



International

NORTHWEST ATLANTIC FISHERIES COMMISSION

FISHERY SCIENTISTS MEET IN LISBON: A joint scientific meeting of fishery scientists, planned by the International Commission for the Northwest Atlantic Fisheries, the International Council for the Exploration of the Sea, and the Food and Agriculture Organization (FAO), was held in Lisbon, Portugal, from May 27 to June 3.

General principles in connection with fish population dynamics were deduced from the papers, with particular relevance to the cod, haddock, hake, ocean perch, and halibut fisheries.

There were three working parties at the meeting. The discussion on the effects of fishing dealt with the characteristics of fishing gear and methods, and the use of such gear, especially in connection with the magnitude and composition of catches.

It is hoped that the meeting will indicate what further research is needed in the North Atlantic (Trade News, March 1957.)

INTER-AMERICAN TROPICAL TUNA COMMISSION

SUOMELA APPOINTED U. S. COMMISSIONER: The President of the United States appointed Arnie J. Suomela, Commissioner of the United States Fish and Wildlife Service, U. S. Department of the Interior, to serve as United States Commissioner to the Inter-American Tropical Tuna Commission. The appointment became effective on May 14, 1957.



Aden

REVIEW OF THE FISHERIES: Fishing, perhaps Aden's oldest industry, is the one indigenous source of food in the Colony. The main catches are tuna, kingfish, caranx (a mackerel), sardines, and anchovies. In the last year fish production dropped considerably because of the absence of sardines, and consequently the larger fish, from the waters along the southern coast of Arabia. Sardine landings in 1956 were the lightest in six years.

Type	Quantity	Average Retail Price Per Pound	
		E. African shilling	US¢
Mackerel . .	Metric Tons 545	.47	6.6
Kingfish . . .	160	1.60	22.4
Tuna	70	1.25	17.5

There are now 21 mechanized fishing boats in the colony, and the supply of fresh fish was adequate in the last year. The Aden Fisheries Department estimated that during 1956 some 1,260 metric tons of fresh fish, valued wholesale at £63,700 (US\$132,500), were landed in Aden for marketing. Some of the major types of

fish supplied to local markets in 1956 are shown in the table.

Fish is salted or dried for export. In 1956 three fish meal plants were opened and began exporting fish meal. Fish is also imported from the Protectorate and Yemen and re-exported; the main export market for fish from Aden is still Ceylon. With the drop in fish production in the area last year, imports of fish into Aden from the Protectorate decreased in value (£3,000 or US\$8,400 in 1956 as compared to £20,000 or US\$56,000 in 1955).



Canada

BRITISH COLUMBIA HERRING CATCH FOR 1956/57 SEASON: The herring catch off the coast of British Columbia in the 1956/57 season totaled 179,943 metric tons, a decrease of 29 percent from the 253,396 metric tons reported for the 1955/56 season. The catch was also down from the average catch for the six-year period 1951-57 by about 10 percent.

British Columbia Herring Catch 1956/57 Season with Comparisons

Season Ending	Mar. 16, 1957	Mar. 10, 1956	Feb. 12, 1955	Mar. 27, 1954	Mar. 15, 1952	Mar. 17, 1951
(Metric Tons)						
District No. 2:						
Northern.....	31,004	11,055	20,281	31,002	57,336	50,638
Central	36,213	50,084	27,613	32,607	39,911	51,314
Queen Charlotte Is.....	29,089	92,637	21,625	28,440	11,182	3,138
District No. 3:						
Lower East Coast.....	43,389	48,978	51,130	53,050	40,308	41,003
Middle East Coast	20,001	30,156	25,740	20,087	10,369	12,073
Upper East Coast	15,045	951	9,529	6,326	8,242	3,773
West Coast	5,202	19,535	14,201	40,120	29,991	25,244
Total	179,943	253,396	170,119	211,632	197,339	187,183

The bulk of the herring landings was used for reduction into herring meal and oil. The production of products from the 1956/57 landings was as follows (previous season in parentheses): herring meal, 32,555 tons (47,000 tons); herring oil, 3.5 million imperial gallons (4.4 million). A total of 944 tons were sold for bait and 34 tons for fresh fish, according to a March 20 release from the Canadian Department of Fisheries.

* * * * *

CANADIAN INSPECTION STANDARDS FOR PLANTS

PACKING FISHERY PRODUCTS FOR EXPORT: Uniform minimum standards for plants producing fish and shellfish products for export have been set by the Canadian Department of Fisheries, and a voluntary program of plant inspection is being instituted in British Columbia, effective May 1 of this year.

More than 60 representatives of the fishing industry, the provincial government, Vancouver city health authorities, and the fishermen's union met with the Deputy Minister of Fisheries and other Fisheries Department officials at a recent Vancouver meeting to consider minimum standards for fish-processing plants.

The minimum standards were drawn up by the technical branch of the Department's Inspection and Consumer Service following intensive research and investigation. In 1954, in cooperation with the fishing industry, the Department completed a coast to coast survey of more than 500 fresh,

frozen, salt, and pickled fish plants which handle fish for inter-provincial and international trade. Data collected during this survey was used as a basis in establishing minimum plant standards.

A federal-provincial meeting was held in Ottawa shortly after completion of the survey, and the views of the ten provinces were expressed. General agreement was reached at that time on cooperative measures to bring about more effective inspection not only of fish products but also of fish plants and procedures.

The setting of minimum standards of construction, equipment, and sanitation of fish and shellfish plants is a further step in the advancement of the Department's over-all inspection program which is designed to maintain peak quality from the time fish are caught until they reach the consumer. (March 1957 Trade News of the Canadian Department of Fisheries.)

PACIFIC SALMON OFFSHORE FISHING REGULATIONS: Canadian fishermen will no longer be allowed to use nets to catch salmon in offshore waters of the Pacific Ocean, the Fisheries Minister announced recently.

This prohibition, as well as other amendments to the British Columbia Fishery Regulations, including a closed season and minimum size limit for troll-caught chinook salmon and a closed season for petrale sole, has been designed as a further conservation measure to protect important fish stocks of the Eastern Pacific Ocean.

Similar changes in fishery regulations of Alaska and of the States of Washington, Oregon, and California have either been effected or are expected to receive legislative approval at an early date.

Agreement on this joint action to coordinate fishery regulations in the Eastern Pacific area was reached at a conference held at Seattle, Wash., last February 27 and 28.

The recent growth of a salmon net fishery in offshore waters threatened existing United States and Canadian salmon conservation programs since the use of long series of nets in offshore waters intercepts the salmon before they separate to move in toward the rivers of their origin. Scientific fisheries management techniques can be applied most efficiently in inshore waters once the runs have separated to insure proper escapement to the spawning grounds.

