development

COAST CRUISES FIND SMALL HAKE SCHOOLS

Like 1964 and 1965, cruises by the John N. ... did not turn up large schools of hake off the Washington Coast. Cruise 79 ended August 5, and Cruise 80 ended September 2, after 8 weeks of exploratory fishing off Pacific Coast between Vancouver, B. C., and northern Oregon. The largest schools found were in the areas being fished by Soviet trawlers. The 4 United States vessels that are midwater trawling for hake have had to fish away from the main Soviet fleet on small and scattered schools. Landings by these 4 vessels totaled about 1,200 tons of hake through August 29. Gear research personnel have spent much time aboard our hake vessels at sea observing the performance of midwater trawls and BCF-installed telemetry systems.

For more information, contact BCF Pacific Northwest Region, 6116 Arcade Bldg., Seattle, Wash. 98101.



South Atlantic Fisheries Investigations and Gear Development

COAST LONGLINES FOR SWORDFISH FLORIDA'S EAST COAST

The R/V Oregon completed an 11-day exploratory cruise off Florida's east coast to contact seasonal fishing with longline gear for swordfish (*Xiphias gladius*) and with trawls for bottomfish concentrations. It returned to St. Simons Island, Georgia, on August 27. (Cruise 111, August 16-27.)

Five 60-basket (600 hooks) longline sets were made between 27° N and 30° N. Buoy collars on each set varied from 5 to 50 fathoms spaced at 10-basket intervals. Hooks were baited with thread herring (*Opisthonema oglini*) and mullet (*Mugil sp.*) on alternating sets. All sets were made at sunset and retrieved at daylight.

The longline gear was set in the axis of the Gulf Stream off Stuart, Florida, 220 fath-

oms; two sets on Blake Plateau (Antilles Current) in 450 and 540 fathoms; one beyond the 1,000-fathom isobath east of Cape Kennedy, 2,600 fathoms, and one in the Gulf Stream off St. Augustine, Florida, 345 fathoms.

Seven swordfish totaling 664 pounds were caught in depths of 5 to 30 fathoms in the Gulf Stream (Stuart and St. Augustine) and Blake plateau. Eleven tuna (4 species) weighing 342 pounds were caught on longline. No large concentrations of food or industrial fish were located. The 2 best single catches of fish were 1,304 pounds (spots, croakers, and whiting) and 843 pounds (spots, croakers, whiting, and silver trout) in the bight of Cape Kennedy. Small quantities of scattered brown, pink, and white shrimp were caught.

For more information, contact Base Director, BCF Exploratory Fishing and Gear Research Base HQ, Pascagoula, Miss. 39567.



California's Nautilus Tags Crabs

The State of California's M/V Nautilus conducted a crab-tagging operation in the coastal waters off San Francisco and Bodega Bay from August 6-30. (Cruise Report 66-N-9 Crab.)

Purposes of the mission were: to tag a maximum of 2,500 female and sublegal male crabs for survival, growth, and migration studies; to determine mating activity of male crabs and fertility of female crabs and abundance of crabs in tagging areas.

Gear and Operations: Thirty commercial-size crab traps without escape ports and power block for pulling crab traps were used. Thirty traps were set at each of the following locations: (1) Bodega Bay (2) Drakes Bay (3) Rocky Point (4) San Francisco Lightship and (5) Point San Pedro. Fished with squid as bait in depths of 7-17 fathoms. The traps were pulled daily except for two 48-hour soakings. Two days of fishing were required at all locations except Drakes Bay, where one day obtained crabs needed for tagging. They were tagged with vinyl-plastic spaghetti tags and released the same day they were caught. Shoulder width and condition of each crab was recorded.

Results: Five hundred crabs--equal number of males and females--were tagged at each station except Bodega Bay (314 males, 186 females) and Drakes Bay (342 males, 158 females); in all, 1,406 males and 1,094 females. Only active crabs, having both chela intact and missing no more than one walking leg, were tagged.

5,316 crabs were caught in the 310 traps set: 707 legal males, 2,341 sublegal males, and 2,268 females. The average catch per trap-day was 17.2 crabs (2.3 legal males, 7.6 sublegal males, and 7.3 females). Drakes and Bodega Bays had the highest catch of legal-sized crabs per trap-day with 10.6 and 3.5. Of total crabs caught, 6.1% of legal males and 38.1% of sublegal males were in a soft condition.

