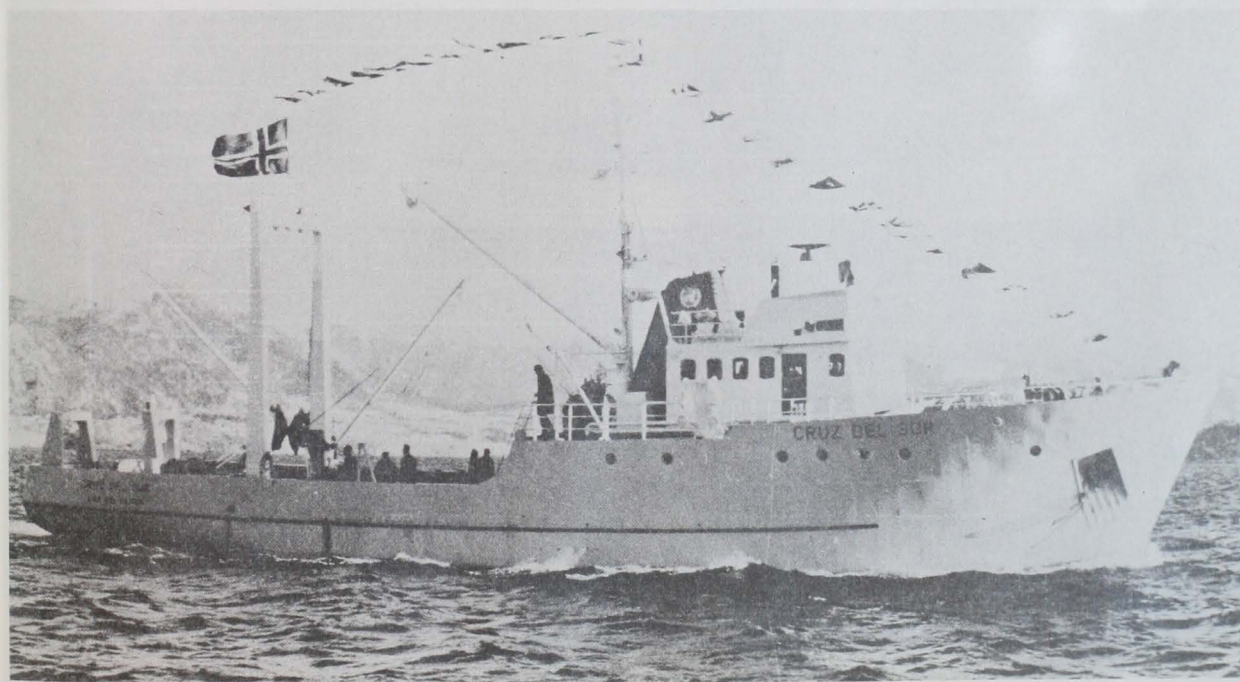
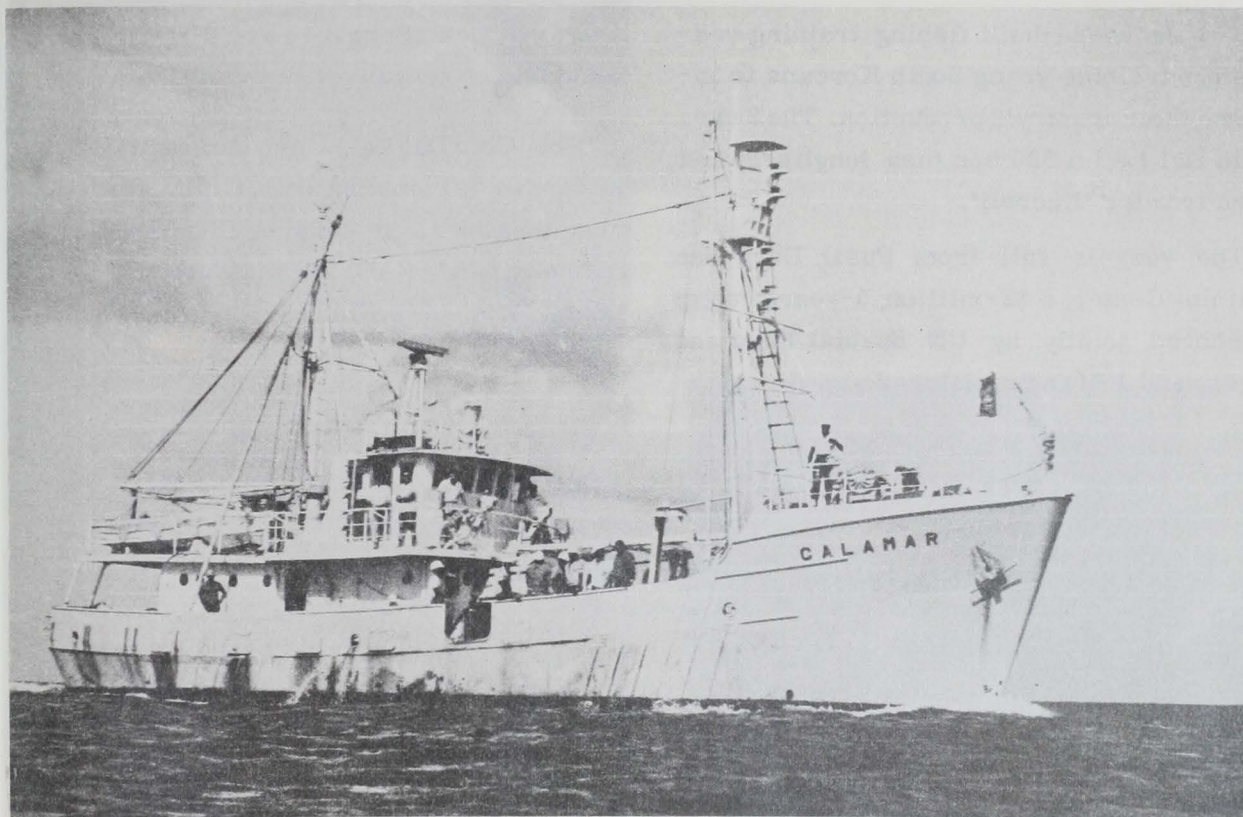


## VESSELS OF FAO FLEET

Three of the nearly 100 FAO vessels searching for food the world over are pictured here. (See also CFR, April 1971.)

The 56-foot, British-built 'Fregata' is one of 3 FAO vessels to dramatically change the Caribbean fisheries. The other 2 are the 81-foot twins, 'Alcyon' and 'Calamar', built in Japan in 1966 to cross Pacific under own power. (FAO photos)





Since its 1968 launching, the 102-foot 'Cruz Del Sur' has set fishing records, reports Argentina. The vessel operates from Mar del Plata as a combination stern trawler and purse seiner.