It was agreed by Canadian and United States Authorities that absolute prohibition of all net fishing for salmon in the offshore waters of both countries was the only solution to this problem (Trade News, Canadian Department of Fisheries, March 1957).



German Federal Republic

SALTED SALMON IMPORTS PERMITTED: Import possibilities for salted salmon from the United States and Canada have been opened up by tender No. 302501 as published in the German Federal Bulletin of April 30, 1957.

Applications for import licenses under this tender may be submitted from May 3, 1957, onwards till the value limit has been reached, but not later than June 29, 1957, to the branch office of the Foreign Trade Agency in Hamburg.

Import procedure as well as regulations for tender No. 302501 are the same as for tender No. 302496 of February 21, 1957 (salmon, mild-cured), the value (about US\$59,000) limit of which was exhausted on March 6, 1957.



Greece

THIRD FREEZER-TRAWLER PURCHASED FROM GERMANY: A Greek firm has purchased its third freezer-trawler from a Bremen shipyard. The vessel left Germany early in 1957 for Milan, Italy, where it will be equipped with refrigeration machinery. The vessel is designed to catch and freeze 300 metric tons of fish.

This new addition to the Greek fleet of high-seas trawlers brings the total of ships of this type to four (Alieia, March-April 1957).

LOANS FOR FISHERIES: The Greek Government has announced that loans will be granted, payable in 8 years, to both the high-seas fisheries and the inland fisheries (Alieia, March-April 1957).



Japan

CRAB FACTORYSHIP OPERATIONS FOR 1957: The Japanese Government has granted licenses for 1957 to five North Pacific crab factoryship expeditions and has established a total production quota of 337,000 standard cases (48 6½-oz. cans) of king crab meat. In 1956, six fleets operated in the North Pacific and produced 427,350 cases of king crab meat.

The fishery in 1957 will be carried out in two major areas: the Okhotsk Sea off the west coast of Kamchatka Peninsula where four fleets will operate, and Bristol Bay where one fleet will operate. No fishing will be carried on in the Western Bering Sea this year as last year's operation were only exploratory and findings indicated that this area is not commercially profitable for king crabbing at this time. The fleet in this area produced only 54,500 cases of crab meat (mostly from king crabs), or 15,500 cases short of their target of 70,000 cases.

Area and Factoryship	Gross Tonnage	1957 Quota	1956 Pack
		(Cases-- 48 6½-oz. cans)	
Okhotsk Sea:			
<u>Hakuyo Maru</u>	6,372	70,000	73,500
<u>Shiranesan Maru</u>	5,736	70,000	73,500
<u>Kaiyo Maru</u>	4,963	70,000	73,500
<u>Yoko Maru</u>	5,763	70,000	92,500
Bristol Bay:			
<u>Tokei Maru</u>	4,514	57,000	59,850
Western Bering Sea:			
<u>Shokyo Maru</u>	5,886	-	54,500
Total cases		337,000	427,350

Details of the 1957 Japanese crab fleets and production quotas are given above together with the comparative figures for 1956.

Crab fishing in the Okhotsk Sea will be governed by the Japan-Soviet Fishing Convention signed in 1956. The Japanese industry feels that the provisions of this convention are not unduly restrictive and that this year's catch will not be adversely affected thereby. No quota has been established under the convention, the only restrictions being on female and immature crabs, and use of nets.

The standard export price for a case of king crab meat (48 6½-oz. cans) is US\$24.15 f.o.b. Japan. The carryover from last year's pack is reported to be approximately 250,000 cases or about half of last year's production. The industry reports that the sales of canned crab meat in early April showed signs of increasing and there is some hope that the 1956 carryover will be greatly reduced by the time the 1957 pack comes on the market.

In addition to the factoryship-type operations, there will be some shore-based crab fishing from Hokkaido, and the total pack of king crab meat from all sources for 1957 is estimated at approximately 400,000 cases, some 20 percent less than the 1956 pack, an April 12 dispatch from the United States Embassy in Tokyo reports.

FISHERY PRODUCTS EXPORTED TO THE UNITED STATES, JANUARY-FEBRUARY 1957: Exports of fish and fish preparations to the United States in January

Japanese Exports of Fish and Fish Preparations to the United States, January-February, 1957				
	Quantity		Value	
	Jan. 1957	Feb. 1957	Jan. 1957	Feb. 1957
 (Metric Tons) (US\$ 1,000)	
Tuna, frozen	3,165	5,643	945	1,606
Tuna, canned	708	965	666	919
Crab meat, canned	155	143	358	329
Other canned fish	1,274	898	1,074	798
Unclassified	646	1,320	581	659
Total	5,948	8,969	3,624	4,311

1957 totaled 5,948 metric tons (valued at US\$3.6 million) and 8,969 tons in February (valued at US\$4.3 million). Fish and fish preparations exports to the United States during January and February 1957 are shown in the table (U. S. Embassy in Tokyo, dispatch dated April 30, 1957).

* * * * *

FISHERY PRODUCTS IN EUROPEAN MARKETS: When the United States market for canned bonito showed a strong downward trend in 1955 and thereafter, Peruvian fish exporters found solace in the expanding markets in Europe. Lately the Japanese have been shipping to European markets heavily, causing considerable concern to Peruvian suppliers, according to a May 14 report from Lima.

* * * * *

JAPANESE FISHING VESSELS TO FISH OFF BRAZIL:

One of the largest Japanese fishing companies plans to send 5 vessels to Brazil for fishing in Atlantic waters. The fleet will consist of 4 trawlers of about 100 tons each and 1 purse-seiner of 190 tons. Approximately 100 fishermen and crewmen will go to Brazil for the operation and a number of Brazilian trainees will be trained on the Japanese vessels.

This is an exploratory venture and the Brazilian Government has granted permission for two years. If the operation shows that commercially-profitable fishing can be carried

on, the Japanese company hopes to conclude an agreement whereby a joint Brazilian-Japanese fishing company will be formed. If this comes about, the Japanese firm will participate financially in the building of freezing and processing installations, probably in the Santos area.

According to information obtained as a result of the explorations in 1956 by the Japanese vessel Toko Maru, there are corbina, merluza (hake or whiting), and shrimp available off Brazil, states a May 17, 1957, dispatch from the United States Embassy in Tokyo.