Mating marks were found on 409 males; 345 on legal and 64 on sublegal crabs. The fertility of females was determined by the presence of sperm in their spermatheca. Forty-four females were checked: 43, or about 98%, were fertile. Ovaries varied in color from light orange to red-orange.



Distress Signal Recommended for Fishing Vessels

BCF has developed a distinctive and highly visible banner for use by fishing vessels as a recognition and distress signal.

The international orange vinyl-coated nylon banner with bullseye center measures 10 by 5 feet. It should be displayed in the rigging or on top of the wheelhouse whenever an emergency or any other situation requires assistance. When this signal is displayed, vessels awaiting assistance by the Coast Guard Search and Rescue Branch can be readily identified.

The signal is a definite aid to searchers when the disabled vessel does not have radio-telephone communication or is not in a group of similar size craft.

The banner has been shown in New Bedford and Gloucester and will be displayed in all major New England fishing ports.

It is recommended that all commercial fishing vessels carry this distress signal.



Galveston Records Shrimp Culture Gains

Much new progress in studies of shrimp culture has been made at the Galveston, Texas laboratory. Both white shrimp and seabobs were successfully reared to postlarvae from eggs spawned in the laboratory. This followed the successfully rearing of brown and pink shrimp--and rounded out the rearing of the most important commercial shrimp species.

The laboratory developed techniques for mass culture that permitted large numbers of shrimp larvae to be grown under controlled conditions for either detailed physiological studies or the stocking of enclosed brackish-water ponds.

Studies also are under way on the feasibility of growing shrimp in ponds under semi-natural conditions. In one experiment, brown shrimp grew from an average size of one-half inch to 3 inches in 120 days. White shrimp in the same experiment grew to 5 inches. This is an average growth of nearly one-quarter inch per week. A second study using 4,000 white shrimp spawned and reared to postlarvae in the laboratory showed increases of one-half inch to 4 inches in 90 days in one of the culture ponds. This study is continuing.



Lobster Research in Boothbay Harbor

The SCUBA diving team at the Boothbay Harbor laboratory is making extensive observations of lobsters under natural conditions in representative areas along the Maine coast. Its findings suggest that lobsters definitely seek shelter in burrows during daylight hours and occupy much of the available habitat. It may be significant that those lobsters seen in the open during daylight hours show evidence of attack: missing claws and other appendages. Lobster fishermen and scientists have long observed that certain artificial areas--some rock jetties and the rock sides of the Cape Cod Canal--have been heavily colonized by lobsters. So the possibility of increasing the amount of lobster habitat exists. However, a recent attempt by Canadian scientists to construct an artificial lobster reef has been only moderately successful to date.



International Trade Promotion Office Completes Its First Full Year

At 8:00 am, Sunday, September 11, hundreds of Viennese were queued up in front of 20 ticket booths. They were not waiting to see a sporting event, listen to Strauss waltzes, or watch folk dancers in lederhosen and dirndls. They were eagerly awaiting the chance to gain admission to Austria's annual International Fall Fair, one of Europe's largest.

The first four days of the fair, which ran from September 11-18, 150,000 persons had made their way through the U.S.A. section, including the President of Austria.

United States participation was sponsored by the Department of Agriculture, an old hand at fairs, and cosponsored by BCF's Office of International Trade Promotion, which was rounding out its first full year of foreign trade promotion. For many years, Agriculture showed the riches of the American soil and farm; now BCF was exhibiting some of the sea's riches.

Fourteen U. S. firms displayed 35 different products: from inexpensive squid to caviar. Most of the products were new to Vienna. Those attracting most interest were cherry-stone and soft shell clams, quahogs, oysters, shrimp, cape and sea scallops, swordfish, Spanish mackerel, pompano, sea trout, mullet, flounder fillets, Dungeness crabs, and Pacific salmon. Shrimp products, which are in considerable demand throughout the world, were eyed carefully. And U. S. caviar, roe of the Great Lakes whitefish, won praise from a leading Viennese gourmet importer.

Maine Flew Lobsters to Munich

BCF also participated in the International Exhibition of Groceries and Fine Foods, IKOFA, at Munich, Germany, September 17-25. For this event, the same distributors, with the addition of the State of Maine, displayed about 35 different species, including live lobsters and clams, and other fresh, frozen, and canned fishery products. Here again many of the products were new to the visitors. One highlight was a tank of live Maine lobsters; Maine cooperated by flying in 100 pounds of live lobsters every 3 days--and experts to display the lobsters and provide answers.