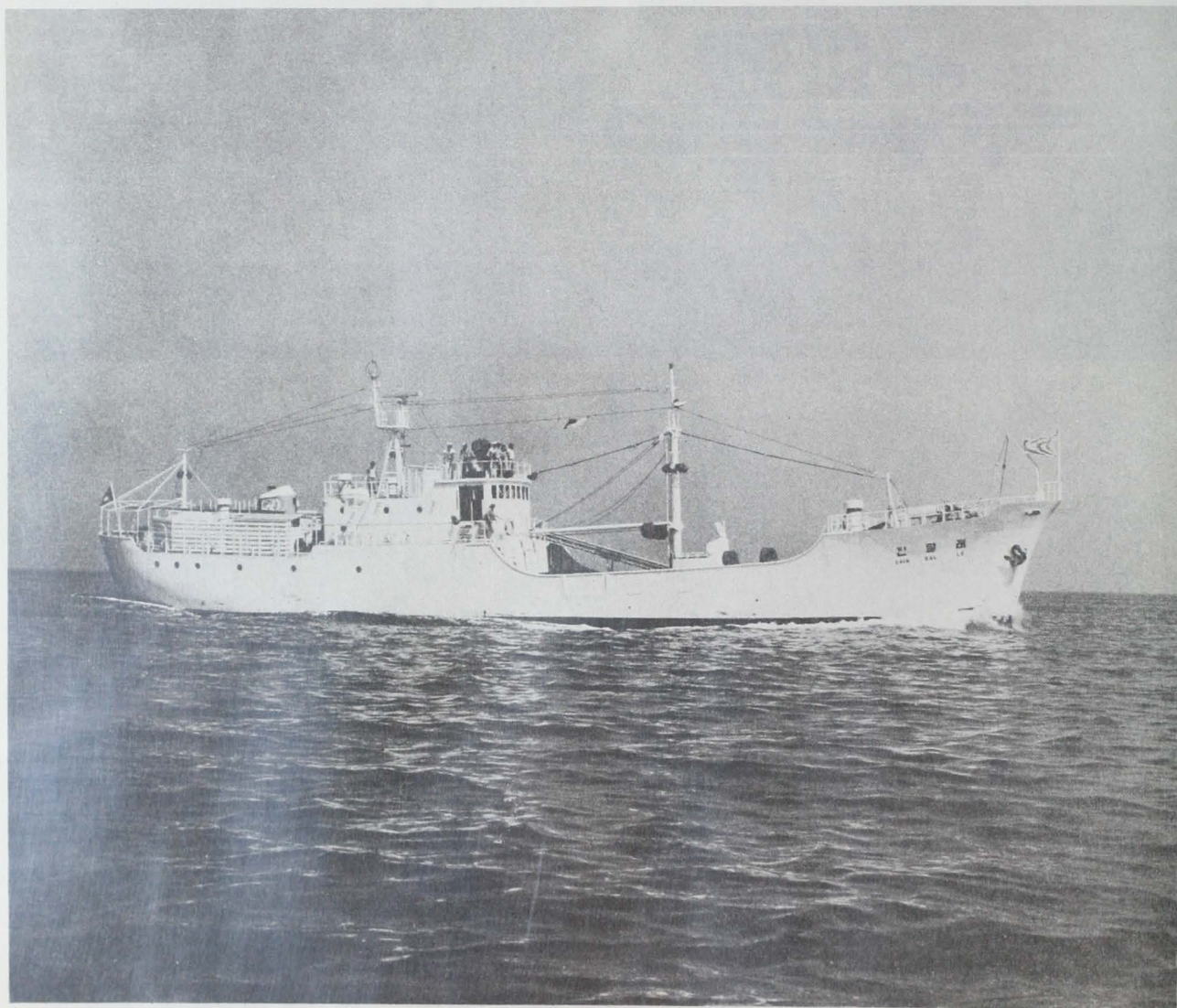
## FISHING-TRAINING VESSEL

Two Japanese-built fishing-training vessels are training young South Koreans to increase their country's production. The 2 are: 'Chin Dal Le,' a 320-ton tuna longliner, and stern trawler 'Kaenali'.

The vessels sail from Pusan Deep-Sea Training Center, a \$2-million, 5-year project sponsored jointly by UN Special Fund and Korea, and FAO administered.

Pusan Center graduates are becoming backbone of growing high-seas fleet.

The 'Chin Dal Le', which means 'wild rose' in Korean, is combination training vessel and tuna longliner. It carries 16-man crew, 40 trainees, and FAO instructors on 4-month trips. It fishes rich tuna grounds near Samoan islands.

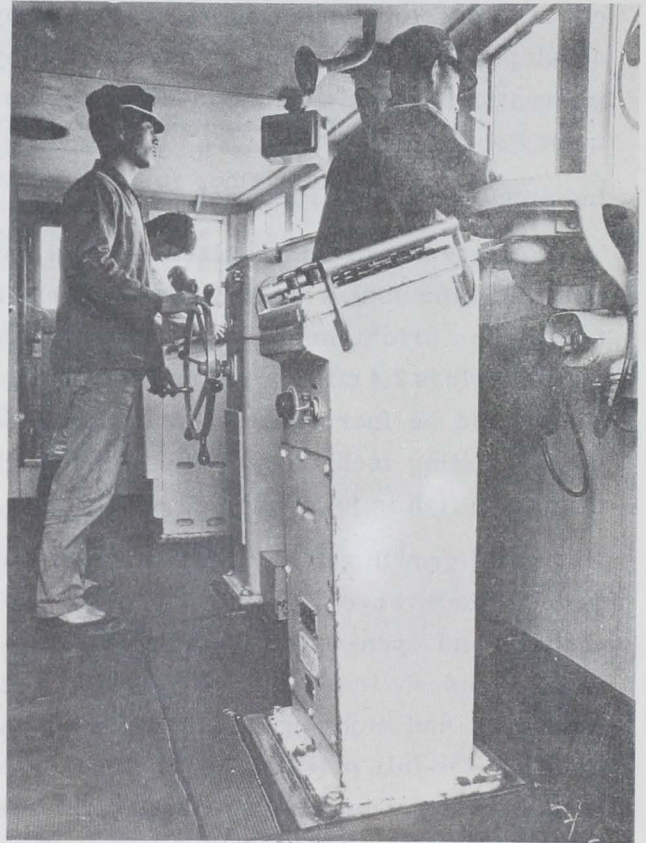




Trainees in engine room of Chin Dal Le.



Kare Larsen of Norway, FAO officer, inspects repairs.



Trainee at the bridge.

# FAO GROUP APPROVES INDIAN OCEAN FISHERY PLAN

A 5-year plan to develop Indian Ocean fisheries to help feed millions of Asians has been approved by the Executive Committee of Indian Ocean Fishery Commission. The commission is a 26-nation FAO regional body. The committee met in Rome April 26-29.

The program provides for a comprehensive effort to develop these fishery resources by developed and developing countries, and by international agencies, such as U.N. Development Program (UNDP).

## Indian Ocean's Vast Potential

A 78-page report emphasized the vast potential of the Indian Ocean, which covers a fifth of the world's marine area. The ocean's annual yield is 2.4 million metric tons of fish. This could be increased to 14 million tons using existing technology. The world catch of marine fish is just under 60 million tons.