JAPANESE GOVERNMENT



Mexico

CANNED MACKEREL MARKET: Mexico, like California, catches and cans both Pacific mackerel Pneumatophorus Diego (Macarela), and jack mackerel, Trachurus Symmetricus (charro, charito, or caballo). These fish are found along the West Coast of the Peninsula of Baja California. In 1956 four canneries in or near Ensenada, Baja California, and one cannery on Cedros Island, Baja California, packed an estimated 350,000 standard cases (48 15-ounce cans) from a catch of 24 million pounds of Pacific mackerel and 14 million pounds of jack mackerel. In Mexico no distinction is made between the pack of these two species; both are labeled "Macarela."

Of the canned fish consumed in Mexico, sardines rank first and mackerel second. In 1956, however, more mackerel than sardines were canned in Mexico. Mexican production of canned mackerel supplies all local demands and the producers claim they could produce more providing a market was available.

The plants that pack mackerel also can sardines, abalone, and occasionally anchovies and tuna. They also produce fish meal and oil from the offal and most have equipment for concentrating the stickwater. The largest cannery was destroyed by fire late in 1956 but was expected to be completely reconstructed, modernized, and operating sometime in June 1957. Another cannery, which will pack mackerel in addition to other fishery products, is scheduled for completion by the end of 1957. It will be located at San Roque, Baja California, about halfway down the west coast of the Peninsula.

The Mexican mackerel pack is put up in natural style in 15-oz. and 8-oz. tall cans and fillets in tomato sauce in 15-oz. oval cans. The usual technique consists of the fish passing through automatic cutters and eviscerators into brine tanks. After $1\frac{1}{2}$ -2 hours in the brine the fish sections are packed in cans, exhausted, and drained, and either heated brine or heated tomato sauce added. The cans are then sealed and processed. The oval cans, to prevent off-shapes, are cooled under pressure in the retorts.

The 15-oz. tall and 15-oz. oval cans are packed 48 cans to the case. The 8-oz. tall cans run 72 to the case.

The consumption of canned mackerel is on the increase in Mexico. Mackerel fillets packed in tomato sauce in 15-oz. oval cans are becoming more popular. Canned mackerel, however, is in direct competition with locally-produced canned California sardines.

The 1956 pack of canned mackerel is estimated to have consisted of 40 percent 15-oz. tall natural, 45 percent of 15-oz. oval in tomato sauce, and 15 percent 8-oz. tall natural. The retail price in Mexico City for the 15-oz. tall can of mackerel is 2.85-2.90 pesos (about 23 U. S. cents); 15-oz. oval 2.85-3.00 pesos (23-24 cents), and 8-oz. tall 1.55-1.65 pesos (12-13 cents).

In 1956 only 1,228 pounds of canned mackerel, valued at US\$497, were imported. Of these imports 889 pounds, valued at US\$379, originated in the United States, while the remainder came from Japan and France.

Mexico will import very little or no canned mackerel in the near future. Mexico can produce all the mackerel required for her needs and could produce an exportable surplus if export markets were sufficiently profitable. The Mexican import duty of approximately 2 pesos a legal kilogram (7.3 U. S. cents a pound) plus 50 percent ad valorem is sufficiently high (about US\$6.50 a case) to discourage competitive imports of canned mackerel. Wholesale prices in Mexico City in 5-case lots for the 15-oz. tall can of mackerel is 119.50 pesos (US\$9.57) a case; 15-oz. oval in tomato 121.50 pesos (US\$9.73); and 8-oz. tall 111.50 pesos (US\$8.93) a case.

These prices are considerably under the estimated United States on-the-dock price plus the Mexican import duty.

Unless the Mexican import duty is lowered appreciably, which is highly improbable, there is little likelihood that there will be an increase in United States exports of canned mackerel to Mexico, states a May 7 dispatch from the United States Embassy in Mexico.

* * * * *

SHRIMP COOPERATIVE REQUESTS HIGHER EX-VESSEL PRICES: In a full-page advertisement published in a Mexico City newspaper (Excelsior) on April 10, 1957, the National Cooperative Confederation requested the President of Mexico for an increase in the ex-vessel prices paid for shrimp.

In an itemized accounting of costs made by the Sports Confederation and presented in the statement of the Cooperative Confederation, total costs for producing, processing, and exporting frozen shrimp from the west coast of Mexico is 13,400.25

Table 1 - Costs of Fishing for Shrimp on West Coast of Mexico

Item	U. S. ¢/Lb.
Boat expenses:	
Crew wages & shares..	7.40
Food for crew	2.07
Coop. payments	2.83
Fuel & oil	3.76
Ice	2.70
Fishing gear	2.54
Repairs & maintenance	1.96
Depreciation	3.11
Insurance	3.11
Miscellaneous	1.01
Total boat expenses ...	30.49

Table 2 - Costs of Processing and Exporting Shrimp on West Coast of Mexico

Item	U. S. ¢/Lb.
Processing & exporting costs:	
Freezing & packing	7.63
Export taxes	2.48
Association dues	0.25
Custom fees	0.05
Freight	2.50
Commission on sales	5.25
Total processing & export costs	18.16
Total cost	48.67

Note: Values converted at the rate of 12.49 pesos equal US\$1.00.

pesos a metric ton (about 48.67 U. S. cents a pound). From other sources it appears that the estimates given by the cooperatives are too low. For the Guaymas area it is believed that average costs run about 8 U. S. cents a pound more than shown by the cooperatives and that for Mazatlan and Salina Cruz the costs are still higher.

The costs, as given by the National Cooperative Federation, are shown in tables 1 and 2.

* * * * *

SHRIMP FISHERY TRENDS, APRIL 1957: Due to the closed season for shrimp fishing on the west coast of Mexico, except for the Province of Salina Cruz, landings of shrimp on that coast were light, but compared favorably with the catch for the same month in 1956. Landings of shrimp at Gulf of Mexico ports continued to exceed the 1956 catches. The catch per boat in that area was lower, but the expanded fleet increases the amount landed.

The price dispute between the Mexican west coast cooperative fishermen and the boat owners was unsettled as of the end of April. It was believed that an agreement would be reached before the new West Coast season opened on May 16, states a May 10 dispatch from the United States Embassy at Mexico City.

* * * * *

WEST COAST FISH CANNING INDUSTRY EXPANDING: The fish canning industry located on the west coast of Mexico is expanding rapidly, states an April 26 dispatch from the U. S. Embassy in Mexico City. In April the new tuna cannery at Guaymas, Sonora, was awaiting the arrival of its first load of tuna from a bait boat.

Reconstruction of the fish cannery at El Sauzal, Baja California, was well under way. This plant, which was destroyed by fire late in 1956, is scheduled to be completed some time in June 1957.

