

# The Outlook For The Maritime Fishing Industry

By S. A. BEATTY

IN the June, 1946, issue of *Public Affairs* a forecast was made for the fresh and frozen fish trade of eastern Canada to the effect that the market would very soon become soft, and the whole trade on this continent might possibly be in serious difficulty. At the present time the demand is strong and the price is about equivalent to that paid during the war. Therefore, if the preceding article is to have any value it is necessary to determine if the information on which our estimates were based was false, if the facts were misinterpreted, or if new conditions have arisen which might either temporarily or permanently alter the situation.

The following are the considerations which led us to believe that there would be an over-production of fresh and frozen fish.

During the war large processing and refrigeration plants were erected in Norway and Iceland, and Newfoundland processors equipped themselves with refrigeration plants in order to supply the British with frozen fillets. Therefore, at the completion of the war the three great salt fish exporting nations of the world were supplied with modern equipment for the production of frozen fish. The natural market for frozen fish from Newfoundland is on this continent, and the desire to obtain dollars should be sufficient to entice both Iceland and Norway to attempt to market fish in the United States. In fact, for a number of years shipments have been received annually into the United States from the former country. During the war every effort was made to expand the production of frozen fillets in Canada, and not only had our fishing equipment been expanded

but there was a pronounced transfer from the salt fish to the frozen fish trade. During the war the American fishing fleet was to a great extent absorbed by the navy, but at the termination of hostilities well equipped yards rapidly built up a fishing fleet superior to that owned previous to the war. In summary, a large proportion of the fish from Norway, Iceland and Newfoundland was available for sale on this continent, and the normal production of the United States and Canada was greater than pre-war consumption. Therefore, it seemed very reasonable, indeed, that the supply of fresh and frozen fish to this continent would far exceed the demand.

## Marketing—A Delayed Problem

But a number of circumstances have at least delayed the difficulty which seemed so apparent approximately two years ago. Norway has not made any serious attempt to market fish in either Canada or the United States. The Russian purchases of fish from Iceland have kept the Icelandic production almost completely off the American market. There was every indication of over-production during the spring of 1947 and both Newfoundland and Canadian producers transferred a large bulk of their production to salt fish. Strikes during the winter of 1946-47 and extremely bad weather and poor fishing conditions during the winter of 1947-48 have seriously reduced the production of fish. Rapidly rising prices of meats in the United States have increased the demand for fish, so that at the present time the demand is strong and inventories are low.

However, we believe that the difficulties of the fresh and frozen fish trade have been postponed and not removed. We have no guarantee that Russia or any other European consumers will continue

to purchase the Icelandic production. The strength of the present market will probably result in much more hesitancy to turn to salting during the summer of 1948. The heavy spring production of fish will soon be upon us, and there has been a rather serious break in the prices for farm animals in the United States. Therefore, it is well within the realm of probability that during the summer of 1948 there will be a serious decline in the demand for fresh and frozen fillets.

One possible outlet for a considerable quantity of frozen fillets is sales to Europe under the Marshall plan. But it does not appear logical that fish will be marketed in Europe, except possibly during the early stages of this assistance. The purpose of the Marshall Plan is to build up the economy of Europe, not that of this continent, and the logical approach to the problem would be to build up the European fleet, so that Europeans would be independent at least in so far as their production of fish is concerned. This might even at a later date act as a boomerang, in that fish from Europe might be brought into competition with fish from this continent.

While we believe that there will be a serious decline in the demand for fresh and frozen fillets on this continent unless drastic changes are made in our methods of production and distribution this decline may be delayed until we are able to cope with it. For example, it appears probable that the Icelandic production of 1948 will be marketed in Europe. Hence, it is essential that we lay our plans now for alterations in our methods. This is necessary for a more stable industry. The problem is not one of marketing, at least not one of a potential market. We have a readily accessible urban population on this continent, if proper methods of distribution are used, of well over fifty million people. And at the present time the consumption by these people of fresh and frozen fish in a marketed form represents about eight

pounds per year. A very slight increase in this per capita consumption would mean a definite benefit to the economy of the fishery.

### The Spoilage Problem

While no complete study has been made of the consumption of fish on this continent, a start has been made in Canada. We know the state of preservation of the fish ordinarily reaching the consumer. We know the types of bacteria concerned with fish spoilage and the changes brought about in these fish by the bacteria concerned. We know the deterioration that occurs in the fish processing plants and aboard the vessels, and we have made extensive studies into the effect of freezing and cold storage on fish. Therefore, we in Canada are well informed as to our problem and are in probably a better position than any of our competitors in this market to make changes in our method that will ensure a constantly high quality of the product reaching the consumer.