Annual growth rates of 5% to 8% over 20-year periods were foreseen for bottom (demersal) and open-water (pelagic) fisheries. In tuna and shrimp fisheries, already well developed and enjoying strong international demand, the full potential could be achieved in 10 years. The total potential yield was valued at about US\$1.8 billion a year at retail level.

## Benefit Billion People

The billion people of the Indian Ocean countries--about a third the world population--would benefit. East Africa and southern and southeastern Asia have substantial protein deficits. Population growth is higher than elsewhere. Per-capita national incomes vary from under \$100 to \$500 a year.

Fisheries would provide valuable protein food for local use and for export, especially tuna and shrimp. These would bring more jobs and investment opportunities.

## Program's First Objectives

The program calls initially for technical staff under Indian Ocean Fishery Commission. It would identify and coordinate existing development projects and promote the gathering of statistical information. It would help launch national and regional projects: exploratory fishing, fishermen training, and introduction of better methods of fish handling, distribution, and marketing.

## Other Indian Ocean Projects

FAO already is carrying out fishery development projects in Indian Ocean region. Also, studies are underway or being planned along coast of Tanzania, Gulf of Jeda in Saudi Arabia, Seychelles Islands, and Maldive Islands.



# FAO REVIEWS SIGNIFICANT FISHERY DEVELOPMENTS SINCE 1958

FAO has reviewed the significant developments in sea fisheries since the first UN Conference on the Law of the Sea in 1958. World fisheries have been developing rapidly. The production of marine fish (including shellfish) increased from 27 million tons in 1958 to 56 million tons in 1969. Problems of over-exploitation have intensified. This has increased the need for conservation and management measures.

In 1955, virtually all fish stocks outside the North Atlantic and the North Pacific were underexploited, or not exploited at all. Now there are few stocks of fish readily caught and marketed that are not heavily exploited. Many of these are caught by large fleets of long-range vessels capable of fishing anywhere.

The number of countries fishing well beyond their own coasts also is increasing. It includes several developing countries, often as a result of assistance programs. This is an important development since the 1958 Conference because more countries with strong and sometimes conflicting fishery interests will take part in the new conference in 1973.

## Many Resources Underexploited

Though many of the more valuable stocks are overexploited, some seriously, the sea's total living resources are still underexploited.

According to the FAO Perspective Study of World Agricultural Development, the total demand for fish for humans and for animals is projected at 74 million tons in 1975, and 107 million tons in 1985. This compares with an estimated potential from conventional marine species of a little over 100 million tons.

Among the policies required to reach such a target, the study emphasizes the importance of management measures aimed at more rational use of fish stocks. This is because the full potential can be achieved only if each stock is harvested at optimum rate.

More species are being fished, so management has to account more for ecological interactions between different species in same region. Effective use of fish resources requires more than maintaining at high level the yield from certain individual stocks.

Particularly for capital-scarce developing countries, the costs of harvesting must be kept low. There is increasing emphasis on economic considerations in management schemes of governments either individually or within regional fishery bodies. The introduction of certain restrictions on fishing will not necessarily be economically beneficial. Some limitation of entry into a fishery is required if fisheries are to be exploited most profitably.

## Many Improvements

Improvements in fishing equipment and methods, fish handling and processing, and development of new products and markets since the first conference have brought more resources within range of commercial exploitation; they have led to important cost reductions. Technical progress, however, has not always been an unmixed blessing for fisheries--because it is accompanied by intensified exploitation.

## Fish Location

The most important developments probably have been in fish location, particularly in sonar in purse seining and aimed trawling. The industry also has adopted new fishing gear and gear-handling techniques, such as midwater trawls, mechanized devices for net handling, and fish pumps. The generalized use of synthetic fibers for net construction has had a significant impact on the development of fisheries.

New freezing and processing techniques make it possible to handle and store fish on board. A large fleet of freezer and factory trawlers has been built and equipped to operate anywhere. Other characteristics of the long-range fishery are mothership operations, with one large factory vessel supported by smaller catchers, and a worldwide network of fishing ports for unloading, bunkering, repair, or exchange of crews. In the traditional small-scale fisheries, the most significant changes have been the use of synthetic fibers, mechanization of small craft, and the use of glass-fiber and ferro-cement as hull material.

### Other Developments

There have been developments in other uses of the ocean, including waste disposal, and in industrial exploration and exploitation of resources of seabed and its subsoil. Many of these activities affect fishery resources and fishing activities. This increases possibility of conflicts between various uses. It becomes necessary to consider measures required to minimize any harmful interference with fishing, especially from pollutants.

### More Known Today

Today, scientists know much more about the sea's living resources, and the effects of fishing on them, than they knew in 1955. Many species migrate. Fishing them in one national jurisdiction affects them in other jurisdictions and on the high seas. There is need for an integrated approach to management.

### FAO Committee on Fisheries

In 1965, FAO Committee on Fisheries was set up. It is the only global forum concerned with the development of fisheries. One of its main functions is to review fishery problems

of an international character. It appraises the problems and possible solution in order to concert action.

### More Management Bodies

More fishery management bodies have been established to cover specific areas of the high seas or species: the Joint Commission for Black Sea Fisheries; the Northeast Atlantic Fisheries Commission; the Joint Commission for Fisheries Co-operation; the Japan-Republic of Korea Joint Fisheries Commission. The Regional Fisheries Advisory Commission for the Southwest Atlantic, the Fishery Committee for the Eastern Central Atlantic, and the Indian Ocean Fishery Commission were created within the framework of FAO.

FAO also convened two Conferences of Plenipotentiaries that adopted Conventions for establishing, outside FAO, the International Commission for the Conservation of Atlantic Tunas and of the International Commission for the Southeast Atlantic Fisheries.

Regional fishery bodies promote and coordinate research and ensure rational management of resources in their area of competence.



# FROZEN SHRIMP MARKET FORECAST FOR DECADE

Japan will have to import an estimated 120,000 metric tons of frozen shrimp by 1980 at twice the average 1968 price (US\$2,217 per metric ton). The cost: about a half billion dollars. This was predicted in a report, "Frozen Shrimp Import Vision," prepared by an advisory body of Ministry of International Trade and Industry.

This is a summary:

**Demand Trends:** Demand for shrimp is rising rapidly. During 1966-1970, annual growth averaged about 9%. If trend continues, demand likely will increase to 122,000 tons in 1975, and to 156,000 tons in 1980.

**Price Trends:** Demand is increasing faster than supply. There is "excessive competition among Japanese shrimp importers." So it is estimated that prices will double by 1980 over 1968 prices.

**Production:** More shrimp grounds can be developed and harvesting methods improved. Unloading facilities at many fishing ports still inadequate. Processing facilities and quality standards in southeast Asia and Middle East are poor; only India and Australia have quality control.

**System of Exports in Producing Countries and Imports by Japan:** Exports in most shrimp-producing countries are handled by processors, not by export agents. Few governments are involved in administering exports. In Japan, quality standards are relatively uniform for frozen shrimp imports; about 70 importers are involved.

**Resource Underused:** Despite many rich grounds, the resource is not used effectively because of inadequate surveys. Japan must assist others financially, technically, provide vessels, gear, and train fishermen.