Drilling equipment, for obtaining fresh water, was landed at Point San Roque, Baja California (about 8 miles northwest of Asuncion Bay), where a large fish cannery is to be constructed. It is reported that this plant will be completed by the end of 1957 and it will be equipped to pack sardines, mackerel, tuna, and abalone.

Two other canneries, both for abalone, are projected for the west coast of Baja California. One for Santa Rosalia Bay (near the northern end of Sebastian Vizcaino Bay) and the other at San Juanico Bay (about 70 miles southeast of Abreojos Point).

The tuna cannery at Cabo San Lucas, Baja California, one of the oldest fish canneries in Mexico, is installing new packing equipment.



New Zealand

SPINY LOBSTER FISHERY: Catch and Exports: The catch of spiny lobster (*Jasus lalandii*) by New Zealand fishermen has risen from less than 1.0 million pounds in 1939 and about 3.0 million pounds in 1948 to 13.1 million pounds in 1955 (recovery of the tail portion is about one-third of the live weight).

In 1955 exports of spiny lobster tails (3.5 million pounds) amounted to 6.3 percent of the total New Zealand exports (practically all to the United States) and ranked third in value of all exports. In terms of value the exports of spiny lobster tails in 1955 amounted to US\$2.5 million.

New Zealand's Catch and Exports of Spiny Lobsters, 1939, 1944, and 1946-55

Year	Catch (1,000 Lbs.)	Exports	Year	Catch ^{1/}	Exports ^{2/}
				(1,000 Lbs.)	
1955	13,067	3,481	1949	4,224	715
1954	12,191	3,700	1948	2,992	418
1953	9,147	2,527	1947	2,022	-
1952	7,431	1,961	1946	1,887	-
1951	6,374	1,838	1944	1,783	-
1950	5,935	1,323	1939	915	47

^{1/} Whole spiny lobster.

^{2/} Chiefly tails (about 1/3 of the whole spiny lobster).

The catch in 1956 was estimated about the same as in 1955 or slightly higher. Exports declined in 1955 from 1954 due to a shortage of shipping space and consequently exports in 1956 were expected to exceed 1955, states a February 7 dispatch from the United States Embassy in Wellington.

Fishing Grounds: New Zealand spiny lobster are caught primarily off the South Island and chiefly in the sounds along the southwest coast. The chief port of landing is located at Bluff at the tip of the South Island. Over one half of the catch in 1955 was landed at Bluff. Thus, the expansion of the industry in the last ten years has been primarily in the southern part of the South Island where the spiny lobsters have been especially plentiful.

Fishing Methods: Spiny lobsters are caught: (1) by setting baited baskets or pots, (2) by trawling, and (3) by setting baited ring nets.

Independently-operated vessels fish under license from the Government. The issuance of licenses has been limited and less than the demand. In the south, the increase of export demand for spiny lobster has resulted in a shift to fishing for spiny lobster and as a result the catch of other fisheries in areas where spiny lobsters are plentiful has declined.

Preparation, Packing, and Marketing: A number of packing stations operate along the eastern part of the South Island, but especially at Bluff, Dunedin, and Christchurch. The plants are reported to be clean and the spiny lobsters are handled under sanitary conditions.

There are no government sanitary or inspection regulations in the spiny lobster industry, aside from the usual regulations governing food and factory operations. The widespread nature of the industry makes government inspection impractical.

The general packing procedure at the larger centers in the southern part of the South Island is for the boats to dress the spiny lobster at sea and freeze them in bulk on the ships. The tails are landed, thawed, and repacked at the centers in Dunedin and Bluff. At the smaller centers, the spiny lobsters are brought in alive and dressed at the packing plant. Regulations only permit "tailing" at sea in the southern region; elsewhere only whole spiny lobsters may be landed to avoid pollution of lobster tail beds and to assure sufficient landings to supply the New Zealand public.

The private fishing operators usually sell their catch to the packing plants who in turn, after packing, ship the spiny lobsters to the United States to be sold there largely on a commission basis. The price received in the United States is watched very carefully.

The Pack: Most spiny lobsters are exported as frozen tails, but a small amount is shipped whole or canned.

The tails are packed in 20-pound wooden boxes, according to size, ranging from as high as 70 tails per 20-pound box for the smaller sizes, to only 15-20 for the jumbo size.

In preparing the pack, the tail is usually removed from the live carcass by hand. The sand vein is then removed from the tail, usually by means of a vacuum suction tube.

Packing Problems: Most spiny lobsters are dressed at sea and frozen in bulk on the ships. They are then thawed when they arrive at the packing plant in order to allow them to become flexible and suitable for packing in boxes. The thawing process creates a problem of quality deterioration resulting from raising the temperature of the frozen tails.

The problem of drip is also important and arises when fish that have been frozen and then thawed for repacking and refreezing release a drip with some corroding and staining characteristics. This liquid drips on the packing boxes and stains them a yellow color which is causing some concern to exporters and buyers. The New Zealand Department of Scientific and Industrial Research has been asked by the trade to assist in overcoming this problem of box staining. The Department has suggested that the boxes be sprayed with certain chemicals to eliminate the stain.

An alternative and probably preferable procedure would be to freeze the pack in final form on the ships and avoid thawing. However, it was pointed out that in several cases where fishermen did this, no price premiums were received in New York, despite the fact that the spiny lobsters were of

high quality. The cost of operating on this basis is much greater because of the additional equipment needed on the vessels and the smaller catch that is possible with the greater space required on the vessels for packing operations.

Conservation Problems: The heavy export of spiny lobsters to the United States has been criticized as causing the depletion of stocks and raising retail prices to New Zealand consumers. Both subjects have even come up in Parliamentary debate. However, the criticisms are generally regarded as internal New Zealand problems.

With regard to raising prices to the New Zealand public, trade officials have observed that before the United States market developed, fishermen were getting low prices; now they are prosperous. Moreover, shipments to the United States are on the initiative of the New Zealand trade.

The depletion of stocks is reported as a serious problem and may readily be appreciated by noting the phenomenal use of the catch. One trade official noted that five years

Tails per 20-lb. Box	Percent
15-20	3.8
20-30	7.5
30-40	21.2
40-55	32.5
58-70	35.0

ago the bulk of his pack was jumbo size, i. e. 15-20 tails per 20-pound box. Today, the bulk is 40-50 or 58-70 per box with the distribution roughly as shown in table (sample taken January-March 1956).

Thus the bulk of the pack is now of younger fish with smaller tails, because of the inroads of heavy fishing. Fishing beds formerly teeming with spiny lobsters are now becoming more difficult to find. If the process of intensive fishing continues, the catch may decline sharply.

