distance tend to look primarily at the substantive committees in Congress to see what is being done that affects their interests. Actually, some of the most important activity in Congress affecting fisheries during the next two years will occur in the Appropriations Committees. The Senate Appropriations Committee will consider whether to provide money for carrying out the provisions of the Commercial Fisheries Research and Development Act passed last year. This involves approximately $7 million. It will consider the fishing vessel construction program which was enacted last session and authorizes $10 million annually. Additional funds may be necessary to continue the present program of research in the field of fish protein concentrate and for other special projects such as those proposed for tuna research. The Coast Guard appropriations will also be important since their vessel replacement program includes several fishery patrol vessels.

Last Congress was a very active one and a constructive one for fishermen and the fishing industry. I expect the 89th Congress also to be a creative two years for the American fisheries.

The Japanese-Soviet Challenge to World Fisheries

GEORG BORGSTROM
Michigan State University
East Lansing, Michigan

Abstract

Three major happenings dominate the development of post-war fishing: (1) the resurgence of Japan, (2) the land giant of USSR moving to the ocean, and (3) the creation of the Western fishmeal bastion in Peruvian waters. It is possible that the build-up of Chinese fisheries is equally significant. Both Japan and the Soviet Union are now operating in all major fishing grounds. Japan is largely depending on a far flung chain of transshipment ports and more elaborate bases and has created an impressive fleet of trawlers in the range of 3,500 tons.

USSR has besides a number of new capturing vessels acquired a massive fleet of factory ships, transport vessels, searching vessels, motherships, and freezing trawlers. The most recent series of Soviet factory ships attains 43,000 tons, four times larger than any such unit now in operation. These Soviet ships come from a number of their own shipyards, but also from around the world, western Europe as well as Japan. A large number are under construction.

WHEN ANALYZED INTERNATIONALLY, three major events dominate world fisheries: (1) The impressive emergence of the land giant of the Soviet Union as a major marine empire with fishing activities in all oceans. (2) The resurgence of Japan after the war-catastrophe to the top ranking fishing nation of the world. The Japanese program is accompanied by a major commercial and industrial drive as well as a technical aid program of grand design, the dimensions of which presumably are already overshadowing the total advisory activities of the FAO. (3) The creation of a major feeding bastion for the western world in Peru and Chile, exploiting the fish riches of the Humboldt streams, chiefly by extracting anchoveta. A slightly smaller one is emerging off SW Africa and

The Soviet catch has increased by more than 2.5 million metric tons since 1938, when it amounted to something over 1.5 million tons. An average annual increase of 5.5% in the fish catch has been registered during the 1950's. This was accomplished by greater exploitation of the bordering oceans, from which two-thirds of the fish supply now comes. In 1963 the catch exceeded 4.6 million tons, almost half a million tons above the figure for the previous year. Ocean fishing has been given priority, and more than four-fifths of the constantly growing catch has come from the sea since 1963.

The achievements of the Soviet fishing industry are due primarily to: (1) the acquisition of numerous large fishing vessels equipped with modern radio navigation and search equipment (in many cases special searching vessels), (2) new mechanized and automated equipment, and (3) more productive fishing gear. From 1951 to 1960, the number of vessels increased twice, and their motor power 3.7 times.

The USSR recognizes that the fishing industry is a vital part of the Soviet economy, and that fishery products provide the people with more than one-third of their total consumption of animal protein. Great emphasis has in the postwar period been placed on increasing the fishery intake, as livestock production, due to the vagaries of the climate, is less dependable.

The modernized fishing fleet has enabled the fishing industry to go into new distant catching grounds in both the Atlantic and the Pacific.

Murmansk, Kaliningrad, and Riga are the bases for Soviet North Atlantic operations covering the Sea of Norway, the waters off Iceland, the Faroe Islands, many areas around the British Isles, Davis Strait (off West Greenland), and the Grand Banks off Newfoundland. Sizable catching flotillas provided with floating factories, carriers, and specialized fish-searching vessels regularly visit these regions. In recent years they have come in great numbers to George's Bank and off Long Island.