Fig. 1 - Samuel J. Hutchinson of BCF gives President Franz Jonas of Austria (left) a closer look at one U.S. entry. Behind the president is Henry A. Baehr, U.S. Agricultural Attaché, Austria. Hutchinson's right is Herr Strauss, President of Vienna Fair Company.

For the Viennese, whose own incredibly fine pastries and foods make tourists gasp, the fair was an embarrassment of riches: a mass of food and, almost center stage, live fish and fresh, frozen, and canned fish from the United States. TWA had flown in the live and fresh entries just the day before from Florida, Massachusetts, and Washington. The Viennese were thrilled by the sight and taste of them. By the end of the

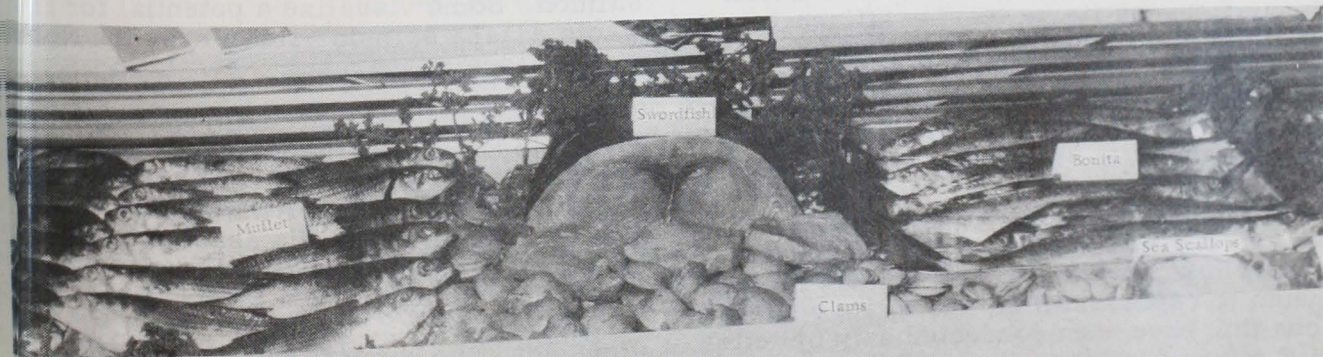


Fig. 2 - The fresh fish booth at the international food fair in Vienna.

Other "eye catchers" in the fresh fish display were salmon and Dungeness crab from the west coast; pompano and Spanish mackerel from Florida; and scallops, cherrystone clams, and swordfish from Boston.

In a special lounge reserved for tradespeople, a \$100,000 order for 25 tons of king crab was placed in 5 minutes. Large hotels and airlines showed much interest in this item. Firm orders for U. S. fishery products are expected to continue as a result of the trade promotion at these two fairs.

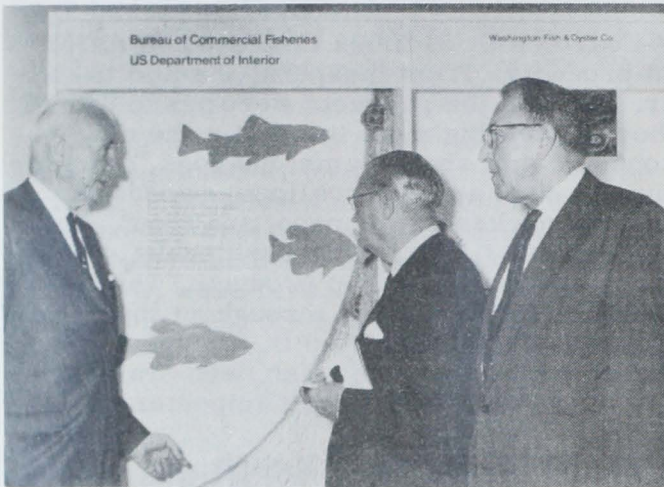


Fig. 3 - Bureau of Commercial Fisheries entrance to the trade lounge. Left, Hutchinson; center, James W. Riddleberger, U. S. Ambassador to Austria; Agricultural Attaché H. A. Baehr.

Before Vienna and Munich, BCF took part in the fairs at Manchester, London, Milan, Brussels, and Cologne.