A larger minimum size limit is advocated by some trade observers as a conservation measure. There is at present a minimum limit of ten inches and some observers advocate raising the limit to 11 or 12 inches.

The restricted licensing of fishing boats also limits the catch and serves as a conservation measure.

Although the size of spiny lobsters is diminishing, conservation officials are not concerned that stocks will be eliminated. Before this happens, the industry will become unprofitable and result in a reduction of fishing operations. Farsighted fishermen, however, do not wish to see the industry become uneconomic and would like to maintain conservation measures now to assure a long-term economic supply.



Norway

COD FISHERIES TRENDS, MARCH 30, 1957: Landings of spawning cod and Finnmark young cod as of March 30, 1957, amounted to 52,008 metric tons of which 17,379 tons were sold for drying, 26,178 tons for curing, and 8,451 tons as fresh fish. In addition, 1,970 tons of cod oil were produced; and 2,031 tons of cod roe were sold for curing and 979 tons for canning or as fresh roe. Last year during the same period the cod fisheries yielded 96,985 metric tons. Bad weather hampered the fishing this year to a great extent in the Lofoten area district, but south of that area the cod fishery was much better than usual in recent years, points out the Norwegian fishery periodical *Fiskets Gang* of April 14, 1957. The Lofoten cod fishing season gave disappointing results, and hopes were being pinned on the spring fishing for cod off Finnmark.

* * * * *

WINTER AND SPRING HERRING CATCH DOWN IN 1957: The winter and spring herring fisheries of Norway in 1957 produced 850,000 tons of winter herring (previously reported at about 786,250 tons) and 283,000 tons of spring herring--a total of 1,133,000 tons. In 1956 the winter catch amounted to 1,232,000 tons (reported to be 1,166,666 tons by *Fiskets Gang*, March 7, 1957) and the spring catch totaled 268,000 tons--a total of 1,500,000 tons. (*News of Norway*).



Peru

MARINE RESEARCH: Peru's marine research program conducted by the Peruvian Council of Hydrobiological Investigations will be directed by Dr. Warren S. Wooster, an oceanographer from the University of California's Scripps Institution of Oceanography. This appointment is the result of an agreement between the

Peruvian Council of Hydrobiological Investigations, the Scripps Institution, and the Inter-American Tropical Tuna Commission. Under the agreement, the Scripps Institution will train Peruvian oceanographers and will give leave of absence to staff members chosen to aid the Peruvian research studies. In return, the Institution will receive data collected in the Peruvian waters.

The Council is supported by four groups: the Peruvian Navy, the Guano Company (which harvests the rich fertilizer deposits left by sea birds on the rocky islands off the Peruvian coast), the Peruvian Fish and Wildlife Service, and the Peruvian fishing industry.

Financial support for the program comes from fees paid by United States tuna fishermen, who pay to collect bait in Peruvian waters and to use their ports.

Wooster's task will be to organize and direct the research program of the Council. His first project will be an oceanographic study of the northern boundary of the Peru Current, where tuna fishing is done. He will study how it varies in character and location from season to season.

One of his objectives will be to study "El Nino," a warm current from the north which occasionally sweeps down Peruvian coast and causes the death of many fish and birds.



Republic of the Philippines

CANNED FISH PRICES, APRIL AND MAY 1957: Wholesale and retail prices for canned sardines and canned salmon in Manila in April and May 1957 were as follows:

	Wholesale US\$	Retail US\$
<u>Canned Sardines:</u>	<u>case (48 15-oz. cans)</u>	<u>can (15 oz.)</u>
U. S. Brand	14.00-14.25	0.30-0.325
Japanese Brand .	11.50-11.75	0.225-0.25
<u>Canned Salmon:</u>	<u>case (48 16-oz. cans)</u>	<u>can (16 oz.)</u>
U. S. Brand	30.00	0.65-0.70
Japanese Brand .	30.375-30.50	0.675-0.725



Portugal

FIFTH NATIONAL FISHING CONGRESS: The Fifth Portuguese National Fishing Congress will be held at Luanda, Angola, September 27-October 7, 1957. This will be the first time that such a congress has been held outside continental Portugal. Luanda was selected as the site of this year's congress because Angola's fishing industry is most developed and important among the overseas territories.

The following subjects, among others, will be discussed at the Congress: the economic structure of the fishing industry, tendencies and prospects of fishing in Angola, markets and possibilities of expansion, and improving equipment of the fish meal industry with a view to increasing output and improving quality.

A Portuguese government official expressed the hope that as a result of discussions at this Congress there will emerge a foundation upon which a development

plan for the fishing industry in the Overseas Provinces, similar to that in metropolitan Portugal, may be established.



Spain

VIGO FISHERIES TRENDS, MARCH 1957: Fishing:

During March fishery landings at Vigo sold over the fish exchange amounted to about 10.7 million pounds, valued at US\$1,029,000. The March catches represent an increase in quantity of about 62 percent as compared with the previous month and were about 20 percent over the March 1956 catch. The weather was more favorable for fishing operations during the month, especially for the smaller craft. No sardines were landed due to a closed season February 15-April 15.

The principal varieties of fish landed in March 1957 were: dollarfish 4.1 million pounds, small hake 2.5 million pounds; and horse mackerel, about one million pounds. The catch of dollarfish (known locally as pomfret) did not decline as expected in March.

The average price of fish and shellfish sold on the Vigo fish exchange in March was 9.5 U.S. cents a pound as compared with 11.3 U.S. cents in February and 8.1 U.S. cents in March 1956. The landings of shellfish sold on the exchange increased slightly in March to 221,965 pounds, an increase of 18 percent over the previous month.

Fish Canning: The fish canneries in the Vigo area purchased about one million pounds of fish during March; this is much higher than the purchases of about 88,164 pounds in February and the 262,430 pounds during March 1956. Although not more than 20 percent of the canneries were active in March, their production was unusually high. The principal varieties packed were anchovies, dollarfish, and squid.

The anchovies were caught in the northern part of Spain and shipped in brine to Vigo canneries. Other species packed were horse mackerel and a type of bonito known locally as "tasarte" or "bonito marroqui."

Practically all canneries have been granted authorization to purchase olive oil and no difficulties are anticipated in obtaining an adequate supply. Tinplate continues to be scarce and apparently no action has been taken as yet by the Central Government on the estimated requirements of the fish canneries for the coming season.