Trawlers have been sighted in 1963 and 1964 along the U.S. east coast from Nantucket Island southward. The peak number here has been estimated at about 40 ships, with whiting and herring as their main catch. Smaller fishing fleets have been observed off the coasts of North Carolina and Florida.

In the spring of 1963, a Soviet trawler was reported fishing off the Louisiana coast. A number of Soviet ships have conducted exploratory fishing in several parts of the Gulf of Mexico and the Caribbean, partly aiding Cuba in building up its fisheries.

In the Pacific, Soviet fleets are catching fish in the entire Bering Sea, along the shores of Alaska, in the Aleutian Islands, in the Gulf of Alaska, off British Columbia and northern California. The Sea of Okhotsk is being developed primarily for the USSR with only a few Japanese fleets and floating factories allowed.

In most cases these large-scale commercial operations have been preceded by extensive oceanographic and fisheries reconnaissance by various types of Soviet research vessels. This is also true of the similar, regular fishing operations off the coast of tropical Africa from Agadir and Dakar in the north, to the Gulf of Guinea. Exploratory fishing has begun in the South China Sea, the Indian Ocean, and the Red Sea.

Efforts are presently concentrated on raising the catch in equatorial waters of both major oceans. The Soviet fisheries of the southeast tropical Atlantic have been extended southward to include major operations off South Africa, trawling for pilchards and various white-fish. Tuna fishing in the tropical regions

of the Atlantic and the Pacific has started. Special measures are being taken to boost the catch of bass, mackerel, pike, and saury. The haul of shrimp, oysters, squid, sea kale, and other marine products is expected to mount. The Pacific saury fishery is a new undertaking for which the immense Japanese expansion paved the way. Sizable canning factories have been built by USSR on the disputed island of Shikotan in the Kuriles to process these saury catches. In another respect, Soviet fishing has taken a leaf from the Japanese notebook, namely the chartering of their vessels by joint national companies or by foreign governments. Several Soviet trawlers have been chartered by Ghanaian interests in 1964. They are manned by Soviet crews, but catching for Ghana. So far, such operations are on a modest scale.

Most significant, however, is the Soviet build-up of the processing potential at sea. The modern freezing fleet consists of more than 400 units, some of which have a freezing capacity of 50 tons per 24 hours. Large trawlers combine catching and processing functions. On such vessels, fish are frozen (whole, cleaned, headed, or filleted), canned, or salted. Fish meal and oil are manufactured on board. All scrap is utilized. Fleets are serviced by special transport vessels with refrigerated holds. Two new series of transport ships (around 8000 tons) are combined with freezing facilities. Since 1964 giant motherships have been coming from the Soviet shipyards—the so-called "Vostok" series of no less than 43,000 gross tons being built at Leningrad. Still larger units of 55,000-60,000 tons have been rumored.

The Soviet development differs basically from that of Japan by placing almost complete emphasis on the processing capabilities of the floating fleet. This has the advantage of a minimum of political entanglements. Some transshipment takes place at Port of Spain, Trinidad, and Vera Cruz in Mexico.

A shift, however, seems to be in the making in this respect. Besides the Cuban base, which will be used by 120 trawlers now operating in the mid-Atlantic and Caribbean, a $3 million base has been contracted in 1964 at Alexandria and another at Ras Banas, on the Red Sea in Egypt.

CONSEQUENCES

The Japanese-Soviet monopoly is, in terms of fish as human food, quite remarkable. Japan catches five times more and USSR three times more than any other individual country. A number of leading fish nations such as the United States, India, and Spain each account for only 3-4% of the world catch. The only exception is China, the catch of which is almost as large as that of Japan, but so far largely consists of freshwater fish.

It is obvious that the West has lost its leading position in world fisheries. United Kingdom fisheries have declined in the postwar period by 30%, and the United States is catching only half the fish they are consuming.

It is in eloquent moments frequently said that fish is no man's property. This statement today stands out as rather dubious. The lion's share of food fish of the world is obviously Japanese or Russian, and has become so by energetic, purposeful development plans, combined with a large-scale investment program. More than 65% of the postwar increase goes to well-fed countries—only a fraction has reached the hungry and malnourished.