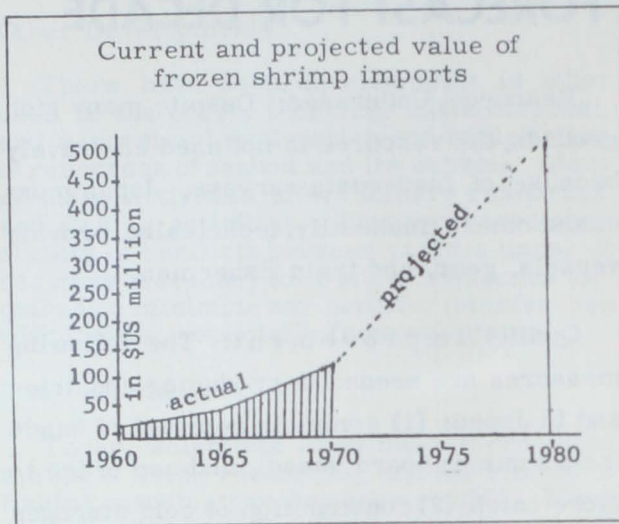
**Quality Improvement:** The following measures are needed in producing countries and in Japan; (1) complete removal of heads from shrimp aboard vessel, and use of ice to store catch; (2) construction of cold storages at ports of landing; (3) refrigerated railcars and trucks for land transportation; and (4) thorough export inspection.

**Import Cost Reduction:** To increase shrimp imports, Japan must reduce costs: (1) remove import tariff; (2) reduce ocean freight (very high); and (3) buy at reasonable price.

**Establish Order:** Raw material prices zoom whenever importers concentrate heavily in certain areas and bid up prices. These measures are necessary to avoid excessive competition: (1) develop uniform purchase contracts; and (2) work with industry to improve quality.

**Government Measures Needed:** (1) Eliminate import tariff on frozen shrimp; (2) provide more financial help to firms losing money developing resources in foreign countries; (3) more loans for resource development and for frozen-shrimp imports; and (4) help with surveys and technical problems. ('Shin Suisan Shimbun Sokuho', Apr. 28; 'Nihon Suisan Shimbun', Apr. 26.)





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#### WILL AID PERU'S FISHERY RESOURCE DEVELOPMENT

Major Japanese firms, including Mitsubishi Shoji and Mitsui Bussan, plan to help develop Peru's shrimp, crab, and coastal resources and modernize the fishing industry. The Japanese-Peruvian plan was disclosed by Fisheries Minister Tantalean during his visit to Japan as a guest of fishery and trading firms.

#### The Plans

Plans include capital investment of over US\$10 million, jointly by Mitsubishi Shoji and Nihon Hoge, and similar investment by Mitsui Bussan. The operation will develop fishery resources and handle freezing, processing, storage, and export of fishery products.

Also planned are fishing bases and ship-building facilities to modernize the industry.

Although Peru harvests mostly anchoveta, its other coastal fishery resources, such as shrimp and crabs, are almost untouched. Japan plans to develop those resources by providing capital and up-to-date fishing techniques. ('Minato Shimbun', May 2.)

\* \* \*

#### SHRIMP CATCH OFF GUIANAS INCREASES

The Japanese shrimp fleet fishing off the Guianas in South America consists of 70 trawlers owned by 7 firms and is based at Georgetown, Guyana; Paramaribo, Surinam; and Port of Spain, Trinidad.

The catch was 1,630 metric tons in 1968, 2,500 tons in 1969, and 3,839 tons in 1970. Of the 70 trawlers, only 10 of the 15 owned by Shinyo Gyogyo are licensed by Japan for regular commercial fishing. The other 60 are fishing "experimentally" under a 1-year renewable permit. The shrimp is processed in Georgetown and exported to the U.S. and Japan.

#### Plans for Joint Ventures

In Dec. 1969, the 7 Japanese firms formed the South American Marine Development Co. with authorized capital of US\$278,000 (100 million yen), and paid-up capital of \$69,400 (25 million yen).

The company was negotiating with the Guyanan Government and the British-owned Guyana Industrial Holding Co. to establish a joint shrimp freezing and processing plant in Georgetown. Guyana has one freezing plant: Bookers Merchants Ltd, 100% Guyanan-owned and operated, with a daily capacity of 30,000 pounds.

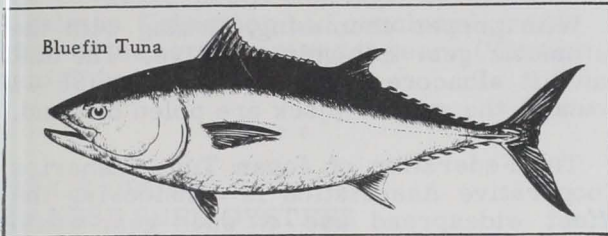
Similar negotiations were under way in Paramaribo, Surinam. The proposed undertaking there will not be possible until after Nov. 1971, when the exclusive processing rights held by Surinam-American Industries Ltd. (SAIL) expire.

SAIL built a freezing and processing plant in 1956 and obtained a 15-year exclusive concession to export shrimp from Surinam. The plant, rated very good, has a daily freezing capacity of 55,000 pounds. SAIL processes catches of Japanese shrimp fishermen under special agreement prior to export to Japan. ('Suisan Shuho')

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# CATCH OF SOUTHERN BLUEFIN TUNA WILL BE REGULATED VOLUNTARILY

The Japan Tuna Fisheries Cooperative Associations (NIKKATSUREN) and the Japan Tuna Fisheries Association (NIKKATSUKYOKAI) have agreed on voluntary measures to protect stocks of southern bluefin tuna (*Thunnus maccoyii*).



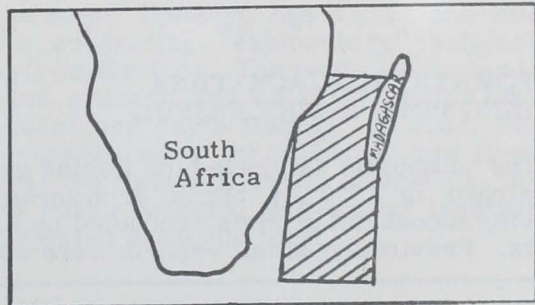
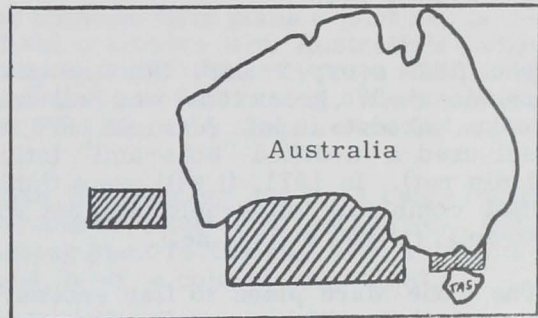
The plan will go into effect on or before Oct. 1, 1971. It will include a closed season in these areas:

- |  |                  |
|--|------------------|
| Between 120° E. and 140° E. longitudes, and between 40° S. latitude and Australia: | Oct. 1 - Mar. 31 |
| Between 95° E. and 110° E. longitudes, and between 35° S. and 40° S. latitudes:    | Dec. 1 - Mar. 31 |
| Between 145° E. and 151° E. longitudes, and between 35° S. and 40° S. latitudes:   | May 1 - July 31  |
| Between 15° E. and 35° E. longitudes, and between 38° S. and 45° S. latitudes:     | Oct. 1 - Jan. 31 |

The decision to establish voluntary industry regulation is important in promoting rational use of the resource. It was due partly to disclosures by the Government's Far Seas Fisheries Research Laboratory at Shimizu that southern bluefin resources might be depleted in South Pacific, Indian and Atlantic Oceans if fishery continued. Normally, 150-200 tuna longliners fish year round for the species.