Exports of canned fishery products were at a very low level during March, and were confined mainly to anchovy for Cuba, the United States, Netherlands, Germany, Switzerland, and Scandinavian countries. The canneries expect to be granted a higher rate of exchange on their exports of canned fishery products and this matter is pending before the Cabinet. They had asked for rates of 43-45 pesetas to the U.S. dollar except for anchovy. A rate of exchange of 53 pesetas to the U.S. dollar on exports of anchovy was requested because more hand labor is needed in packing. By the end of the month the principal canneries felt fairly certain that a rate of exchange of 42.00 pesetas (about 2.38 U.S. cents) to the dollar would be allowed on their exports.

No domestic prices had been fixed up to the end of March by the Government on canned fishery products sold in the country. Domestic markets were reported to be dull during March, but an improvement was expected in April.



U. S. S. R.

A NEW TECHNIQUE FOR ELECTRICAL FISHING: A new fishing technique makes use of the principle of electrotaxis--the tendency of fish, when placed in an



Fig. 1 - Arrival of salmon at the intake of pump (A).

electric current, to go from the negative pole, or cathode, to the positive pole, or anode. Electrotaxis may be used during all the seasons, independently of the condition of the fish. In addition, a weak alternating current agitates the fish and causes them to withdraw from the area. Thus, these phenomena may be used to more or less guide the fish.

After preliminary testing at the Ozerna River experimental station in Kamchatka, an electrical fishing system was installed in the Iavina River. This system caught 961 quintals (about 107,600 pounds) of fish in 169 hours as compared to 657 quintals (73,600 pounds) caught in the same time interval by a crew of fishermen using nets.

The end of an intake tube is wired to the positive pole of a direct-current high-voltage generator. Sheets of metal placed around the end of the intake tube are wired to the negative pole of the generator. The fish, guided by the existing electrical field, swim toward the near end of the intake tube. It might be thought that instinct would cause the fish to swim away from, rather than toward, the intake tube, but electrostatics apparently overcomes the instinctual tendency of flight. The fish swim into the intake tube (fig. 1) and are, in a matter of seconds, drawn into the intermediate reservoir (fig. 2).

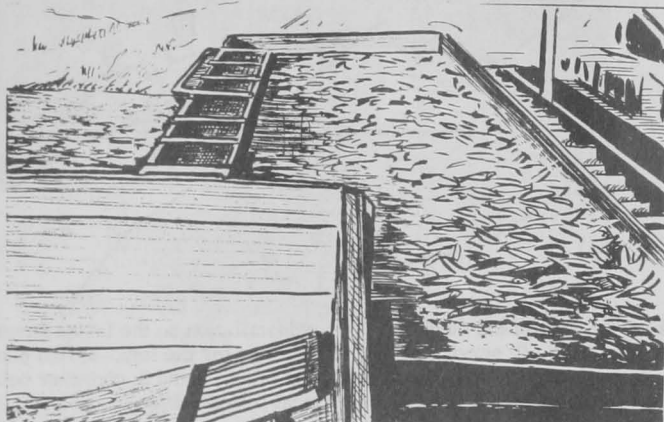


Fig. 2 - Fish which have been drawn into the reservoir.

Fish thus caught are, to all appearances, the same as before and apparently are not damaged. After being caught electrically, they have been kept alive for as much as five or six days.

For best results, the water should be made slightly saline and its resistance should measure between 1,000 and 10,000 ohms per centimeter. If the resistance measures above 10,000 ohms, the results are not too good. The electrical fishing system has no influence on fish at a distance greater than 3.5 meters (11.5 feet). This limitation has been made use of in that a certain number of fish are allowed to pass upstream, thus insuring adequate spawning.

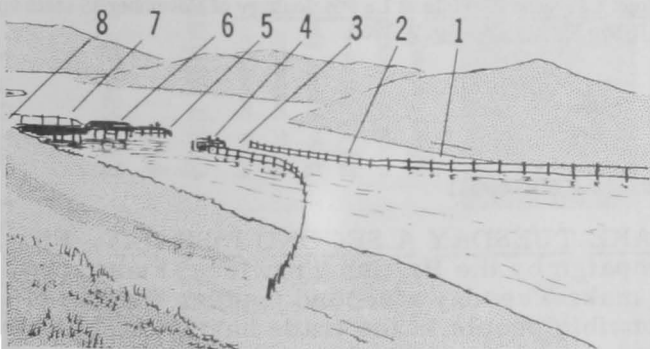


Fig. 3 - A view of the complete electrical fishing installation on the river. 1, barrier. 2, corridor. 3, passage for the fish. 4, service bridge, 5, fish pump. 6, intermediate reservoir. 7, cutting table. 8, conveyer belt.

table. They are transported from here on a conveyer belt system to salting vats.

Experience has shown that fish caught electrically do not have grains of sand in their gills or under their scales as is the case when caught by net. Because of this, a portion of the fish are taken directly from the reservoir and are shipped by tank truck to a canning point six kilometers away.

The entire fishing installation requires 40 to 45 kilowatts of current to run it, of which 6.5 kilowatts are used in the electrical fishing itself.

The intake tube of the pump is 21 meters (almost 69 feet) long. The pump is large enough to engulf the fish. They pass from the pump through the intermediate reservoir and, finally--still drawn by the flow of water--they arrive at the cutting

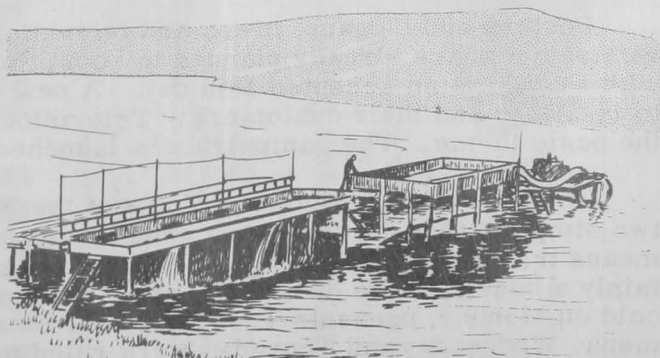


Fig. 4 - Fish pump, intermediate reservoir, and cutting table.

The river barrier is made up of metallic rods 7 to 8 millimeters (0.28-0.31 inch) in diameter, and 28 to 30 millimeters (1.1-1.2 inches) apart. These rods are set in wooden frames held by poles. Every fourth or fifth rod is charged with a weak alternating current.