How BCF Helps Exporters

The BCF International Trade Promotion program is designed to increase present markets abroad for United States fishery products and to find outlets for new products. The emphasis to date has been on Western Europe because its increasing affluence is reflected in its greater receptivity to gourmet items. The fact that the Department of Agriculture is focusing on this area is another motivating reason. But BCF sees other markets too in the future.

The program brings buyer and seller together. It gives the U.S. exporter a chance to show his products, to find trained foreign agents to represent him, and to aid negotiations that have been conducted only by letter. BCF offers assistance to any firm that wants to participate, and an exporter receives

much help: instructions on what he can send and how to send it (he only provides the product and pays for transportation); display space is made available at no cost; he receives publicity abroad he could not buy; his name appears in the display booth over his products. His expenses can be written off for tax purposes as costs of doing business. And, under a new BCF policy initiated at Vienna this September, he does not have to send a representative to the fair. BCF is there to work with interested foreign tradespeople: Trained Bureau marketing specialists help these importers fill out fishery product inquiry slips--and then transmit these to the U. S. firms able to make quotations and supply the products.

Among the highlight of sales resulting from the fairs were a \$300,000 order for frozen salmon from Cologne, and another \$100,000 order for king crab at London.

Some Results of the Program

The display of American fishery products abroad has won thousands of fans. At Manchester, England, 10,000 samples were distributed to visitors: king crab, shrimp, scallops, salmon, squid, and lobsters. BCF is not above using culinary magic to win over buyers. The deep-fried, breaded, soft-shelled clams were "eaten up" by German, Belgian, and Italian fair visitors. The breaded clams opened the door to sales of this frozen food delicacy.

The experience of the first full year indicates that quality ready-to-eat items now can compete for the attention and money of the European housewife. Exhibitors know there is an expanding market for U. S. frozen and canned specialties--including shrimp, clams, caviar, king crab, mullet, squid, and salmon. Some visualize a potential for fresh whole Alaska salmon--flown over the North Pole to foreign markets.

Heading the International Trade Promotion Office is Samuel J. Hutchinson, a BCF veteran of 34 years who was Regional Director of the Bureau's Pacific Northwest Region in Seattle, Washington. His associates are A.L. Morel, who did much spadework for the foreign program and forged a network of friends and industry contacts abroad, and Lester F. Reynolds, who came to the Bureau after extensive experience in the sales and promotion of frozen products of the U. S. food industry.



Fig. 4 - Public views fresh fish booth, which received television coverage.

CF is fielding an active and resourceful team of international trade experts. Their efforts should increase exports of high-

quality U. S. fishery products. They invite industry to participate in their promotional efforts.



CLAMS CLEANED BY RADIATION

Hard shell clams (quahogs) from polluted water can be cleaned in one day with salt water purified by ultraviolet radiation, according to two University of Rhode Island professors. In the proposed plant designed by the professors, salt water radiated with ultraviolet light would pump across the clams continuously for 24 hours. The clams would get rid of the polluted coastal waters in which they grew by siphoning the sterilized water in and out of their bodies.

It is estimated that there would be quite a decrease in the cost of cleaning a bushel of clams--25 cents instead of the present cost of \$1.85. (Reprinted, with permission from Science News, weekly summary of current science, copyright 1966, by Science Service, Inc.)

FEDERAL ACTIONS

Economic Development Administration

STUDY OF PACIFIC HAKE'S COMMERCIAL POSSIBILITY APPROVED

The Economic Development Administration (EDA), U. S. Department of Commerce, recently approved a \$70,000 grant for an economic feasibility study of a commercial hake fishery off Washington's coast. BCF's Pacific Northwest Region will conduct the study. Grays Harbor Regional Planning Commission, Aberdeen, Wash., requested the study.

A processing plant has been built at Aberdeen, but hake supplied by local fishermen are insufficient for normal operations. Through "on-the-job" training featuring new equipment and techniques, BCF will try to aid the fishermen supply sufficient raw material to make the industry survive and grow.

Chartered trawlers will be used in the study to determine: (1) location of high concentrations of Pacific hake during each stage of fishing season; (2) most productive gear and other fishing techniques to use; (3) proper techniques for taking catch from gear; (4) best method for handling catch on board vessels and unloading it; (5) most desirable size and use of trawler crews; and (6) commercial catch rates and cost of production per ton of hake. (U. S. Department of Commerce, September 28, 1966.)