Actually our problem of marketing lies in the delay of spoilage to allow sufficient time for distribution. In the marketing of meats and cheeses a certain amount of "ripening" is beneficial. But the action of bacteria on sea fish results in the production of a rather odorous chemical before the ordinary putrefactive odours associated with the spoilage of meats have a chance to develop. This substance, called trimethylamine, makes its presence known in the fish store and in the housewife's kitchen, and while it is harmless, it is not conducive to repeat orders. Fish must be sold absolutely fresh.

But the bacteria that ordinarily are found on the fillets are for the most part derived from the fish themselves, and since cod and haddock always live in very cold water, the bacteria associated with them are also used to cold temperatures. Meat can be kept at 40°F. for days, but fish spoil readily at this temperature. Fish must be cooled right to

the freezing point, if maximum storage life is to be obtained. To summarize, fish must be kept very fresh, much fresher than meats, and the bacteria that are associated with our fish are more difficult to deal with than those ordinarily found on meats. As a result, while much of the fish reaching the inland consumer is good, entirely too much has reached a stage that many consumers find definitely unpalatable, and the per capita consumption stays at its present low level. Furthermore, in duplicating the conditions of transport and marketing, we find it impossible in the laboratory to keep by means of ice alone cod or haddock fillets for the maximum length of time now taken to distribute them to the consumer. If top quality is to be maintained, either the delivery period must be shortened or some effective means of preservation must be used.

### Improved Transport Needed

The most logical means of speeding up distribution is air transport. This method offers no mechanical difficulty. Suitable containers have been developed and the only requirement is that the fish be carefully pre-cooled before they are placed in the containers. However, the cost of air transport is quite considerable, and it is doubtful if more than a small proportion of the consumers will be willing to pay the higher price necessitated by this means of transportation. If this is correct, refrigerated rail transportation must be used to carry the greater proportion of our fish.

We could do a better job of rail transport than we are doing. Pooled cars and refrigerated express could cut days off the time in transit. But at least for a time, the fish reaching the consumer might not be materially improved. The retail distributors seem to have no clear idea as to the perishable nature of fish, or as to what constitutes a really fresh fish. Any steps to prolong the storage life of the product in the hands of the distributors would probably result in

larger purchases and longer storage.

### The Cold Storage Problem

If air transport of fish is too costly and if through the present channels of distribution the quality cannot be markedly improved, is there any other means whereby the storage life of the fillets can be sufficiently prolonged to ensure high quality in the hands of the consumer? A great deal has been written in the past few years on quick freezing of food products and a great deal of misinformation, as well as information, has been accumulated. There is no doubt about the benefits of quick freezing, and at first glance the freezing and frozen distribution of fish should fulfill all the requirements necessary for proper distribution. But, unfortunately, fish processors and distributors have believed or pretended to believe that fish in cold storage is preserved indefinitely. This is far from true.

Fish in cold storage is subject to five types of deterioration. In the first place, unless carefully protected by moisture-proof wrappers, it dehydrates rapidly. Oily fish becomes rancid. The growth of ice crystals proceeds even in cold storage, and the cells become broken, permitting the exudation of juices on defrosting. The proteins of the fish flesh denature, leaving the fish tough and dry. Particularly with the lean fishes, such as cod and haddock, the flavour tends to leave the fish during cold storage. Therefore, fish deteriorate in cold storage just as they do above the freezing point, the only difference being that the deterioration goes on at a slower rate. We have run taste panels in the laboratory on cod and haddock fillets that have been completely protected against dehydration and stored at very uniform temperatures, to determine the maximum time they could be stored. Three storage temperatures, 10°F., 0°F., and -10°F. were used. We have found that the taste panel picks out the fish stored at the highest temperature within

a matter of two weeks or so; that is, the storage life is extremely short. At 0°F. the stored fish could be differentiated from non-stored fish in a little more than five weeks, and all doubt was removed by three months storage. At 10°F. the fish remained indistinguishable from non-stored fish for over four months.

Now let us interpret these results in the light of present trade practice. Cold storages on the coast are operated at 0°F. Refrigerated cars used to transport fish to the market in summer vary according to the type of car from approximately 15°F. to approximately 25°F. Cold storages in the interior are as a rule operated at 10°F. We can lower our cold storage temperatures on the coast as far as the economy of operation will permit. We could possibly obtain lower storage temperatures in the interior if reasons for this lower temperature requirement were supplied to the operators. But at the present time we can get no lower storage temperatures in our refrigerated cars than those stated above. Therefore, while we can store our fish at the coast, at least for a limited time without injury, once it is placed in the refrigerated car it becomes a perishable product, and if it is to be distributed without serious deterioration it should be put into consumption immediately. If this were done we should be able to lay down in Edmonton, Winnipeg, Toronto or Montreal fish equivalent in quality to that sold in Halifax.