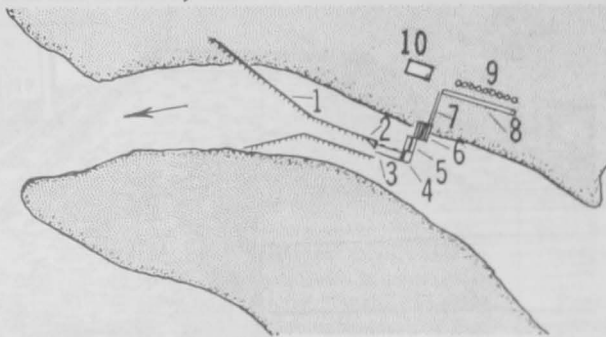


Fig. 5 - Plan of the electrical fishing installation on the Iayina River.
1. barrier. 2. service bridge. 3. passage for the fish. 4. fish pump.
5. intermediate reservoir. 6. cutting table. 7 and 8, conveyer belt.
9. pickling (brine) vats. 10. electrical power station.

tively little dispersal. By this means, it might be possible to lead fish to the intake of a distant pump.

One of the advantages of electrical fishing is that young fish are not influenced by the electrical field; it takes a much stronger field current to affect them. Selective fishing can also be done electrically where only certain kinds of fish are taken. This possibility has been verified experimentally.

Note: Translated by R. Duckworth from *La Peche Maritime, La Peche Fluviale et La Pisciculture* of November 15 which in turn translated the article from the Russian periodical *Rybno Khoziaistvo* No. 2, 1956.



United Kingdom

ADVERTISING CAMPAIGN TO MAKE TUESDAY A SECOND FISH DAY: First details of a £300,000 (US\$840,000) campaign by the British Trawlers' Federation and other sections of the fish trade to make Tuesday a second popular fish day of the week have been circulated. Responsible people in the trade have said if people could be encouraged to eat fish two days a week instead of one, the industry's problems would diminish.

In the past year, consultations have gone on between the Federation and fish-mongers and fish friers through their national associations. They have decided that the time is ripe to face up to the issue, since landings are already going up and indicate that summer supplies will be heavy.

Posters and slogans, press and television campaigns, and color magazine advertisements are already planned to boost the idea of bringing Tuesday into line with Friday as an accepted fish day. A new color recipe book is being distributed to retailers and their customers. Television every Monday night will drive home the basic theme. The campaign was launched on April 29.

The reasoning behind the efforts of the British Trawlers Federation is based on two simple facts: (1) there are peak landings at the English ports on Monday which means that fish in the shops on Tuesday is in greater variety and more supply, certainly a benefit to the housewife; and (2) the national eating habit of the Sunday roast, cold on Monday, presents Tuesday as the ideal day for the first variation of the menu. Wednesday and Thursday were ruled out because of early closing days in most of the country.

British Trawlers Federation Launches £300,000 Campaign

TO MAKE

TUESDAY the Second FISH DAY of the Week!

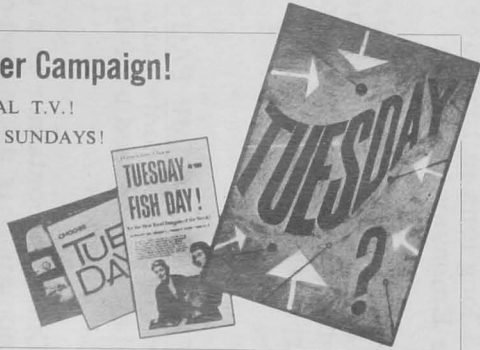
"If we could only make people eat fish twice a week—all our problems would be over"... how many times have you heard that plea over the years? One of the long time problems for the Fish Trade is peak retail sales on Friday but peak landings at the ports on Monday. Here are the details of a bold attempt by British Trawlers to change national consumer habits and build Tuesday into the second fish day of the week. We have chosen Tuesday because Monday landings are the heaviest of the week and this means greater supplies in the shops, more variety and certainly at the ports a tendency to lower prices. Wednesday and Thursday were out because of

early closing days. It is a big campaign and a powerful one. £300,000 is being spent in the biggest nation-wide advertising campaign ever launched in Britain to sell fish. Full details are inside. Make sure you profit from it. Back it to the limit and talk it up to all your customers. If we can put this over together, it will mean a stronger, healthier industry and increased profits for all of us—and certainly it means better meals, more balanced menus, more variety and more opportunity for the housewives of the country to give their families the cheapest first-class food money can buy.

Nationwide Teaser Campaign!

POSTERS! COMMERCIAL T.V.!
NATIONAL DAILIES & SUNDAYS!

Starting April 15, everyone everywhere will be asking what 'What's so special about Tuesday? Why is Tuesday a good news day?' That's how we plan to launch this promotion—with a nationwide Teaser Campaign! A campaign that will build Tuesday into a national question-mark. Build interest and greater sales-impact for April 29. That's when the campaign breaks!

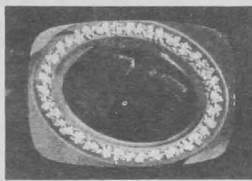
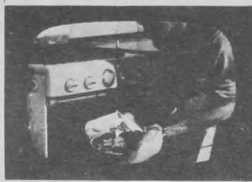


Nationwide T.V.!! Every Monday!
with
Philip Harben!

90 sec. Commercials!
60 sec. Commercials!
15 sec. Reminder Spots!
All I.T.V. Stations—
at peak viewing times!
Audience 6 million!



Here are T.V. Commercials that will soon become a regular Monday habit with viewers throughout the country. These include (a) 90 sec. 'Live-News' Commercials in which Philip Harben interviews and questions Dockside Supervisors, Trawler Skippers, and people-in-the-know, about Monday landings and Tuesday's best Fish Buy, and then demonstrates a simple Fish recipe; and (b) 60 sec. Fish Recipe Demonstrations by Philip Harben, in which only the simplest ingredients are used. In addition, 15 sec. Reminder Spots will appear throughout Monday evenings at peak viewing times—all with the special message: Choose Tuesday as your Fish Day.



Full Colour Pages in Leading Women's Magazines!

Advertisements like these will appear throughout the year—all in full colour—with simple Fish Recipes sponsored by famous Chefs.

- COLOUR PAGES—
- HOME
 - IDEAL HOME
 - MY HOME
 - JOHN BULL
 - HOME NOTES
 - HOMES & GARDENS
 - EVERYWOMAN
 - SHE
 - WOMAN & HOME
 - GOOD HOUSEKEEPING EVERYBODYS



Nationwide Newspaper Coverage

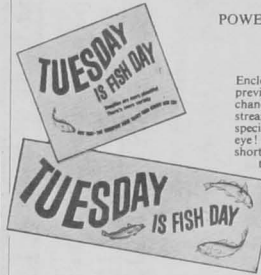
Big, smashing half-page advertisements in the national dailies will tell housewives everywhere to CHOOSE TUESDAY AS YOUR FISH DAY FOR THE FINEST FOOD BARGAIN OF THE WEEK—and give the reasons why!