Food and Drug Administration

BLACKFIN PROPOSED TO BE INCLUDED IN U. S. STANDARDS FOR CANNED TUNA

The Food and Drug Administration published in the Federal Register, Sept. 15, 1966, a Notice of Proposed Rule Making to amend the standard of identity for canned tuna (21 CFR 37.1) to include blackfin tuna in the class known as tuna fish. The notice resulted from a petition filed by the National Cannery Association, Washington, D. C.

The petition argued that the blackfin tuna is caught in waters fished for tuna for canning; though formerly believed identical with either albacore or bigeye tuna, it is now shown to belong to a separate species not recognized by the standard; it is outwardly distinguishable only briefly after catching; belongs to the class known as tuna fish both by established usage and taxonomic classification.



Department of the Interior

APPLICATIONS FOR FISHING VESSEL LOANS

The following applications were received for loans from the U. S. Fisheries Loan Fund to help finance the purchase of fishing vessels:

James O. Russel, Jr., Star Route, Box 5, Brownsville, Texas 78520, applied for loan to help buy a new 67-foot steel vessel for all commercial species of shrimp. Published in Federal Register October 8.

Salvatore and Providenza Curcuru, 33 Hodgkins St., Gloucester, Mass. 01930, applied for loan to help buy a used 90-foot registered length wood vessel for groundfish. Published in Federal Register October 5.

Frederick N. Wedel, P. O. Box 193, Bodega Bay, Calif. 94923, applied for a loan to help buy a used 40.9-foot registered length wood vessel for salmon and Dungeness crab. Published in Federal Register October 5.

Regulations and procedures governing fishery loans have been revised and no longer require an applicant for a new- or used-vessel loan to replace an existing vessel (Public Law 89-85; Fisheries Loan Fund Procedures--50 CFR Part 250, revised August 11, 1965).

Note: See Commercial Fisheries Review, October 1966 p. 15.



Eighty-Ninth Congress (Second Session)

The Congress was aiming for adjournment on Saturday, October 22.

FISHING LIMIT EXTENDED TO 12 MILES

On October 15, President Johnson signed the bill (S. 2218) extending the exclusive fishing zone of the United States from 3 to 12 miles off the coasts.

SEMPERANT COLLEGES

The House adopted the conference report on H. R. 16559, the proposed National Sea Grant College and Program Act of 1966. This bill called it for President's signature. The bill authorizes the establishment of programs of education, training, and research in marine sciences.

RESEARCH CONTRACTS

The Senate on October 10 concurred in the amendment to S. 3460, authorizing Interior Secretary to contract for scientific and technological research. This action called bill for President's signature.

WATER POLLUTION CONTROL

A \$3.7 million water pollution control bill (S. 947) moved through Senate and House and was sent to the White House. It seeks to make more effective the programs conducted under the Federal Water Pollution Control Act. Most of the money is slated for States as matching grants for construction of sewage treatment plants.

COMMODITY PACKAGING AND LABELING

The Senate agreed on October 14 to House bill of S. 985. Bill went to White House. It provides for more government regulations on labeling and packaging food, drugs, cos-

metics, and household supplies. It calls for more uniformity in labeling packages--and voluntary moves toward uniform packaging.

FISH PROTEIN CONCENTRATE

The House passed a compromise bill (S. 2720) for a pilot program to produce low-cost protein concentrate from waste fish. The bill would authorize appropriations up to \$1 million to build a Government-owned plant, and \$1,555,000 annually for 5 years to lease a second plant and operate both plants.

RIVERS AND HARBORS

The House passed on October 19 a \$613 million rivers and harbors authorization bill. It provides for flood control, navigation, beach erosion, and other public works in 24 States. The Senate passed an \$821 million version a week earlier.

FUR SEAL CONSERVATION AND PRIBILOF ISLANDS ADMINISTRATION

Conferees in executive session on October 10 agreed to file conference report on difference between Senate- and House-passed versions of S. 2102, designed to protect and conserve fur seals on the Pribilof Islands.

INLAND GREAT LAKES AND WESTERN RIVER RULES FOR SMALL VESSELS

The House on October 13 reported (H. Rept. 277), with amendment, S. 1349, to amend the inland, Great Lakes, and western river rules concerning sailing vessels and vessels under 65 feet.

JELLYFISH CONTROL ELIMINATION IN COASTAL WATERS OFF U. S.

The Senate Committee on Commerce met in executive session on October 13 and ordered favorably reported, with amendment, H. R. 11475, which provides for control of jellyfish and other such pests in U. S. coastal waters.