## Rapid Catch Drop

During past 3 years, the average daily catch has decreased rapidly. Off Australia, catches dropped from 3 metric tons in 1968 to 0.7 ton by Feb. 1969. Off Tasmania and New Zealand, the average daily catch decreased from 10-20 tons in early 1960s to less than 1 ton in 1970.



In 1971, the laboratory called for drastic measures to preserve the species because it takes 6-7 years for southern bluefin to reach adulthood. ('Suisan Tsushin' and 'Katsuo-maguro Tsushin', May 17; 'Suisancho Nippo', April 16.)

## MAY REDUCE SAURY FISHERY OFF U.S. WEST COAST

The Japanese have had little luck with saury fishing off the U.S. West Coast since they began exploring these waters in fall 1969. It has dampened their interest.

In 1970, the Japanese Fisheries Agency received applications from more than 50 vessels. Only 33 received permits, and only 15 actually fished. The deadline for filing was May 31, 1971, and only a few applications had been received a month before deadline.

### First Vessel's Plan

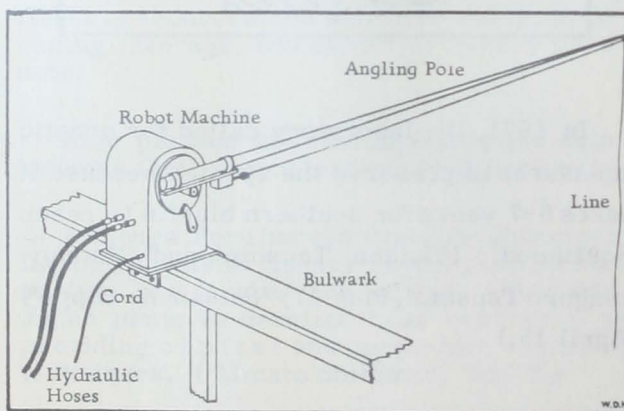
The first saury vessel, Nihon Suisan's 'Tone Maru', 535 gross tons, was scheduled to leave Hakodate in late June. In 1970, the vessel used a modified "boke-ami" (stick-held dip net). In 1971, it will use a fishing method combining stick-held dip net with "hiki-ami" (a type of drag net).

The Tone Maru plans to fish eastwards from central Pacific towards San Francisco, then proceed northward. ('Suisan Tsushin', Apr. 28.)

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## AUTOMATIC SKIPJACK-TUNA FISHING POLE IS SUCCESSFUL

The automatic skipjack-tuna fishing gear developed in 1970 by Suzuki Ironworks is proving successful in trials conducted by bait boats. Previously, small vessels were con-



Robot skipjack tuna angler based on the drawing by the manufacturer, K. K. Suzuki Tekkojo, 7, Mikawa-cho, Ashinomaki, Miyagi Prefecture, Japan.

sidered unsuitable for mechanized fishing; now they are experiencing amazing results with the automatic gear. Its use is spreading in Japan.

### Fishing Effective

Ordinarily, 4 to 8 units are installed aboard a vessel. But one 384-ton vessel scheduled for launching in Oct. 1971 will be rigged with 16 units.

With proper chumming, fishing with the automatic gear is highly effective. The unit can lift albacore of 16-20 kilograms (35-44 pounds) the way skipjack are poled by hand.

The Federation of Japan Tuna Fisheries Cooperative Association is considering the effect widespread use of such gear would have on wage structure. It is studying proper wage scales for fishermen. ('Katsuo-maguro Tsushin', April 26)

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## SARDINES RETURN TO NIIGATA AFTER 15 YEARS

The Igarashihama port, in Niigata City, bustles as fishermen haul in large sardine catches. Sardine had all but disappeared from Japanese waters. The catch by about 15 boats on May 13 was large enough for fishermen to be jubilant. It was the largest in 15 years. ('Yomiuri', May 14.)

NMFS Comment: The 15-vessel catch does not seem large. The Sea of Japan sardines, which "disappeared" mysteriously after World War II, may be making a comeback. The same may be happening off the Soviet coast, where a sardine fishery flourished 20 years ago.

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## SALMON INDUSTRY AGREES ON 1971 PROFIT SHARING

On May 5, Japanese salmon-catcher owners and mothership operators agreed on distribution of proceeds during 1971 season. Terms include: (1) 63.5% of net proceeds will be for catcher vessels and 36.5% for mothership firms (62% and 38% in 1970); (2) the two groups will consult on selling prices and domestic sales; (3) a sales committee will be formed to improve sales system. Item 3 was

## JAPAN (Contd.):

inserted because of poor 1970 salmon market in Japan. This had resulted in delays by several mothership firms in settling accounts with catcher vessels.

## 1970 Joint Fishing Management

In 1970, the two groups had agreed to joint management of fishing operations to provide more equitable profit sharing. Before that, the salmon fishermen had concluded pre-departure price agreements each year. ('Suisan Keizai Shimibun', May 10.)

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FRENCH ORDER  
JAPANESE SEED OYSTERS

French oystermen in the Charante area have ordered more than 50 tons of seed oysters from Japan. They hope the strain will prove more resistant than the French oyster to the mysterious disease expected to destroy over 50% of 1971 crop in Vendee region of northwest France. French oyster culture annually produces US\$2 million worth.

## Oyster Breeders Warned

Claude Maurin, Director of France's Technical and Scientific Marine Fishing Institute, has warned French oyster breeders against importing Japanese oysters to replenish their beds of Portuguese oysters hit by a mysterious disease in 1971. He said: "Although the Japanese variety grows more rapidly, it runs the danger of adversely affecting its marine environment for it filters more and consumes more. . . . Above all we must avoid an ill-timed reseedling." ('Japan Times', May 3.)

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BRAZIL'S 200-MILE FISHING ZONE  
WILL HURT JAPANESE SHRIMPERS

Brazil's recent extension of her territorial sea to 200 miles will seriously hurt the Japanese shrimp fishery there, Japanese sources say. Some 72 shrimp trawlers of South American Marine Development Company (SAMDC), formed by 7 Japanese firms, annually catch off northeastern coast of South America about 3,000 tons (headless weight) of shrimp worth about US\$11.1 million.

## 30% Within 100 Miles

About 30% (900 tons worth about \$3.3 million) comes from within 100 miles of Brazil's coast; according to new regulations, only Brazilian vessels may fish there.

SAMDC has asked Japanese Government to negotiate with Brazil to ensure continuation of shrimp fishery in those waters. ('Suisan Tsushin', May 27.)