NATIONAL NEWSPAPERS!

- | | |
|---------------------------------------|---------------------|
| DAILY EXPRESS | DAILY MIRROR |
| DAILY MAIL | MANCHESTER GUARDIAN |
| NEWS CHRONICLE | DAILY TELEGRAPH |
| DAILY HERALD | DAILY SKETCH |
| TOTAL NUMBER OF IMPACTS: 638,796,000! | |

SPECIALLY FOR YOU!

POWERFUL PUNCH AT
POINT OF SALE!



Enclosed with this advertising-preview are attractive merchandising aids. Colourful streamers and showcards—specially designed to catch the eye! In addition, you will shortly receive the new, illustrated Fish Cookery Books! Display them prominently where all can see. That's the way to get the most out of this hard-selling TUESDAY FISH DAY campaign.

FREE! New FISH RECIPE BOOKS!

All our consumer surveys indicate that housewives will buy more fish if they learn and know simple and interesting ways to prepare it. To help you fulfil this need we have produced a new Fish Cookery Book edited by the famous chef Jean Conil. It is colourful, exciting and sure-fire. 32 pages with illustrations in full colour. 50 recipes to carry a family through a year with changes every week. Full details of distribution plans of the new Menu Recipe Book will be sent to you shortly.



TYPICAL PAGE-SPREAD ADVERTISEMENT APPEARING IN BRITISH FISHING TRADE PERIODICALS IN ORDER TO PUBLICIZE WHAT IS BEING DONE TO PROMOTE TUESDAY AS THE SECOND FISH DAY OF THE WEEK.

The industry is not forgetting Friday, which starts off with a big national habit in its favor. They will be running television commercials Thursday nights to remind housewives of Friday fish bargains.

And back of this whole campaign will be running the standard theme that "fish is the cheapest first-class food money can buy." (Fishing News April 5, and Fish Trades Gazette April 27, 1957).

* * * * *

CANNED PILCHARD AND SILD SARDINE IMPORTS: During a Parliamentary Session on March 21, 1957, questions were raised as to the British imports of South African and Japanese canned pilchards and their affect on the Cornish pilchard

Table 1 - British Imports of Canned Pilchards, 1952-56

Country	1956		1955		1954		1953		1952	
	Tons	US\$ 1,000	Tons	US\$ 1,000	Tons	US\$ 1,000	Tons	US\$ 1,000	Tons	US\$ 1,000
Union of South Africa	991	378	2,453	916	1,069	431	2,048	916	4,894	2,117
South-West Africa ..	11,194	4,231	6,235	2,240	2,952	1,047	655	286	745	344
Other	-	-	2	-	1	-	1	-	42	39
Total	12,185	4,609	8,690	3,156	4,022	1,478	2,704	1,202	5,681	2,500

industry. The recent trade agreement between the United Kingdom and Japan, which provides for imports of Japanese canned pilchards valued at £30,000 (US\$84,000) for the year ending September 30, 1957, is causing concern in Cornwall. It was pointed out that imports from South-West Africa have increased substantially, but Japan's quota is very small and no imports have been received by Great Britain under the quota to date. Prior to the trade agreement with Japan, imports of canned Japanese pilchards were negligible (less than 50 tons yearly). Imports of canned pilchards from the Union of South Africa and South-West Africa reached a total of 12,185 long tons in 1956 (see table), states a March 25 dispatch from the United States Embassy in London.

It was announced in a British newspaper on March 25 that a trial barter agreement had been made with Norway whereby 50,000 cases of Norwegian sild sardines valued at £150,000 (US\$420,000) have been imported by a British automobile manufacturer.

* * * * *

FROZEN SHRIMP PACKED IN TRANSPARENT PLASTIC CONTAINER: Frozen shrimp packed in containers of two different sizes made of transparent sheet plastic have been introduced by a British firm in England. The shrimp are packed for the firm in Norway.

One size container is a consumer pack shaped like a sardine can, and the other size container is drum shape for the institutional pack. Both containers have flat lids, sealed on by heat and pressure, which are removed by cutting off the projecting flange with scissors or by piercing one corner of the lid with a knife and tearing it open, reports the May 1957 issue of the Canadian Fisherman. (Editor's note: It is believed that the pack consists of frozen cooked shrimp.)

* * * * *

UNDERWATER TELEVISION TO AID HERRING RESEARCH: For the first time an industrial underwater television camera is being used aboard the Scottish fishery research vessel Clupea, scheduled to sail from Ayr to search sea and sandbanks in the eastern area of the lower Clyde estuary.

The herring, which once abounded in the firth, are the subject of investigation being carried out by scientific officers of the Scottish Home Department Marine Laboratory.

Their object is to gauge the extent and scope of the spawning areas, environmental features, dispersal of the herring larvae, and their subsequent growth or mortality.

The underwater television set is being used to provide a detailed study of distribution and density of egg concentrations on the spawning grounds, and some excellent photographs of the sea bed, down to a depth of 30 fathoms, have been obtained.

In the past the principal research of this nature has been done in the North Sea fishing grounds, but the Clyde estuary into which the Clupea makes daily trips, provides scope for more precise work, as the spawning grounds are more localized.

The cable carrying the power to the underwater camera is the type used by the Admiralty in locating the crashed Comet airliner off the Italian coast some years ago. (Fish Trades Gazette, April 20, 1957.)



OREGON FISH TAGS WIND UP IN PARIS CAFE

The Oregon Fish Commission is positive of the final disposition of at least two steelhead salmon that entered the Columbia River in 1956, the Commission announced in June 1957.

The fish were "tagged" by the Commission at Bonneville Dam in July 1956 and were released to continue their trip to the spawning grounds. But these two particular fish failed to reach their intended destination.

This month, the numbered plastic discs that had been attached to the fish at Bonneville were returned to the Commission, accompanied by a letter written in French. A translation of the letter disclosed that the tags had been removed from the fish by a Roumanian dishwasher at the La Reine Pedauque, an exclusive Paris restaurant.

The Commission points out that the tagged steelhead salmon were probably among the last fish taken commercially by Indians at Celilo Falls. Completion of the Dalles Dam last winter flooded out historic fishing sites at Celilo.

The translator said he had a little difficulty translating the letter because the dishwasher had used phonetic French spelling in his letter. The name of the writer was illegible, but his curious final passage was clear: "I hope this information helps you to cure these fish of their polygamy and the cruelty of gobbling one another."