### **The Problem of Uneven Production**

A plan such as the above, which depends on a fairly rapid and continuous distribution to the consumer, confronts us with the problem of uneven production. What are we to do with the fish that are caught during the summer peak production? This was not a problem from 1939 until the summer of 1947. But previous to the war part of this fish was frozen and put in cold storage for sale during the winter when fish was scarce. It is doubtful if this ever paid.

It could be sold only when fresh fish was scarce and at a lower price, and freezing and cold storage charges further reduced the profit. Furthermore, it became a commodity open to speculation, and as such was always a threat to the fresh fish market.

Much of the summer production previous to the war was salted and sold entirely outside the fresh fish market. This seems to be the wisest course, particularly at present, since there is no apparent weakness in the present fish trade. But just as there are cold storage eggs, or frozen stored fruits and vegetables somewhat inferior to the fresh product there will probably always be cold storage fish and fillets. The important point is that we should be willing to call a spade a spade, and to so mark these cold storage fish that there will be no mistaking them from those whose storage life for top quality has not been exceeded.

### **Our Potential Advantage**

What are the advantages or disadvantages of such a plan of distribution with respect to our ability to compete in the markets of this continent? The main competitors of the Canadian Atlantic fish are (1) the Pacific Coast fish, halibut and salmon, caught both in Canadian and American waters, (2) the fish caught off our shores and landed in New England, (3) Newfoundland, Icelandic, and possibly Norwegian fish. Since the Pacific halibut and salmon are both caught seasonally, they must be marketed seasonally or as cold storage fish. They are caught in summer and, if they are marketed then to the extent of making sales of our fish unprofitable, we can divert the major part of our production to salt fish. Both halibut and salmon stand up fairly well in cold storage, in fact, better than our fish, but they cannot be held at top quality for the whole year. The American Atlantic coast fishermen fish about two days farther from

their home ports than ours, and while we can land our fish in excellent condition with little difficulty, it is much harder for them to do an equally good job. Newfoundland, Iceland and Norway have not the continuity of supply coupled

with the ready access to the market essential to limited storage periods. The Atlantic Coast of Canada, especially Nova Scotia, has a geographical advantage that at present is not used to advantage.

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## Canada's Industrial Development Bank

By J. A. MACDONALD

IT would not occur to most people that there would be any connection between the old League of Nations and Canada's newest financial institution, but the intellectual parentage of the Industrial Development Bank can be traced directly to the work of the Financial Committee of the League.

A report of this Committee, issued shortly before the second World War, drew attention to the problem of the small or medium sized business requiring financial assistance other than short term working capital. The Committee found that in any country whose economy had reached a fairly advanced stage, industrially speaking, the small or medium sized business faced a common problem.

It is clear that in a dynamic economy there is constant change, and this is applicable to most business units within it, both large and small. For example, there are increases and decreases in the size of markets, and changes in styles and in consumer tastes. To expand their facilities to meet the demand of an increasing market for a product, or to reconvert to meet a change in style or consumer taste, many businesses require capital which can be paid back out of earnings over a period of years.

### Conventional Methods Inadequate

In most countries the structure of the ordinary commercial banks was, and is,

such as to make it undesirable that they offer any large volume of this type of assistance, even to the larger enterprises. The alternative to obtaining assistance from a commercial bank is the public issue of securities or stock. The overhead and costs incidental to the floating of a public issue in relation to the modest amounts usually required by the small and medium sized business make it virtually impossible for them to use this avenue of assistance. In addition, if a company is not nationally known, as is usual with the type of business we have in mind, the uncertainty of the market's reception of the issue makes most investment houses very reluctant to handle any such issue. The net result was that many desirable businesses either remained static or have gone under, instead of enjoying a healthy growth in keeping with the growth of the country as a whole. Hence the tendency for large business units to grow larger, and for the small to stay small or even disappear.

The particular findings of the Financial Committee that we have discussed so far showed that the frequently heard complaint of the small business man about the unavailability of credit had certain basis in fact, and furthermore, that it was a problem common to all advanced industrial economies. It demonstrated that there was a gap in the existing credit facilities in such countries which would have to be filled.