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TO FISH SKIPJACK TUNA  
WITH AUSTRALIANS

The Kyokuyo firm plans a joint skipjack-tuna-fishing venture with Australia's Gollin Company in July 1971. Kyokuyo will put up 55%, and Gollin 45% of capital. Headquarters will be Port Moresby, Papua-New Guinea.

Plans in progress are for a canned tuna and "arabushi" (sun-dried skipjack loin) processing plant in Kavieng, New Ireland Island and, later, a cold-storage plant.

## Preparation Underway

At present, Kyokuyo has 4 pole-and-line vessels conducting "exploratory" skipjack fishing from Kavieng. The vessels were landing 5-ton average and up to 20 metric tons per vessel per day's fishing. In June, two more vessels were scheduled to join fleet. By 1974, the fleet will be 15-16 vessels, including purse seiners; and annual landings are projected to 50,000 tons.

## 1966 Joint Venture

In 1966, the 2 firms formed Gollin Kyokuyo Fishing Co. to shrimp in Gulf of Carpentaria. The venture progressed steadily. In June 1970, the firm distributed 15% dividends to shareholders.

Scheduled for June 1971 was an increase in capital from present \$56,000 to \$400,000. In 2 years, the Gulf of Carpentaria fleet will be expanded from 10 to 15 vessels; annual landings are estimated to reach 1,000 tons. ('Suisan Keizai Shimibun', May 31.)

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## JAPAN (Contd.):

FISHING FAMILIES DECREASE,  
OLDER FISHERMEN INCREASE

The number of fishermen in Japan is decreasing and their average age is increasing, according to Ministry of Agriculture and Forestry's survey: "Fishing Family Employment Situation in 1970."

In 1970, there were 363,100 fishing families (3.2% below 1969). These consisted of about 1,723,000 family members (down 5.4%).

The number of workers in the fishing industry was 691,400 persons, down 6.4%; of these, 548,700 (down 4.1%) were offshore workers.

## Young Group Declines

By age group, the number of fishermen 15-39 declined more (6.1%) than those 40 and over. This indicates that proportion of older fishermen is increasing.

Among fishing families, junior high school graduates totaled 43,700--22,700 were males. Of male graduates, 40.7% advanced to higher schools, 55% chose work in fishing industry, and 4.3% was unemployed.

Among male graduates entering a fishing career, 12,485, only 4,000 became offshore fishermen. ('Shin Suisan Shimbun', May 17.)

日本

## TAIWAN

REMOVES IMPORT CONTROLS  
ON MARINE COMMODITIES

Taiwan's Bureau of Foreign Trade removed over 650 items from the controlled import list during Jan.-Mar. 1971. About 50 marine commodities are included. These now can be exported to Taiwan as "permissible import" items, including salted, dried, or smoked croakers, Spanish mackerel, tilefish, lizardfish, sea catfish, sauces, tortoise and mother-of-pearl shells, and seaweeds.

\* \* \*

1970 CATCH ALMOST 10%  
ABOVE 1969'S

Taiwan's 1970 catch was 613,000 metric tons, almost 10% above 1969's 560,000 tons. The largest increase was in fish culture, 27% more than 1969; the absence of typhoons and government programs helped to produce it.

The second largest increase came in distant-water fisheries (9%), especially from Taiwan-based vessels. Without these, there would have been no increase in distant-water catch because non-Taiwan-based fleet caught less in 1970 than in 1969 (93,000 vs. 94,000 tons).

## Tuna Fleet Growth Slowed

In past years, tuna fleet grew fastest. But not in 1970. Tuna stocks probably were less available in 1970 than before. In heavily exploited waters off Taiwan, catch increases were held to about 6% in outer coastal waters and only 2.5% in inner coastal waters, where pollution problems are beginning to be felt ('China Fisheries Monthly', Feb. 1971.)

## 1971 Fleet Building Plans

Only moderate expansion of fleet construction is planned in 1971: 40 tuna longliners (250 GRT each).

The hulls will be constructed in Taiwan, the engines and other equipment imported. Delivery is expected at end of 1971. No more tuna vessels will be built for several years.

Construction of 12 pair trawlers (minimum 150-ton refrigeration capacity), partly financed by a \$1 million government loan to fishing companies. Construction contracts have not been concluded. (U.S. Embassy, Taipei, April 15.)



# EUROPE

## USSR

### 1966-1970 SOVIET FISHERIES REVIEWED BY DEPUTY MINISTER

The Soviet Deputy Fisheries Minister has disclosed some of the accomplishments of Soviet fisheries during the 1966-70 Five-Year Plans (FYP).

The catch was 34 million metric tons (up 55% over 1961-1965), edible fishery products output 17 million tons, fish meal 1.7 million tons. In 1970, the catch was 7.7 million tons.

Among edible fishery products, fillet production increased the most (440% over 1961-65), canned products the least (48%). While catch rose 55%, per-capita consumption of fish and fishery products rose only 36.5%.

Three-fourths of all fish processing was done on the high seas. This is significant because it helps to maintain and improve the quality of fishery products.

#### 1971-75 Plans

For 1971-75, Mr. Studenetskii indicated, the Soviets will move their fisheries away from the Continental Shelf into the deep oceans. This will require re-equipping the fleet with improved gear and building new vessel types.

#### Research

Mr. Studenetskii, a researcher, stressed the need for expanded and improved exploration and research for new species, fishing grounds, and better gear. He will push for more efficient and profitable techniques to fish sparsely schooling fish and other marine creatures.

#### Red Tape

It was apparent that red tape and other problems continued to plague the fisheries because the Deputy Minister said he planned to "weed out unnecessary bureaucracy," would demand the application of cost accounting at all managerial levels of the Ministry and industry, and pledged "improvement of quality and management of research" and planning for fleet operations. ('Vodnyi Transport')

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### SOVIET BLOC TO SURVEY VALUABLE MINERALS ON OCEAN FLOOR

The Soviet Union and its allies have agreed on a program to survey and extract valuable minerals on the ocean floor. At present, there is no international authority on the exploitation of seabed resources. The Soviet-bloc plan was reported from Moscow to The New York Times on April 23, 1970.

After a 4-day conference in Riga, Latvia, a Baltic sea port, the geologists decided to establish an International Coordinating Center of Marine Exploration in the Soviet Union.

The center will be designed to insure "rational use of mineral resources of the oceans." It will be open to members of the Council of Mutual Economic Assistance, or Comecon, the economic alliance of the USSR and Eastern Europe.

A published interview with G.A. Mirlin, head of Soviet delegation at Riga meeting, disclosed that joint expeditions are being planned to select possible sites for mineral exploitation.

#### Oil & Gas Fields

Mirlin heads the Geology and Mineral Resources Department of the Soviet State Planning Committee, the economic planning agency. He said that exploration would aim at finding oil and gas fields, and deposits of gold, nickel, tin, titanium, cobalt, and zirconium. The Soviet land mass has limited supplies of these.

The Soviet bloc action comes after the UN General Assembly agreement in December 1970 that the seabed's riches belonged to all nations. The assembly adopted a resolution creating an international body to direct exploitation efforts.

The resolution calls for a law-of-the-sea conference in 1973 to write governing regulations. The conference will try to agree on a definition of the seabed area that would be outside national jurisdiction and under the proposed world authority.

Published reports of the Riga conference did not mention UN efforts to regulate use of seabed resources.

The conference was attended by delegations from the USSR, Hungary, East Germany, Poland, Bulgaria, Rumania, and Czechoslovakia.

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USSR (Contd.):

### FISHERIES MINISTRY'S COMPUTER WATCHES FLEET OPERATIONS

The Soviet Fisheries Ministry's Main Information Center in Moscow has a huge, electrically illuminated world map divided into 22 squares. These represent the principal Soviet fishing grounds. The Center follows Soviet fisheries in all oceans. It can tell positions of fleets or individual vessels at any time.

The Ministry's control room is connected by teletype with the headquarters of the 5 Main Fishery Administrations all over USSR. A computer stores information fed daily by the Main Fishery Administrations on fishery operations. The computer also is fed data on vessels in ports or en route to the grounds. The data, retrievable instantly, are transferred to the map for visual examination.

#### Worldwide Hookup

The Director showed a Moscow reporter the efficiency of his Center by projecting on the map the exact location of the Soviet Far Eastern (DAL'RYBA) fleet in the Sea of Okhotsk; the Northern Administration (SEVRYBA) fleet in Barents Sea; the northwest Atlantic (off Labrador and Nova Scotia), and around the Azores--with catch data for that day.

The center is in constant radio contact with all major Soviet fishery vessels. During the interview, the Director established voice contact with captain of whaling factoryship 'Sovetskaya Rossiia' in the Pacific en route to Vladivostok.

#### Center Fully Operational

The Main Information Center was established in 1969 as part of the Ministry's Division for Coordination of Computer Operations. It is fully operational. Experimental computing centers in the USSR's Main Fishery Administrations are feeding the Main Center with data on fleet operations, catch, and catch projections.



## NORWAY

### NORDIC GROUP EXPANDS FOREIGN MARKETS FOR FROZEN FISH FILLETS

Sales of frozen fillets to the U.S. by the Nordic Group have increased considerably, reports its director. The group is composed of 13 independent fish processors in Norway. In mid-March, indications were that 1971 sales would reach 20,000 metric tons, compared to 13,000 tons in 1970.

The Nordic Group was granted Norwegian export rights in April 1968. It packs under the labels of several U.S. processors.

Frionor, which packs under its own label for shipment to its plant in New Bedford, Mass., sold 30,000 tons to the U.S. in 1970.

The director also reported considerable progress in exports to the U.K. ('Fiskaren')



## SWEDEN

### IMPORTS OF FISHERY PRODUCTS ROSE IN 1970

In 1970, Swedish imports of fishery products increased to 81,000 metric tons worth US\$73 million--up 5,370 tons and \$13 million over 1969.

Imports of fresh fish decreased 500 tons to 12,500 tons; their value rose \$0.2 million to \$8.5 million. Frozen fish in the round reached 4,600 tons valued at \$7.6 million, up \$1.1 million.

Salmon was more than \$9 million of total fresh and frozen imports of \$16 million. Other leading imports were halibut, plaice, ling, and mackerel.

Another large import item was frozen fillets, 17,000 tons worth \$12 million--2,700 tons and \$3 million above 1969.

#### Canned Shellfish No. 1

The largest share in import value was canned shellfish (5,600 tons) worth \$13 million; this was increase of \$5 million from 1969. Imports of shrimp were \$7 million, and crabs almost \$3 million. ('Fiskets Gang', Apr. 1971.)



## ITALY

### TUNA SALES FROM JAPAN ARE AT A STANDSTILL

In early April 1971, Italy established a provisional mercury guideline of 0.7 part per million, plus a 10% allowance--maximum limit of 0.77 p.p.m.--for all fresh, chilled, or frozen tuna imported into Italy. A 3-month trial inspection period was begun. From then until mid-May, the Japanese had not received a single inquiry for tuna from Italian packers.

### Italian Market Uncertain

The uncertainty of the Italian market may soon affect Japanese, South Korean, and Taiwanese fleets fishing for yellowfin in the Atlantic Ocean. These fleets switched from albacore to yellowfin in Dec. 1970 following the discovery of mercury in canned tuna in the U.S. Large quantities of tuna, already aboard, were due to be unloaded in Italy in late May and in June. Fleet owners feared that a sharp price decrease in Italy would adversely affect the profitability of Atlantic operations. ('Suisan Tsushin', May 11.)



Fish stall in Rome Market. (Robert K. Brigham)



# BRITISH SHRIMPING DWINDLES, PUZZLING FISHERMEN AND BIOLOGISTS

Bernard Weinraub

The shrimps are barely running on Britain's northwest coast.

Along the jagged 500-mile stretch from Silloth to Rhyl in North Wales--which accounts for half the country's shrimp yield--the rubber-booted fishermen are returning glumly each morning with either empty nets or just a few pounds to sell to local tradesmen.

"Disastrous, it's absolutely disastrous," said Alan Spencer, managing director of one of the area's chief shrimping cooperatives, Lytham and Morecambe trawlers. "Normally in this spring run we'd have caught five tons of peeled shrimp by now. Well we've caught only a ton so far."

Across the entire northwest coast, less than two tons of peeled shrimps have been caught during the current spring season, which runs from March to May. Last year the figure was 8 to 10 tons. Shrimps are normally most profuse in the late autumn from September to December. Last year 125 tons of peeled shrimps were caught in the autumn season, compared with 250 tons in the previous year.

Fisherman here refer to the shrimp as "peeled" or "picked," because the shells are quickly removed by local workers after the catch is hauled on to shore and weighed. One ton of peeled shrimp is about the same as four tons of "rough shrimp," whose shells have not yet been removed.

## Biologists Move In

Teams of biologists have moved into the towns of gray stone houses and cobbled streets to check the waters of the surrounding Irish Sea for pollution. The biologists, of the Ministry of Agriculture as well as the Lancashire and Western Sea Fisheries Joint Committee, express confusion.

"The shrimp landings have been declining over the past year and the decline is widespread but we have no evidence of simple pollution," said A. J. O'Sullivan, a senior biologist with the fisheries committee, which is the offshore protection and conservation body. "If the decline was caused by a pollutant then I expect the effects would be quite severe in areas where the pollutants are in effect."

"But the decline is too widespread," he said. "We're thinking now that this could be a natural low period for shrimps and the general pollution in the area is decreasing their viability even more. We're thinking that this natural low period is being accentuated by pollution-induced effects."

In the tiny office of the shrimp cooperative in Lytham, 220 miles from London, Mr. Spencer shook his head and said: "No, we don't think it's due to direct pollution. Whether it's due indirectly to pollution is something else. It may be that pollution has killed off the weeds in the grass that the shrimps

feed on. It may be that pollution has killed off a certain amount of oxygen."

Although the northwest coast yields about half of Britain's shrimps--the rest are produced in The Wash, a broad inlet on the east coast--housewives and restaurants will not suffer since most of the shrimps eaten here are imported. The total amount of shrimp production in Britain is valued at about \$480,000. Imports of frozen shrimp are worth \$4.8-million while imports of canned shrimp amount to \$6-million.

#### Mysterious and Confusing

What worries the biologists is that the causes of the skimpy shrimp harvest remain mysterious and somewhat confusing. What worries the fishermen here is that business keeps falling and unemployment climbs. Between 800 to 1,000 shrimp processors and fishermen have been laid off, including hundreds of part-time "pickers" who peel the shells. Some have been hired to work in the small "bed and breakfast" hotels in nearby Morecambe Bay, a summer golf and seaside resort.

The gloom around Morecambe Bay has deepened even further by the failure of the whitebait--young herring--catch this sea-

son, the secondary delicacy on the coast and a favorite appetizer in British restaurants.

"I've got orders for 16 tons of whitebait but so far this season we've seen only 90 pounds," Charles Bartle, manager of the Flookburgh Fishermen's Association, said, walking near the chilly surf in Flookburgh, 40 miles north of Lytham.

"Last year, the year before, we'd catch a ton each day, we'd have to ration the men," said the gray-haired fisherman.

"I'm 59 years old," he said. "I've been in this business all my life but I've never seen anything like this."

Evidence of the gloomy fishing season here is everywhere: the men sit in pubs in Lytham and Flookburgh at mid-day; the \$17-a-week part-time shrimp pickers, mostly women, stand in the spotlessly clean processing rooms of factories in Lytham, bored at the absence of anything to do.

"Every day people go out two hours after high water and hope, you know, that this day will be different but they come back with nothing," said Bill Irving, a solemn, gray-haired fishing manager from northern Silloth. "It's eight hours out there and bloody nothing and it's been like that for too long now."

Reprinted from The New York Times, May 30, 1971.



# TO BRITISH FISHERMEN, TRADE BLOC IS NO PRIZE

Anthony Lewis

ALDEBURGH, England. In this North Sea village you can buy your fish direct from the fishermen, at little huts on the rocky beach. W.V. (Billy) Burrell sells skate, sole, lobster, crab. On the side of his hut, just over the pile of crabs, is a sticker: "Common Market? No." That is probably a fair reading of the state of mind in Aldeburgh and all around this beautiful bleak old part of England, the bulge of East Anglia into the sea. People are talking a lot about the Heath Government's effort to bring Britain into the European Common Market, and no one sounds happy.

Billy Burrell, 46 years old and rugged, looked up from the lobster pot he was mending and explained that for him it was strictly a matter of economic survival.

"This is one of the finest fishing grounds about," he said. "As it is, there are boats from all over just beyond the 10-mile limit-- Polish, German, French, Spanish, Portuguese, Belgian.

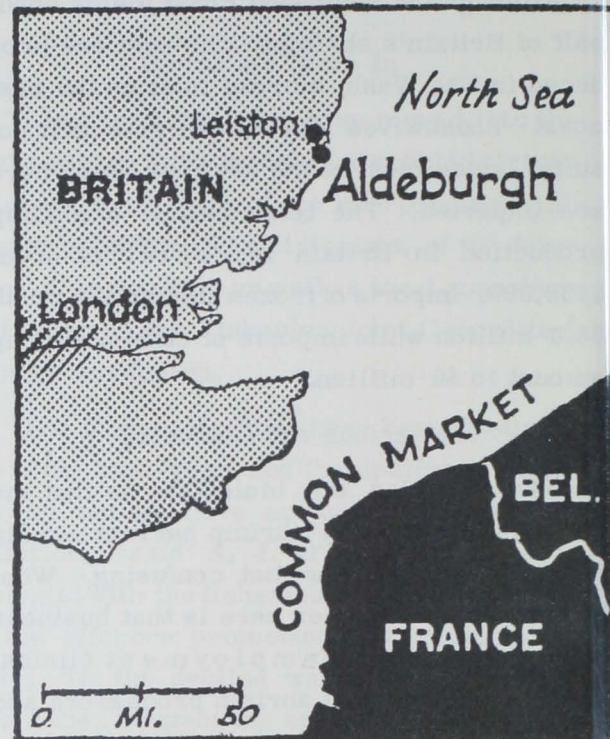
"If we get into the Common Market, you know they are going to come on in. With our little boats, we'll be in trouble."

The Aldeburgh fishermen go out in small open boats--18 feet long, but with so much ballast to cope with the rough water that they weight two tons. There is no harbor; the boats are winched right up on the beach.

"There are not enough fishermen in Aldeburgh to get in the paper," Mr. Burrell said, but it's been going on from father to son a long time, catching fish the same way.

"I work 7 days, 18 hours a day. I'm not complaining. We get our living--a good living. But it's our livelihood that's at stake."

In fact, the British Government is far from oblivious to the fishermen. Their worries are a major issue for the next and, it is hoped, the last round of the Common Market negotiations to be held in Luxembourg. The Government is insisting that British fishermen be allowed to keep exclusive rights out to a six-mile limit.



(The New York Times)

Would a regulation like that satisfy Mr. Burrell?

"Yes, I think so. And I believe they will have a regulation. It's only as it affects our livelihood that I object."

Not everyone is so moderate about it, so ready to adapt. Tim Forge, co-director of the Uplands Hotel, makes clear that it is a philosophical matter with him. Mr. Forge, 65, was a rugby star, a schoolmaster and a tea planter in Assam before he got into hotels.

Did he agree with the objectors?

"Yes," the vicar said. "I feel strongly in sympathy with them. I think if it does happen it will be the end of the Conservative party as we know it."

"This part of England has been invaded 100 times, you know, and people don't like strangers much," he added.

Reprinted from The New York Times, June 16.

But wasn't the last of those invasions hundreds of years ago?

"Yes," he said, "but you have to live here a time to know how people still feel about it. They have long memories."

It is hard to say how many are really irreconcilable, how many looking for reassurance from the Government. But there clearly are a lot of people who are ready to be persuaded.

On the road from Aldeburgh, at a railway crossing in the village of Leiston, was James Callaghan of the Labor Party, a critic of the market, who was speaking to a handful of the faithful in the pouring rain.

On the fringe of the small crowd two housewives who did not give their names said it was prices that worried them about joining. But they thought it was probably going to happen anyway; they just wished Prime Minister Heath or someone could explain it better.

The other big subject of conversation around here, unavoidable at this time of year, is the Aldeburgh Festival. That again is not only an international musical event but something intensely local, intimate, with the flavor of this fishing village.

Billy Burrell has known the festival's inspirer and director, Benjamin Britten, for many years and, through him, others who have taken part. E.M. Forster, who worked on the libretto for Britten's opera "Billy Budd," used to spend weekends in the Burrell home.

"I knew Forster 25 or 30 years," Mr. Burrell said. "He was one of the best, always willing to listen. A man so great and yet so humble--nothing put on, on his side or mine."

"Peter (Pears) and Ben are the same--they've never got above themselves," he continued. "My son is a godson of Ben's. I remember he gave me a copy of the "Billy Budd" score, inscribed: 'To Billy B., for B.B., from B.B.'"



Each plastic fish box aboard this small English vessel holds 50 kilos.